FM 5-0

THE OPERATIONS PROCESS

Design for Operational and Tactical Leaders

Solving 'the right problem'
without creating collateral damage?

ARMOR

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Articles should be concise, straightforward, and in the active voice. If the article contains attributable information or quotes, please provide appropriate credit in endnotes. Recommended text length is approximately 3,500 words, but we do allow flexibility. Shorter articles, such as after-action reviews and vignettes are also welcome.

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COMMANDER'S HATCH

MG James M. Milano
Commanding General
U.S. Army Armor Center

The Army Capstone Concept and the Mounted Force

The recently published *Army Capstone Concept: Operating under Conditions of Uncertainty and Complexity in an Era of Persistent Conflict* clearly articulates ideas to challenge how we think about future conflict, seeking a balance between winning today's wars and preparing for future conflict.

This concept reinforces the role of armor and cavalry in current and future conflicts by stating the importance of retaining the capability to develop the situation through action; the ability to fight for information under conditions of uncertainly. It provides the conceptual framework to lead force development and places modernization decisions in the broader context of future armed conflict. It establishes a common foundation that guides experimentation in Army operations and informs capability development.

As we shape the role of armor and cavalry within the framework of the Army Capstone Concept, it is critical that the mounted force participates in a professional discussion to define the critical capabilities required to operate effectively in current and future conflicts. Rigorous intellectual debate will establish the foundation on which we build the future armor and cavalry force. The best source for this effort is found in the experiences and expertise of our soldiers on the ground — these professionals have a sense and "feel" for what is right for our future fighting force.

Historically, cavalrymen have always been at the forefront of innovative operational thought and developing technologies. The very harsh demands of rider and horse, crewman and machine, require that leaders in these organizations remain flexible and innovative in thought and practice. The invention of the tank was a result of innovative thinkers seeking to integrate emergent technology to evolve warfare. The introduction of the tank in 1915 revolutionized mounted warfare and changed the complexion of the battlefield for the next 90 years. I am confident that armor and cavalry leaders will continue to lead the way in evolving the way the Army fights now and in the future. To capitalize on the extensive operational experience and spirit of innovation in the current mounted force, we are introducing a series of themes within *ARMOR* Magazine to help drive professional discussion and meaningful thought on the future of armored warfare.

My intent is to feature one or two articles discussing topics from the *Army Capstone Concept* or the *Draft Army Operating Concept* in each edition of the magazine. The featured articles will be highlighted on the cover art of the magazine for each edition as a way of drawing attention to the topic and recognizing the contributions of our readers. I encourage each of you to review the topics below and provide your thoughts to help generate meaningful professional discussion on the future roles and capabilities required for the mounted force to dominate in future conflicts. Prospective writers are not limited to these topics; they are simply representative of the challenges we are likely to face in this era of persistent conflict.

- Qualities of firsts versus find and understand.

- Intelligence, surveillance, and reconnaissance (ISR) versus reconnaissance, surveillance, and security.

- Developing the situation through action (physical reconnaissance and human intelligence).

- Area security operations over large areas.

- Developing partner capabilities (Security Force assistance).

- Attacking the enemy's network while protecting our own.

- Fighting degraded (e.g. network, sensors).

- Overcoming hybrid threats/complex terrain and enemy counter-mobility efforts.

- Ground combat vehicle — full spectrum requirements for the mounted force.

- Simulations-based training — exploiting live, virtual, constructive and gaming (L/V/C-G) in an integrated training environment (ITE).

- Adapting mounted organizations for theater requirements.

- Reconnaissance leader development — modular brigade combat teams and battlefield surveillance brigades.

The key to turning the vision outlined in the *Army Capstone Concept* into operational reality is meaningful professional discussion. Critical thinking by our leaders and soldiers remains our most valuable asset. Our adversaries will continue to adapt, requiring us to maintain proficiency in our core competencies while developing leaders who can adapt current practices to future operations and integrate emerging technologies in-stride to evolve the role of the mounted force. I solicit your thoughts on how to better train our Leaders and Soldiers and position Armor and Cavalry to dominate on future battlefields.

Treat 'Em Rough!

DRIVER'S SEAT

CSM John Wayne Troxell
Command Sergeant Major
U.S. Army Armor Center

Leader Certification Programs Critical to Leader Development

Greetings from Fort Knox and the U.S. Army Armor Center! I hope this note finds everyone well after a nice, safe holiday season. This article focuses on one of the most important, but all-too-easily forgotten, programs in our Army — leader certification programs.

Leader certification programs are designed to assist commanders and senior noncommissioned officers (NCOs) in validating the credentials of junior leaders, who will lead the young men and women in our formations. Many times, we assume that our more senior-ranking soldiers are trained, ready, and prepared, but most importantly, qualified, to mentor and lead soldiers. Too many times this assumption falls to reality, thus revealing a hard truth that we must face — our leader development programs are not creating conditions for leaders to grow and develop, which causes organizations to suffer.

It's time to make some tough decisions and sacrifices to get our leader development programs back on track; otherwise, we will not have the ability to "grow" leaders. I'm taking a step in the right direction! I have run two 54-hour Mangudai exercises (named after an elite unit of Genghis Khan's army) at Fort Knox this year with the intent to validate the credentials of my senior NCOs and enhance their ability to "grow junior soldiers." These exercises test a soldier's mettle! We just completed our latest exercise, which included only one ration per day for each NCO, with minimal sleep, added to tactical movements and missions that covered a total of 21 miles in full combat gear. Not only were the ranks of command sergeant major, sergeant major, and first sergeant participating, but I also incorporated Marines from the Fort Knox detachment, as well as international NCOs, with a smattering of a few mid-range NCOs. This leader certification exercise builds leader confidence, thereby enhancing one's abilities to lead by example and identify shortcomings in leadership approaches, which they can improve to become better leaders and keep pace with junior soldiers as they continually grow.

When a leader, who is starving, dog-tired, and broken down, can take a fighting force of his peers and turn them into an effective force to accomplish a tactical mission, he has proven the guts and grit of a successful, effective leader. When I was a brigade command sergeant major, my former boss, Colonel Jon Lehr, would say "you can learn a lot about a leader in 54 hours under these conditions; more than you could in 2 to 3 years of serving with someone because under these harsh conditions, their weaknesses, or strengths, are exposed quickly and cannot be hidden."

Leader certification programs do not have to be this strenuous, but as we continue on the path of protracted conflict, these types of programs are required as the self-starter who is goal oriented and focused on self-actualization are becoming more and more extinct. A leader certification program could be as simple as validating a sergeant's ability to conduct training or an inspection, or validating a lieutenant's ability to brief an operations order and produce graphics. Leaders must be innovative in how they run their certification programs, but they have to be effective with a purpose of producing a better, more competent and relevant leader.

This past week, I had the pleasure of participating in the 20th Anniversary parachute assault commemorating Operation Just Cause (yes, it's been 20 years since we conducted a parachute assault into Panama to oust Manuel Noriega). The event was held at Fort Benning, and I made the jump with my fellow veterans of the original jump. It had been 10 years since I had thrown myself out of an airplane, so I had to do a "jump refresher" prior to the jump. During my refresher course, I met Sergeant First Class (SFC) Kente Bryant, a senior instructor at the Airborne School and one of the top NCOs in the Army. He is a physically fit, well-spoken, cold professional who constantly and consistently leads by example. He has served multiple deployments to Iraq and Afghanistan; however, in between these deployments, he completed all of his requisite noncommissioned officer education system (NCOES) courses, Jumpmaster School, Air Assault School, and this past August, Ranger School (as an SFC!). He is now preparing for the Sergeant Audie Murphy board. This soldier is an impressive NCO! I spent the afternoon with him, and as he knocked the airborne rust off of this old paratrooper, I learned that he is a self-starter, goal oriented, and continues to challenge himself in everything he does. He readily accepts academic challenges, as well as those presented by the enemy on the battlefield; he is the standard for what we want our leaders to be. He is also open-minded and encourages feedback from seniors, peers, and subordinates. Not only does this commitment to excellence serve to improve his professionalism and how his unit operates, but it personifies the spirit of the leader certification programs, which are designed to strengthen leaders as they grow.

As we move forward and look toward the future of our Army, it is apparent that our challenges will become more complex; therefore, we need solid leader-development/certification programs to better prepare our "protégés" to meet and conquer any and all challenges they may face, individually or collectively.

Forge the Thunderbolt!

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DESIGN FOR OPERATIONAL

by Lieutenant Colonel (Retired) Thomas Clark, Ph.D.

If you command or plan operations for Army units, "design" is in your future. The 2010 rewrite of U.S. Army Field Manual (FM 5-0), The Operations Process, *devotes one entire chapter to design.[1] While the word "design" is relatively new to Army doctrine, design concepts and principles are longstanding tools for successful leaders. Design neither replaces nor duplicates the military decisionmaking process (MDMP). More importantly, design is not a topic reserved to "smart folks" and you need no special course to apply design principles in tactical units. Design is all about the commander's estimate, problemsolving, and battle command. This article describes design concepts in a battle command framework for current operational and tactical commanders and planners.*

Army Planning Background

After World War II, FM 101-5, *Staff Officer Field Manual: Staff Organization and Procedure* (1950) discussed planning in terms of two complementary components: conceptual and detailed planning.[2] The commander's estimate was a conceptual activity that set conditions in terms of a well-defined framework of how to deal with a particular situation. In the detailed component, the staff translated the estimate into specific tasks for subordinate units to arrange activities in time and battlespace.

In 1968, FM 101-5, *Staff Organization and Operations*, continued emphasis on the commander's estimate and established problemsolving as the bedrock of Army doctrine.[3] In 1986, FM 100-5, *Operations*, introduced operational art and the initial concepts of design.[4] In 1997, FM 101-5, *Staff Organization and Operations*, highlighted staff estimates and procedures while emphasizing "battlefield visualization" over the commander's estimate.[5] By 2005, the commander's estimate had become almost invisible in the planning process. In 2005, FM 5-0, *Army Planning and Orders Production*, described visualizing as a "mental process of achieving a clear understanding of the force's current state with relation to the enemy and environment (situational understanding), and developing a desired end state that represents mission accomplishment and the key tasks that move the force from its current state to the end state."[6]

Doctrine has a consistent emphasis on the commander's role to lead planning through understanding the situation, visualizing how to achieve a desired end state, and describing that visualization to planners. *The first point to remember — conceptual planning and design are enduring concepts of Army planning doctrine.*

Planning Basics

In placing design in operational and tactical operations, there are three important definitions or reference points: ill-structured problems, complex problems, and the relation of design to the MDMP. I am defining a problem as a discrepancy between how a current condition is developing and the state of affairs as it should be, which requires military action to close the gap.[7] A problem is ill-structured when no clear formulation seems possible, not all required information is available, the number of variables makes analysis difficult, and there is no verifiable answer.[8] A problem is ill-structured when "both the nature of the problem and the appropriate response are unique and fluid."[9] Similarly, the characteristics of complex problems include "a large number of variables (complexity) that interact in a nonlinear fashion (connectivity), changing over time (dynamic and time dependent), and to achieve multiple goals."[10] Teaching your teenager how to drive may be an ill-structured problem; on the other hand, preparing an Afghan army battalion to maneuver vehicles in combat through an interpreter is a complex problem. *The second point to remember — context distinguishes the nature of problems.*

AND TACTICAL LEADERS

FM 5-0

THE OPERATIONS PROCESS

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In contrast to the MDMP focus on analysis to develop a course of action, the design focus is to understand the nature of an ill-structured or complex problem. MDMP is a tool to help solve 'a problem' while design is a tool to help ensure you are solving the 'right problem' without creating collateral problems. While the initial approach in detailed planning is specialized staff analysis to identify facts, the initial approach in the conceptual component is to reach shared understanding of context as the basis to place value on facts. A shared understanding of context enables commanders to see relative importance of various facts and set priorities for tasks. Similarly, the MDMP is a staff-centric activity with well-defined inputs and outputs, while design hinges on discourse among commanders, between the commander and staff, as well as between a commander and others having knowledge about a given situation.

Finally, while the MDMP is linear with a focus on producing an order, design follows the battle command logic as an ongoing activity just as the original commander's estimate was a continuous process. As a detailed planning effort unfolds or an operation moves forward, the commander should continue to think in terms of reframing — the environment, the problem, and the operational approach — because adaptive opponents cause situations to change in unpredictable ways. Reframing makes design a continuous effort to exploit new opportunities and mitigate new threats. The difference between "design" and "detailed planning" is the difference between world geography and a roadmap to your next duty station. *The third point to remember — design is commanders leading learning through an honest, forthright exchange of ideas aimed at collective understanding.*[11]

Design Basics: Three Frames

A commander's most important role is to make high-quality decisions in a timely manner. All decisions are subject to three fatal errors: type one error is to decide a problem solved when the problem remains; type two error is to decide a problem is not solved when it is; and type three error is to devote effort in solving the wrong problem.[12] Type three errors tend to occur when leaders consider only "what needs to happen" in dealing with ill-structured, complex problems. *The fourth point to remember — design is a best-practice approach to counter the three fatal problemsolving errors and, thus, to improve decisionmaking.*

The Understand Component of Design: Frame the Environment

The understand component of battle command provides a solid foundation of relevant knowledge. To achieve understanding, the commander makes a decision to "step back to clarify the nature of the problem itself."[13] The decision to understand the problem is "essential to the commander's ability to establish the situation's context."[14] Figure 1 shows
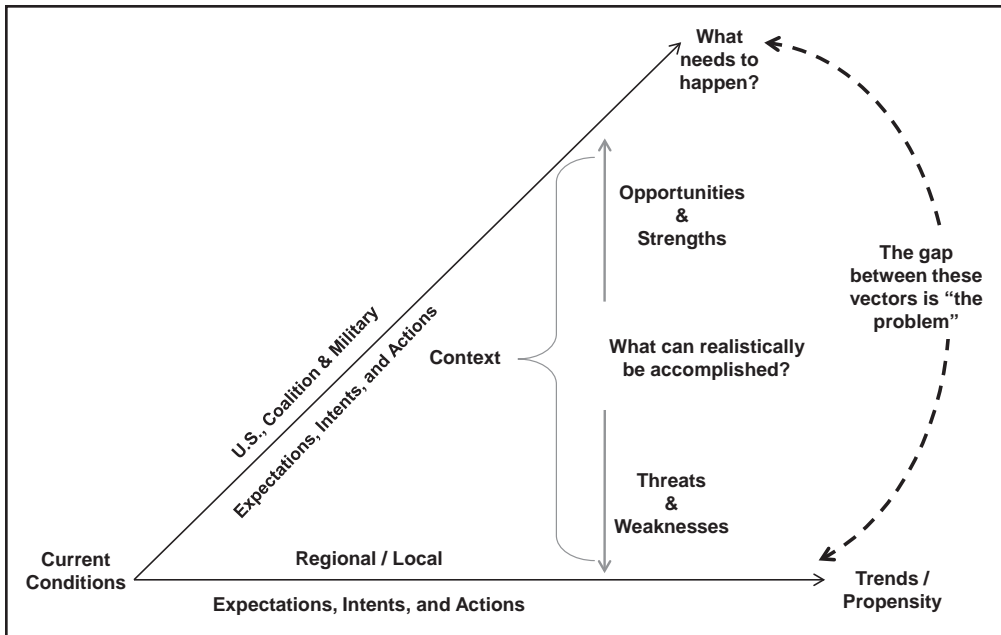
Figure 1. Understand Component Framework

that design begins with open-ended questions such as what is going on now, what expectations we must meet, what are trends in the current situation, where are sources of momentum, what needs to happen (given existing trends), and what realistically can be accomplished?

Operational variables represent a tool to help frame the geographical area where you can directly influence operations through your maneuver and fire support assets.[15] Framing context sets conditions to make sense of a complex situation and helps establish sign posts for knowing, analyzing, and acting.[16] In other words, effective decisionmaking requires situational understanding to recognize the difference between existing and desired conditions, while concurrently visualizing end states.

The Visualize Component of Design: Frame the Problem

Visualization is the mechanism to translate understanding into purposeful activity. The commander's visualization is a constantly changing, ready image of what's going on and what needs to be done. Doctrine defines visualization as "the mental process

of developing situational understanding, determining a desired end state, and envisioning the broad sequence of events by which the force will achieve that end state."[17] The aim of the visualize component of design is to frame the problem. A problem frame sets boundaries for factors to address in order to move from the current condition to the desired end state (see Figure 2). Mission variables are valuable tools to aid in establishing critical relationships and relative capabilities between friendly forces and enemy forces.[18]

The decisive operation in conceptual planning is to distill the problem frame into a problem statement because without clearly defining the problem, efforts to develop courses of action are "misguided and vague."[19] I define a problem statement as one or two sentences that set the direction of effort for the force. A problem statement begins with "how to" and identifies the decisive point (DP) friendly forces must achieve before an enemy can set conditions to achieve a desired end state (see Figure 2). Next, the commander's operational approach serves to bridge conceptual planning and detailed planning.

The Describe Component of Design: Frame the Concept

The aim of the describe component of design is to combine the environmental frame (understand) with the problem frame (visualize) into expressions that drive staff planning and shape expectations for external audiences (see Figure 3). In the describe component, commanders communicate what military forces should accomplish in terms of an operational approach, or "the manner in which a commander contends with a center of gravity" and by extension to the tactical level, a decisive point.[20] At a basic level, commanders communicate an operational approach through a statement of intent that outlines the purpose of the operation and conditions the force must establish to achieve the end state. Commanders also describe acceptable risk and issue planning guidance that establishes specific activities in developing

"As a detailed planning effort unfolds or an operation moves forward, the commander should continue to think in terms of reframing — the environment, the problem, and the operational approach — because adaptive opponents cause situations to change in unpredictable ways. Reframing makes design a continuous effort to exploit new opportunities and mitigate new threats. The difference between 'design' and 'detailed planning' is the difference between world geography and a roadmap to your next duty station."

concepts on 'how to deal with the problem' for subordinates and staff planners.

The revised FM 5-0 (2010) describes the need for a "mission narrative" that expresses the conditions, actions, and payoffs that external audiences will observe as the operation unfolds.[21] While the commander's intent is three to five sentences, the mission narrative is about 150 words. The lower part of Figure 3 indicates that an opponent also has intentions and forces to shift the trend line to an undesirable outcome for friendly forces.

Figure 2. Problem Frame and Problem Statement

Conceptual planning enables a commander to make an explicit, well-informed framework, which takes the form of an environmental frame, problem frame, and a frame of the operational approach. When all is said and done, what might the conceptual planning component look like for incorporating "design" into Army planning practice?

Design: A Way (Not the Way) to Understand, Visualize, and Describe

Professional planners and doctrine writers outline activities and outcomes that capture the goodness of conceptual planning. A review of the effort to introduce design to the Army should help illuminate the principles of conceptual planning. These facts are based on my perspective and do not reflect any official position. It is my intention to first frame the environment based on past doctrine, background research in planning, and discussions with doctrine writers; secondly, frame the problem based on learning in the environmental frame; and finally, describe my frame of the operational approach for embedding design in Army planning.

Environmental frame. The operational environment brings a pressing requirement for a new approach to planning and problemsolving.[22] The notion of persistent conflict, security operations conducted among the people, asymmetric threats, and information operations represent dominant factors that frame the operational environment. Equally important, commanders must have a deep understanding of "the physical environment, the state of governance, technology, local resources, and the culture of the local population."[23]

Senior leaders recognize "there were conceptual problems early on in the conduct of the current wars, which were attributable to flaws in imagination and understanding."[24] There are several schools of thought on updating planning doctrine. Some argue that any attempt to put structure into conceptual planning, or design, is misguided because conceptual planning is, at heart, an unstructured exercise. Alternatively, others argue that detailed planning, or the MDMP, has served well and is sufficient. Design proponents emphasize the need to understand the complexity that is inherent to the operational environment as a necessary precondition to solving the right problem through detailed analysis. Alternatively, MDMP proponents contend that design tends to devolve into "paralysis by analysis." The history of planning doctrine highlights a well-established planning culture that once embraced conceptual planning, but currently follows doctrine that emphasizes detailed planning. Today, Army leaders and planners have experienced a decade of transformation, which means the real story involves a well-established planning culture and leaders with inclinations to be dubious of change to a well-known and successful planning method.
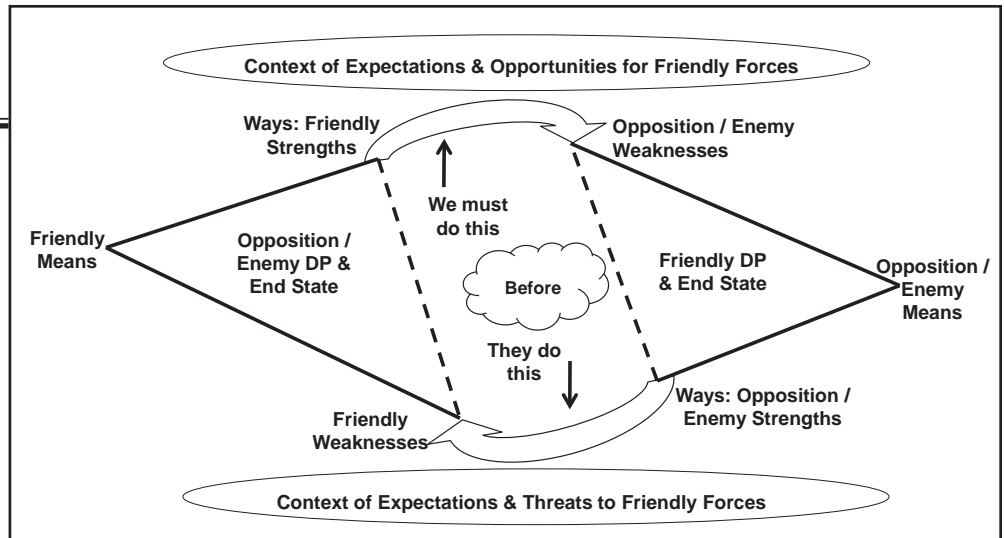
Problem frame. The decisive operation in problemsolving is to state the problem. While the problem set and gaps in knowledge are critical to a tactical problem frame, this example addresses only the problem narrative and problem statement. Based
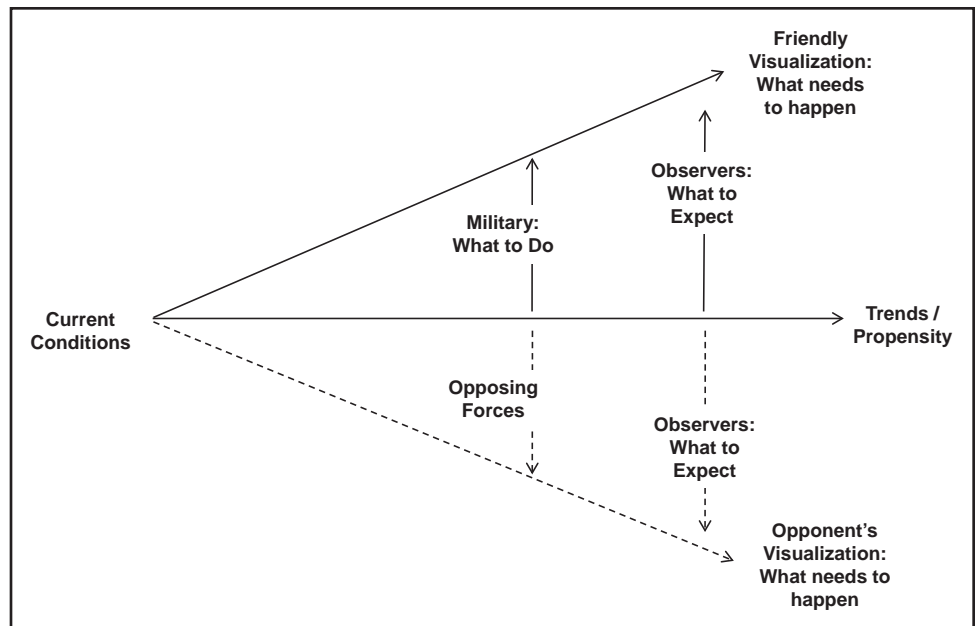
Figure 3. Describe Component Framework

on the environmental frame, the current state of Army planning is a well-established, staff-centric, linear process, which emphasizes detailed planning. The desired condition is a commander-centric method that incorporates conceptual planning while maintaining competencies for detailed planning.

As the pattern of factors in the security environment expanded, Army planning evolved in the opposite direction to a linear problemsolving process. After World War II, the relatively stable nature of likely opponents and a forward-stationing strategy enabled commanders to become intimately familiar with all mission, enemy, terrain and weather, troops and support available, time available, and civil considerations (METT-TC) factors in an area of operations.[25] In places such as Germany and Korea, leaders often knew more about their assigned area than their hometowns. Media accounts, after-action reviews, and reports now paint a different situation. Commanders and planners now deal with problems that involve multiple players in varied roles, seeking different outcomes. There is a growing requirement to step back and develop a conceptual view of what needs to be accomplished.

Today, a linear, stand-alone planning model, such as the MDMP, is no longer sufficient. Commanders and planners need additional tools to aid in framing the operational environment, the problem, and the concept of what needs to be done. The greatest threat to reframing Army planning is a planning culture embedded through professional military education, training centers, operational practice, and nondoctrine-based training programs. The significant weakness is that Army leaders have little to no experience in other planning methods. The greatest opportunity in reframing Army planning is to provide field units with commanders and professional military education graduates who have the expertise to participate in and lead design activities. The greatest strength is that design provides a clear logic that experienced commanders find valuable. However, the problem is how to employ resources at professional military education institutions and training centers to influence Army leaders to per-

ceive design as conceptual planning and decisionmaking in a battle command framework before any counter-doctrine approach gains credibility.

Framing the concept: forging an operational approach. The commander's visualization sets the direction of effort to make a situation as it ought to be. Although commanders often consider elements of operational design in describing their visualization, this example blends describe elements to address risk, intent, and mission narrative.[26]

Risk. Adopting conceptual planning in tactical units requires identifying any risks and framing the implied consequences. First, there are risks associated with time. Commanders must recognize the opportunity of quick action against the risk of allocating resources to resolve the wrong problem. Second, there are risks associated with ignoring design. Commanders must weigh the opportunity of a shortened planning process against the risk of committing one or more of the three problemsolving errors. Third, there are risks associated with assessing operations. Commanders must balance ease of developing measures of performance against the effort required to develop measures of effectiveness against the risk of inaccurate conclusions on whether a problem has been resolved or continues. Finally, there are risks associated with planning competence and competencies. Leaders must appreciate the strength of high proficiency in conceptual and detailed planning against the risk of threats to unit success in dealing with complex problems.

Intent. The commander's intent "succinctly describes what constitutes success in an operation. It includes the operation's purpose and the conditions that define the end state."[27] The purpose of incorporating design into Army planning is to provide Army leaders with a method to make a logical and orderly examination of all factors affecting the accomplishment of any mission to determine the most suitable course of action. Conditions that constitute success include all professional military education institutions and training centers presenting design as an organizing conceptual work to frame the environment, frame problems, and describe approaches that resolve complex problems. Army commanders model design as their preferred approach to critical reasoning and creative thinking. Army leaders collaborate in conceptual planning to create understanding regarding unique situations and visualize and describe how to generate change.

Mission narrative. While the commander's intent speaks to the internal or military audience, the commander's mission narrative speaks to external audiences "whose perceptions, attitudes, beliefs, and behaviors are relevant to the unit's mission."[28] A mission narrative is part of a strategic communications process and aims to let people know what to expect.[29]

The mission narrative of what commanders, leaders, and planners should expect from the new FM 5-0 begins with a condition that doctrine aims to assist commanders in efforts to prepare their organizations to dominate all situations.[30] The overarching opportunity is in professional military education and training to equip leaders with tools, methods, and doctrine that provide the greatest support for success across the range of full-spectrum operations. A critical action is to provide situations for leaders to practice "best practice" plan-

"Operational variables represent a tool to help frame the geographical area where you can directly influence operations through your maneuver and fire support assets. Framing context sets conditions to make sense of a complex situation and helps establish sign posts for knowing, analyzing, and acting. In other words, effective decisionmaking requires situational understanding to recognize the difference between existing and desired conditions, while concurrently visualizing end states."

ning methods to achieve success through superior decisionmaking. The payoff is to enable Army leaders to develop a comprehensive understanding of their environment, visualize how to achieve desired end states, and describe that visualization to their units, which help commanders achieve their vision of success in all missions.

Transition: Conceptual to Detailed Planning

The next step is to shift the main effort to detailed planning (MDMP). The sum of knowledge in how to make the transition from conceptual to detailed planning resides in three words — it all depends. One option is to orient the staff on filling known gaps in knowledge from conceptual planning. Another option is to revisit problem framing with more in-depth analysis on critical planning factors and the problem set or sequence of actions to achieve the end state. A third option is to begin developing courses of action. The underlying principle is to focus on activities that point to developing a response to the "right problem" and maintain momentum directed toward the desired end state.

This article provides a historical background of Army planning, describes design from a doctrine perspective, and offers an example of how design works in regard to a complex problem of revising Army planning doctrine. Given the nature of operations conducted "among the people" to be ill-structured and complex, design is a tool to aid critical reasoning in developing creative approaches to problems that defy intuitive responses. Design is a complementary process to enhance detailed planning under the MDMP, which is a planning method that helps the commander develop a complete response to 'a problem.' Through framing the environment, the problem, and operational approach, design is a tool that helps ensure commanders have the right resources to address 'the right problem.' Through reframing, design is a tool that helps commanders avoid declaring a problem solved when it still exists or continue working against a problem that has been resolved. The final point to remember is that developing the competencies to apply design principles is a matter of practice, practice, and more practice. There is no time like the present — design starts now.

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Notes

[1]Headquarters, Department of the Army (HQDA), U.S. Army Field Manual (FM) 5-0, *The Operations Process*, U.S. Government Printing Office (GPO), Washington, DC, TBR March 2010.

[2]HQDA, FM 101-5, *Staff Officers Field Manual: Staff Organization and Procedure*, GPO, Washington, DC, July 1950, pp. 59, 67.

[3]HQDA, FM 101-5, *Staff Officers Field Manual: Staff Organization and Procedure*, GPO, Washington, DC, June 1968, p. 6-1.

[4]HQDA, FM 100-5, *Operations*, GPO, Washington, DC, May 1986, pp. 179-182.

[5]HQDA, FM 101-5, *Staff Organization and Operations*, GPO, Washington, DC, May 1997, pp. 1-3, 5-1, and 5-5, representative not exhaustive. While there is a short discussion of the commander's estimate in Appendix C, the emphasis in planning was more in the commander's visualization.

[6]HQDA, FM 5-0 (2005), *Army Planning and Orders Production*, GPO, Washington, DC, January 2005, p. 1-9.

[7]FM 5-0 (2005), p. 2-7; and U.S. Army Training and Doctrine Command (TRADOC) Pamphlet 525-5-500, *Commander's Appreciation and Campaign Design*, version 1.0, Fort Monroe, VA, January 2008, p. 8.

[8]FM 5-0 (2005), p. 2-5.

[9]Richard M. Swain, "Commander's Business: Learning to Practice Operational Design," *Joint Forces Quarterly*, 2d Quarter, 2009, p. 62.

[10]Jennifer Xu, G. Alan Wong, Jiexun Li, and Michael Chau, "Complex Problem Solving: Identity Matching Based on Social Contextual Information," *Journal of the Association for Information Systems*, Volume 8, Issue 10, 2007, p. 525.

[11]Swain, p. 67.

[12]Roger J. Volkema, "Problem Formulation in Planning and Design," *Management Science*, Volume 29, Number 6, June 1983, p. 640.

[13]Ronald Heifetz, Alexander Grashow, and Marty Linsky, *The Practice of Adaptive Leadership: Tools and Tactics for Changing Your Organization and the World*, Harvard Business Press, Boston, MA, pp. 47, 49.

[14]HQDA, FM 3-0, *Operations*, GPO, Washington, DC, February 2008, p. 5-4.

[15]Ibid., p. 5-5.

[16]Definition based on a Joint Forces Command (JFC) Component Commander's Meeting Presentation, 28 July 2009.

[17]FM 3-0 (2008), p. 5-5.

[18]Ibid.

[19]Julia Storberg-Walker and Thomas Chermack, "Four Methods for Completing the Conceptual Development Phase of Theory Building Research in HRD," *Human Resource Development Quarterly*, Volume 18, Winter 2007, p. 507. Cited in the same article, Karl Weick in, "Theory Construction as Disciplined Imagination," *Academy of Management Review*, Volume 14, Number 4, 1989, believed that the measure of effectiveness for problem statements is in how well the theorist or planner understands the environment, p. 520.

[20]FM 3-0, (2008), p. 6-9.

[21]FM 5-0, (TBR March 2010).

[22]TRADOC Pamphlet 525-5-500, (2008), p. i.

[23]FM 3-0, (2008), p. 1-5.

[24]Swain, p. 62.

[25]FM 3-0, (2008), defines mission variables as mission, enemy, terrain and weather, troops and support available, time available, and civil considerations (METT-TC), p. 1-9. Mission variables are linked to the visualize battle command component, p. 5-3.

[26]FM 3-0, (2008), pp. 5-5, 5-8, and 6-7.

[27]Ibid., p. 5-10.

[28]Dr. Jack Kem, *Design: Tools of the Trade*, U.S. Army Combined Arms Center, Fort Leavenworth, KS, 2009, p. 50.

[29]Admiral Michael Mullen, "Strategic Communication: Getting Back to Basics," *Joint Forces Quarterly*, 4th Quarter, 2009, pp. 2-3.

[30]FM 5-0 (TBR March 2010).

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Complex Web Defense Experiment

by Lieutenant Colonel Kenny D. Harper and Colonel (Retired) William R. Betson

At the direction of the U.S. Army Training and Doctrine Command (TRADOC), the Maneuver Battle Lab at Fort Knox, Kentucky (MBL-K) conducted a series of events, from October 2007 through March 2008, designed to investigate the challenges and proposed solutions for U.S. Armed Forces performing combined arms operations against an enemy conducting a "complex web defense." This article presents a synopsis of the insights and conclusions from the Maneuver Battle Lab's efforts.

Complex Web Defense

For the purposes of these studies, the MBL-K used the term "complex web defense" (CWD) to refer to an array of tactical practices a future enemy might employ against U.S. forces, which denies the United States advantages of using high-technology sensors, massive firepower, and protected mobility, and exploits the enemy's ability to hide in complex/urban terrain, using civilians as shields.

Although many possible future enemies could employ variations of these tactics, one example of "CWD-like" tactics is how Hezbollah fought the Israelis in Lebanon during 2006. CWD has no approved U.S. Army doctrinal definition, but it is characterized by mutually supporting defensive positions, interconnected with resilient, redundant communications, and sustained by stockpiled and hidden supplies. Enemy fighters are often irregulars, but are well trained and very well equipped with top-of-the-line antitank and antipersonnel weapons.

This enemy is capable of executing flexible, prearranged plans and demonstrates agility at the lower tactical levels. He rarely conducts large-scale maneuver and may attempt to contest the advance of U.S. forces only when it is to his advantage. He often allows U.S. combat elements to pass and then attempts to strike follow-on support or sustaining forces.

Often, the enemy's command and control (C2) techniques are considered low-grade technology, but effective nonetheless. They rely on wire (sometimes fiber-optic), runners, signals, and sometimes the civilian communications system (if still operating). He rarely emits in the radio-electronic spectrum, but if he does, it is more likely an attempt to deceive U.S. forces than to control his own forces. His C2 and logistics infrastructures might be underground and hidden among a civilian population.

The enemy is capable of employing large numbers of sophisticated improvised explosive devices (IEDs) and mines; how-

"The enemy is capable of employing large numbers of sophisticated improvised explosive devices (IEDs) and mines; however, these are emplaced to harass and disrupt. He often attempts to emplace mines and IEDs after U.S. forces have passed through a location to obstruct U.S. sustaining activities."

ever, these are emplaced to harass and disrupt. He often attempts to emplace mines and IEDs after U.S. forces have passed through a location to obstruct U.S. sustaining activities. Contributing to the confusion that these devices generate, he may also employ numerous decoys and dummy positions to add to the chaos.

Perhaps the most salient enemy characteristic — and the one that makes this type of defense relatively new and unique — is this enemy's willful use of the civilian population as a physical and psychological shield. His prepared defenses are designed to ensure massive collateral damage results if U.S. forces attempt to reduce such damage, which enables him to execute a sophisticated information campaign designed to blame U.S. forces for civilian casualties. This combination of attributes makes CWD a significant challenge and poses a dilemma to U.S. forces — if they apply massive combat power against CWD, it may cause so much collateral damage that the local population would become permanently alienated. Further, international opinion would likely condemn the United States and turn tactical victory into strategic defeat. On the other hand, this enemy is *lethal*, and failure to apply overwhelming combat power could result in the outright tactical defeat of U.S. forces.

Study Design

As mentioned earlier, the MBL-K conducted a series of events to study CWD. The first comprised a series of intelligence, surveillance, and reconnaissance (ISR) conferences designed to explore the challenges this evolving threat poses to the U.S. Army's intelligence-gathering capabilities. From October to December 2007, representatives from TRADOC Intelligence Support Activity (TRISA), and the Military Intelligence, Infantry, Aviation, Field Artillery, and Armor Centers met at Fort Knox to discuss these issues. The conferences marked the first time these organizations had come together to explore the special challenges presented by this type of evolving threat. Most importantly, the conferences achieved consensus as to the *specific* information that national, theater, and joint task force ISR assets could provide to tactical commanders when confronted by such a defense system. These multiple efforts enabled wargame exercises and the experi-

ment that portrayed the appropriate conditions at the start of mission execution, and allowed the appropriate amount of contributions from higher-level commanders down to the low-level tactical fight.

MBL-K conducted an asymmetric threat wargame in January 2008, designed to address issues surrounding the employment of modular forces against a CWD. The wargame placed blue force players

in specific tactical situations designed to provoke discussion and capture insight on rules of engagement, intelligence, maneuver, and sustainment. Most importantly, the wargame shaped approaches toward execution of the capstone experiment.

The capstone event was the CWD experiment (CWDE) held at Fort Knox during March 2008. Its purpose was to inform various TRADOC capabilities assess-

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"The challenge of fighting such a capable enemy in and among the civilian population means that U.S. forces will be fighting simultaneously across the full spectrum of conflict almost as soon as they cross the line of departure. Even inside the battalion's zone of attack, part of the unit could be fighting major combat operations, while another element might be protecting a line of communications and performing tasks akin to stability operations."

ments and explore how U.S. forces could conduct tactical operations against an enemy employing CWD tactics. Throughout the scenario, the exercise used a heavy brigade combat team (HBCT) attacking through an enemy defensive zone to seize an operationally significant objective that supported a joint task force (JTF) campaign plan. The HBCT was supported by appropriate division- and higher-level enablers.

According to the October 2007 "Force Design Update," the HBCT designed for this experiment used a combined-arms battalion with future force technologies, a Stryker battalion, and a brigade reconnaissance squadron. Soldiers from Fort Bliss played the combined-arms battalion, the U.S. Army Infantry Center provided support for the Strykers, and the U.S. Army Armor Center provided role-player support for the reconnaissance squadron.

The experiment was designed to compare three test cases. The first test case (base case) equipped the HBCT/Stryker BCT as a 2007 unit augmented with future combat systems (FCS) "spinout 1" capabilities. The second and third test cases played a brigade equipped with the anticipated HBCT program upgrades, plus FCS "spinout 1" capabilities, as well as proposed HBCT program upgrades, plus "spinout 1-3 capabilities." The threat, played by TRISA and the "world-class opposing forces (OPFOR)" comprised of about 2,500 well-equipped and trained fighters, defended complex urban terrain

and employed numerous mines and IEDs. The battlefield was interspersed with civilians, who were very difficult to distinguish from the combatants and used by the enemy to shield their activities. U.S. forces used rules of engagement (ROE), which were developed in conjunction with the Armor Center's Staff Judge Advocate and found appropriate for conducting major combat operations (not stability or counterinsurgency operations). These ROE are similar to those employed by U.S. forces during Operation Iraqi Freedom I.

Insights and Conclusions

Certain insights and conclusions emerged from this study and are grouped in the five broad categories below.

I. Full-spectrum operations.

The challenge of fighting such a capable enemy in and among the civilian population means that U.S. forces will be fighting simultaneously across the full spectrum of conflict almost as soon as they cross the line of departure. Even inside the battalion's zone of attack, part of the unit could be fighting major combat operations, while another element might be protecting a line of communications and performing tasks akin to stability operations. Furthermore, the nature of the conflict could suddenly change for U.S. forces; for example, a company commander who has just taken a village after fighting a stiff opposition has to now deal with the village's civilian leaders and assist civilian casualties. U.S. forces must

be trained and organized with these challenges in mind.

Our experimentation indicates that when fighting against a CWD, U.S. Army leaders at all levels, squad leader to joint task force commander, will constantly be confronted with the dilemma of "to shoot or not to shoot." Shooting may cause unwanted civilian casualties and prove counterproductive to future civilian relations once hostilities cease. Not shooting risks the force and may even preclude the unit's ability to reach mission accomplishment. There will be no simple rules to follow. Leaders, especially junior leaders, must be trained and prepared to exercise sound judgment based on established ROE.

Tactical victory against this enemy may not translate into operational or strategic success. In the CWD experiment, U.S. forces were able to seize all of their operational objectives, but in many cases, the enemy was bypassed and hidden among the population. In all three cases of the experiment, the real issue was "exactly what U.S. forces had accomplished by seizing their objectives." Assigning a force-oriented objective to U.S. units may be unachievable because it would require going into every cellar, in every village, to root out enemy presence. On the other hand, selecting a terrain objective may result in controlling a locality, but end in being surrounded by hostile, unrestrained forces that blend into the surrounding community. Clearly, selecting correct lines of operations and tactical and operational objectives will be of increased importance during campaign planning.

Despite its best efforts to avoid collateral damage, as demonstrated in the study's wargaming and experimentation, U.S. forces will unintentionally kill significant numbers of civilians when fighting against an enemy force employing CWD. As a result of this dilemma, U.S. forces require a wide variety of nonlethal options when fighting against such an opponent, which includes the capability to disable without killing. However, it also includes an urgent requirement for better obscurants — white phosphorous, currently our only choice for artillery "smoke," is problematic in populated areas. U.S. forces should also be prepared, equipped, and trained to conduct information engagement operations that explain civilian casualties result from the enemy's efforts to use civilians as shields. U.S. political leaders must understand that heavy civilian losses will be a concomitant of warfare in this environment.

II. Intelligence.

Our wargaming and experimentation results suggest that U.S. forces have difficulty finding threat forces and distinguishing them from the local population, which suggests that the "see first" component of the "quality of firsts" may not be achievable. The results of this experiment suggest an inability to "see first," which may be more of a probability than a possibility, and this concept may need to be revisited.

The ISR conferences, held as part of this study effort, reached a consensus that U.S. forces could reasonably expect to have knowledge of about 15 percent of the enemy's infantry fighting positions, crew-served weapons, and weapons platforms prior to the initiation of direct contact. While the 15 percentile number is arbitrary, the participants were in agreement that it represents the relative order of magnitude of enemy understanding U.S. forces can expect. Hence, the ability of higher-level commanders to "shape the battlespace," and U.S. forces to "develop the situation out of contact," may be limited.

Our wargaming and experimentation results also suggest that current U.S. sensor packages and long-range precision systems, which are mounted on systems or weapons platforms, may need design changes as these systems were primarily created to seek and identify conventional platforms. Against a CWD, the United States needs the ability to see the people, not tanks; we need the ability to discern exactly what every citizen is doing or carrying. Further, long-range precision systems, designed to kill armored vehicles, may be of limited utility as their effectiveness against personnel and buildings is reduced.

Finally, our study efforts suggest that the Army needs to develop a more comprehensive ISR concept. Current doctrine was designed against a more stylized and predictable enemy. Intelligence preparation of the battlefield (IPB) and situational templating should focus more on enemy capabilities than on enemy formations. The enemy will not always attack in predictable formations or have predictable numbers of weapons systems. The United States will almost certainly have to fight for information to shape current and future operations. Reconnaissance and surveillance plans built around static observation points and named areas of interest may need to be more dynamic as scouts/soldiers will have to identify suspicious activities within their assigned areas of operation.

III. Maneuver.

Tactical success against a complex web defense will most likely require highly skilled execution of low-level combined-arms tactics and the close synchronization of all warfighting functions. Our research suggests that the Army must focus training and experimentation on full-spectrum operations. Further, the insights from these experiments suggest that the U.S. Army may be losing its low-level tactical skills. Synchronizing the effects of the firepower available to U.S. forces is a complex task and takes practice, which our current junior leaders rarely have the opportunity to conduct. For example, a central part of the training experience at combat training centers was once the combined-arms breach of a de-
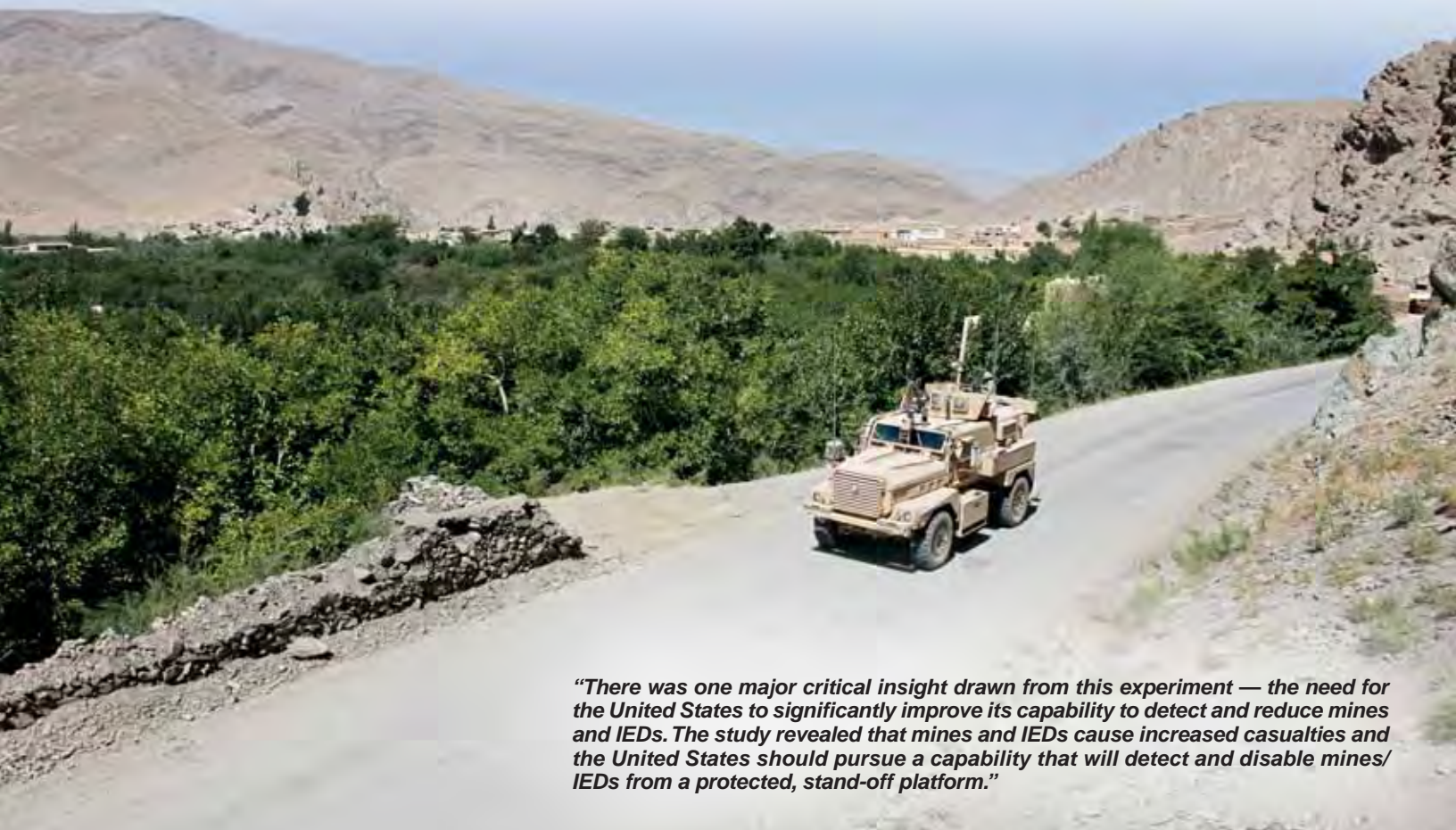
"There was one major critical insight drawn from this experiment — the need for the United States to significantly improve its capability to detect and reduce mines and IEDs. The study revealed that mines and IEDs cause increased casualties and the United States should pursue a capability that will detect and disable mines/IEDs from a protected, stand-off platform."

fended complex obstacle. Many of our current captains have not had the opportunity to execute this task; we must find ways to address these issues and continue to maintain our core competencies and full-spectrum capability at lower tactical levels.

In our experimentation, the modernized HBCT, with its combination of protected, mobile firepower and long-range precision weapons was able to dominate the battlespace against a CWD. The HBCT, equipped with current systems, took heavy casualties to long-range enemy precision systems. Experimental results indicated that the advanced protective system, mast-mounted sensors, Excalibur artillery round, armed robotic vehicle-light (ARV-L), class I unmanned aerial systems, and small unmanned ground vehicles (SUGV) were particularly effective when encountering and fighting this type of threat. Data collected from the experiment suggests a more modernized force is capable of killing more enemy forces and sustaining fewer casualties. The study further suggests that the United States vigorously pursue modernizing the HBCT program.

There was one major critical insight drawn from this experiment — the need for the United States to significantly improve its capability to detect and reduce mines and IEDs. The study revealed that mines and IEDs cause increased casualties and the United States should pursue a capability that will detect and disable mines/IEDs from a protected, stand-off platform.

Finally, heavy combined-arms forces and reconnaissance forces seem to require substantial numbers of dismounted infantry and scouts to accomplish their missions. CWD tactics exploit complex and urban terrain, which often permits heavy, mounted forces to bypass enemy force positions while they await softer targets. Dismounted infantry and scouts are needed to clear buildings and terrain that vehicles cannot enter. Further, large urban areas consume large amounts of infantry. As in World War II, the tank/dismounted infantry team seemed to be the solution, but when fighting against an enemy that is largely comprised of infantry, the current HBCT 50/50 split of infantry and tanks may not be optimal.

IV. Sustainment.

Our studies suggest that CWD tactics pose a significantly increased risk to U.S.

sustainment operations — every part of the BCT zone was threatened. In all cases, the U.S. commander was forced to devote a considerable portion of his combat power to lines of communications (LOC) protection and moving sustaining forces forward to conduct replenishment, which had to be planned and executed as combat operations.

During the experiment, it proved impractical for U.S. forces to "open and close" LOCs on an as-needed basis. If the LOC was abandoned, the threat swiftly infiltrated back to its location, which required combat action to restore it. Experimentation results suggest that evolving U.S. doctrine should reconsider the idea that pulsed logistics preclude the need for continuous open lines of communications.

The continuous threat presented to LOCs during the experiment suggests that all vehicles in the BCT need some level of protection from enemy direct fire, as well as mines/IEDs. Even if logistics elements are escorted by combat formations equipped with tanks, or if they are packed in tightly behind combat companies, the enemy often simply fires first on unprotected support vehicles. In addition, with the rear areas remaining unsecured, moving unescorted ground ambulances proved too dangerous during experimentation; thus, reliance on aerial medical evacuation increased.

Our data indicates that all combat support and combat service support units operating within an HBCT area or zone will likely require some measure of self-protection. There are simply not enough combat units to accomplish the main mission while protecting sustaining elements, especially in a BCT with only two maneuver battalions. Organizational design of logistics elements must account for this.

V. Rules of engagement.

Our studies indicate that the laws of land warfare are broad enough to accommodate the measures necessary for the United States to defeat a CWD. Most ROE issues are in the realm of policy and commanders' judgment, not law. Developing ROE is in the realm of the art of war, not science. Commanders (not lawyers) must develop ROE that balance the competing demands of destroying the enemy and influencing the populace and world opinion. The U.S. military education system must educate, train, and develop commanders capable of making these judgments soundly.

The complex web defense experiment has significantly impacted the Army's experimentation and force development programs. Its results have been briefed to current and former TRADOC commanders. The Commanding General, TRADOC, General Martin Dempsey, recently directed that all future TRADOC experiments include a "hybrid enemy" who practices tactics similar to those conducted in this experiment. Additionally, the simulations that the Army uses to test new doctrine, organizations, and equipment are being adapted to better portray this type of enemy. Much work is also being done to ensure that the impact of civilians on the battlefield, or "human terrain," is represented adequately. But perhaps most importantly, the experiment has helped ensure that our future Army is designed, manned, and equipped to fight the enemy it is most likely to face.

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This article is dedicated to the memory of Colonel Mark Eastman.

Augmenting the HBCT Armored Reconnaissance Squadron to Meet Operational Needs

by Captain John Gassmann

Throughout history, the U.S. Army has relied on cavalry organizations to carry out full-spectrum military operations ranging from offense and defense to counterinsurgency and stability operations. Cavalry units are unique in their ability to carry out reconnaissance and surveillance missions, as well as customary military operations.[1] This is due to their enhanced mobility, which allows them to maneuver around the enemy and exploit weaknesses. Wide-ranging mission sets enable cavalry units to be extremely flexible and adjust their organizations and doctrine to fit the current operating environment (COE).

The cavalry's flexibility was merged with improved armor protection and increased firepower, from the beginning of World War II to the peacekeeping operations of the 1990s, to meet the challenges of increasingly complex areas of operation (AOs). However, when this augmentation trend reversed in the late 1990s, cavalry units became less than well equipped to carry out assigned missions. The armored cavalry squadrons born of modularity are not organized to succeed in the COE because ground commanders need them to perform more than reconnaissance and limited security operations as doctrinally assigned.

This article briefly describes the trends of organization and doctrine in cavalry units during the past 70 years. In that time, increased firepower, mobility, and armored protection proved critical to success in combat. This article shows how cavalry units organized under current doctrine require augmentation to their combat power to be successful in the COE. The experience of 3d Squadron, 7th U.S. Cavalry (3-7 CAV), 2d Brigade, 3d Infantry Division (3ID), during Operation Iraqi Freedom (OIF) V, provides an example of how reorganizing contributed to a high degree of success in the COE. Perhaps doctrine can be reexamined to properly resource cavalry units as they are actually employed, rather than how they are envisioned.

Adapting Cavalry Capabilities to Meet Operational Needs

The trend to make cavalry units more robust through additional firepower and armor protection started during World War II and continued into the 1990s. The historical antecedent for this trend can be found in cavalry units prior to World War I. During that time, horse-mounted cavalry carried out a complex mission set, including offensive and defensive missions. Their significant advantage in mobility over foot soldiers made them ideal to carry out reconnaissance, pursuit, and exploitation. New battlefield technologies that emerged during World War I, such as motorized and mechanized forces, neutralized the cavalry's advantage and increased its vulnerabilities.[2] In response, the cavalry mission narrowed to one of reconnaissance and limited security operations.[3] From World War II through Operation Desert Storm, this was gradually reversed as cavalry units received and effectively used armored vehicles with increased firepower. Also, the Army increasingly called on cavalry organizations to carry out their pre-World War I missions of offense, defense, reconnaissance, and security while providing them with the capability to execute those missions successfully.

The Army reversed the trend to make cavalry units more robust with the advent of Force XXI and digitization in the1990s. The increased prominence of sensors and improved situation awareness led to decreased emphasis on survivability and firepower. Once again, the cavalry mission was reduced to reconnaissance and limited security operations and organizations were stripped of much of their combat power. This became apparent during the invasion of Iraq as 3-7 CAV, the division cavalry squadron for 3ID, screened forward of the main advance to identify the enemy. Cavalry training made the squadron successful at finding enemy forces; robust organization made it successful at fixing and finishing them. After the invasion, 3-7 CAV reorganized, due to modularization, as the recon squadron for 2d Brigade Combat Team (BCT), 3ID; however, even with much of its combat power gone, the expectation to find, fix, and finish the enemy continued. This is indicative of the divergence between a cavalry unit's doctrinally dictated organization and how commanders actually use cavalry units in the field.

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3-7 Cavalry in OIF V

Currently, heavy brigade combat teams (HBCTs) consist of two combined-arms battalions (CABs), an armored reconnaissance squadron (ARS), a fires battalion, a brigade support battalion (BSB), and a brigade special troops battalion (BSTB).[4] The ARS contains a headquarters and headquarters troop (HHT), three ground reconnaissance troops, and a forward support troop (FST) in an operational control (OPCON) relationship from the BSB. Each ground reconnaissance troop features two scout platoons, each equipped with five M1114 up-armored HMMWVs and three M3 cavalry fighting vehicles (CFVs). Each troop also has its own 120-mm self-propelled mortar section with a fire direction center (FDC). They frequently receive a fire support team (FIST) OPCON from the ARS HHT with a Bradley fire support vehicle (BFIST).[5] Such was 3-7 CAV's organization prior to augmentation in January 2007 — with one exception: a shortage of armored HMMWVs, which meant the scout platoons trained with M1025 HMMWVs instead of the authorized M1114s.

As early as summer 2006, the 3-7 CAV squadron commander discussed an increase in the squadron's combat power with the brigade commander.[6] They agreed that 3-7 CAV would receive three tank platoons, including one from each of the CABs and a third pieced together using tanks and crews that belonged to the brigade's four tank company XOs. These additional assets officially transferred in January 2007, providing 2 months of integration training prior to the home station mission readiness exercise. However, be-

cause the augmentation was anticipated, each troop in the squadron trained in advance to operate with an additional tank platoon.

During gunnery in October 2006, a tank platoon from one of the CABs was attached and participated in a modified Table XII with each scout platoon. The scout platoons screened forward, identifying and engaging wheeled and lightly armored targets. After identifying the heavy armor threat, the scout platoons used CFVs to suppress while the tank platoon moved forward, engaged, and destroyed the enemy. This scenario was later used by the CABs to train integration between their scout and tank platoons.

The early attachment of the three tank platoons from the CABs provided the BCT with enhanced capabilities during training and the home station mission readiness exercise. The 3-7 CAV squadron commander highlighted the advantages of this additional combat power: "Originally, we were planning to deploy and operate as a brigade. The augmentation of the tank platoons was to provide greater flexibility for the BCT. That extra combat power would allow us to fight for information and also serve as an extra maneuver element for the brigade."[7] Receiving additional assets well before deployment made it easier to identify and resolve issues encountered once deployed. The pre-deployment training with attached tank platoons resolved issues ranging from materiel support to conducting combined combat patrols. If the brigade commander had waited until 3-7 CAV deployed to determine if it needed additional combat power, we likely would not have received any at all; shortly after our advanced party arrived in Kuwait, we learned we would not be working for our parent BCT.

On arrival in theater, 3-7 CAV was assigned to 2d BCT, 82d Airborne Division, Multinational Division-Baghdad (MND-B). The squadron assumed responsibility for the Adhamiyah District on the east side of the Tigris River. The predominately Sunni area became famous as the area enclosed by the "safe neighborhood" wall and infamous as the AO of 1st Battalion, 26th Infantry, a mechanized infantry battalion that suffered more casualties than any unit its size since the Vietnam con-

flict. One of their soldiers was posthumously awarded the Medal of Honor for shielding his HMMWV crew from a grenade blast with his own body.[8] The importance of our additional combat power was immediately apparent — this highly volatile area would require all of the resources our squadron could bring to bear.

The squadron's first goal was to deny the enemy freedom of maneuver within the AO, which required as close as possible (ACAP) to 24-hour coverage. It would be impossible for six scout platoons operating in such a large area to provide this level of coverage. The additional tank platoons meant more than just another maneuver element to cover the battlespace — they proved critical in missions, such as route security, where their thermal sights and crew-served weapons denied local insurgents the ability to emplace improvised explosive devices (IEDs). While HMMWVs and CFVs could, and did, carry out this mission, tanks proved to be a much more intimidating deterrent to insurgent activity.

Even with three additional tank platoons, we required additional dismounts, which we gained from our FST. Our platoon received three soldiers (two light wheeled vehicle mechanics and a petroleum supply specialist) to serve as HMMWV drivers, which freed up three cavalry scouts for dismounted operations. While three additional dismounts do not seem like much, they meant the difference between one large squad of seven and two teams of five that could maneuver by bounds on the ground. These soldiers also proved to be some of the best in the platoon and their capabilities enhanced platoon recovery operations. With improved dismount capability, our platoons were much more effective at engaging the local populace and gathering information while maintaining local security. This improvisation parallels what cavalry units did during World War II to fulfill the complex mission set with which they were faced — they also pulled soldiers from different units to augment combat power and enhance capabilities.

Developing troop intelligence cells provided another important addition to the ground reconnaissance troops in 3-7 CAV — they contained a tactical human intelligence team (THT), a tactical psychological operations team (TPT), and two or more cavalry scouts or fire support specialists, all led by the troop fire support officer (FSO). The THT and TPT assets were provided to augment capabilities at the squadron level. However, squadron leaders saw an advantage to pushing them to the lowest level possible. The troop intelligence cell collected information while on patrol with the platoons, and it also analyzed information from patrol debriefs and from human intelligence (HUMINT) sources to develop targeting in the troop AO. With such enhanced capability, the troops could gather their own intelligence and develop it through the troop intelligence cell. This improved the troops' ability to swiftly act on targets that operated in and out of their AOs.

By December 2007, 3-7 CAV succeeded in lessening the violence in Adhamiyah enough to establish a Sons of Iraq (SOI) local security program. The close relationship cultivated by platoon leaders and troop commanders with the SOI improved security and further decreased violence.

By early 2008, the squadron AO expanded and doubled its original size; adding a Stryker rifle company from 1st Squadron, 2d Cavalry Regiment, enhanced its combat power, further emphasizing 3-7 CAV's significance as another maneuver element. In March of that year, elements of Muqtada al-Sadr's Mahdi army attacked Iraqi army (IA) checkpoints surrounding Sadr City in eastern Baghdad in response to an IA offensive in the southern city of Basra.[9] In response, the 4th Infantry Division commander determined an armor-heavy force would be needed to drive off the insurgents, restore the IA to its checkpoints, and further improve security in Sadr City. He tasked 3-7 CAV and several other armored units with providing security support for checkpoint improve-

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ment. Without heavy armor assets, the squadron would not have been able to accomplish its mission in the IED- and sniper-rich environment of Sadr City. The use of covert IED interdiction, such as small kill teams, was not possible because the local populace harbored insurgent forces. The only viable option to protect checkpoint improvement operations was an overt, heavily armored force.

The squadron's success is attributed to the brigade commander's decision to increase 3-7 CAV's combat power; however, when redeployed, 3-7 CAV lost its augmentation. The restructuring sought to simplify Army reset and a multitude of company- and battalion-level changes of command, and facilitate training tanker core competencies. This is indicative of the divide between doctrine and operational reality. Just as we did after World War II, we eliminated proven organizational modifications in the interest of simplifying logistics support.[10]

Modifying Cavalry Doctrine to Match Reality

A schism exists between current cavalry doctrine and the reality of the current operating environment. U.S. Army Field Manual (FM) 3-20.96, *Reconnaissance Squadron*, limits the role of reconnaissance squadrons by stating, "Although they possess sufficient armament and firepower for self-defense, they were not overendowed with weapons systems and armor protection for a distinct reason. The historical principle is that reconnaissance units that are sufficiently equipped to fight *are* routinely used for fighting instead of performing reconnaissance. … When reconnaissance units engage in direct combat missions, *reconnaissance ceases*."[11] The manual's instructions reflect the current doctrinal adherence to the theory that cavalry organizations exist only to gather information. Their lack of armor and firepower provide them with improved stealth and speed, but these virtues must not be confused with the ability to survive incidental contact with the enemy. Our current organization harkens back to the jeep-heavy platoons of World War II with their moderate armor augmentation. Army leaders at that time realized that when reconnaissance elements operate forward of their main body, they will likely make contact with the enemy. In his article, "Fighting for Information," in the May-June 2008 edition of *ARMOR*, then Major Daniel Davis states, "Trying to develop the situation out of contact is a worthy goal, but one is rarely afforded the luxury to do so."[12] This is especially true in the counterinsurgency environment, in which we are currently operating, where units are encouraged to live in and amongst the populace.

In addition to the ability to fight for information, cavalry units need capabilities to ensure mission success for every operation they are tasked to carry out. In historical examples, and again in the current operating environment, the Army tasks cavalry units to carry out offensive and defensive operations in an economy-of-force role, as well as reconnaissance and security operations. This is due to large AOs and the complex missions the Army is currently executing. Up until now, mission success is attributed only to forward-thinking leaders who ensure these units are properly equipped to carry out a wide range of missions. To ensure future cavalry units receive necessary assets, we must consider what their optimal organization should look like and adjust doctrine accordingly. Ideally, the HBCT ARS will incorporate ground, aerial, and sensor capabilities to answer the BCT commander's critical information requirements (CCIR).

According to FM 3-90.6 *The Brigade Combat Team*, "The HBCT is best employed against enemy mechanized and armored forces because it offers the best protection of the three BCTs."[13] Therefore, the ARS must also be able to survive chance contact with these types of forces. Consequently, the HMMWV, even in its current armored state, is not the preferred platform for this mission. As FM 3-90.6 also states, "The HBCT does not deploy rapidly, although its soldiers can draw from prepositioned supplies worldwide."[14] Thus, we should not concern ourselves with ensuring that this formation remains lightweight or rapidly deployable overall. Therefore, the addition of three tank platoons would provide each ground reconnaissance troop the ability to fight for information with minimal impact on transportability.

One possible substitute for the HMMWV is the mine resistant, ambush protected (MRAP) all-terrain vehicle (M-ATV). The M-ATV reportedly offers protection from explosively formed penetrators (EFPs), which range from advanced forms of rocket propelled grenades (RPGs) and high-explosive antitank (HEAT) tank rounds to IEDs encountered in the Iraqi theater of operations. It also provides off-road capability similar to that of the original HMMWV before the addition of armor.[15]

As for aerial reconnaissance, a habitual support relationship should be established with an attack reconnaissance company from the combat aviation brigade assigned to the parent division. This is in addition to the squadron's current unmanned aerial systems (UAS) capability. In the likely event the HBCT deploys separately from its parent division and combat aviation brigade, the same relationship should be

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extended to a similarly sized attack reconnaissance element in theater. These aviation elements should not be attached or OPCON to the ARS, since the means to logistically support aviation organizations are far outside the capabilities of the ARS.

Efforts are currently underway to augment cavalry organizations with a wide array of sensors. While advanced versions of ground sensing radar (GSR), UAS, and small unmanned ground vehicles (SUGVs) will undoubtedly enhance the ARS's facilities, they cannot replace the abilities of human observation and judgment. Furthermore, sensors cannot establish the relationships that produce HUMINT.

These three types of changes in ARS organization require minimum enhancement of the unit's support capability. In his article, "Reorganizing the Recon Squadron to Enhance Heavy Brigade Combat Team Capabilities," Lieutenant Colonel Jeffrey Broadwater proposes, "At a minimum, the tanks should have nine tank mechanics (three of them noncommissioned officers), one additional M88, three M978 fuelers, one M977 cargo heavy expanded mobility tactical truck (HEMTT), and two palletized load systems with drivers assigned to the squadron's FSC to accomplish its mission."[16] The aviation assets would require no additional squadron support capabilities and, as with previous fielding initiatives, new vehicles and sensors should be accompanied by operator and maintainer training. The light wheeled vehicle mechanics currently assigned to maintain HMMWVs could easily retrain for M-ATVs. These few changes will not add any burden to squadron support, yet they will go a long way to improving survivability and the ability to fight for information in the current and future operating environments.

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While current cavalry doctrine states that reconnaissance ceases once contact with the enemy is made, it does not. While the specific tactical mission task ceases, the unit's mission of maintaining enemy contact and providing timely and accurate information on the enemy's composition, disposition, and location for the higher unit commander continues through contact. As throughout history, it is the ability to survive contact with the enemy and continue to fight for information that makes cavalry organizations valuable to the current operating environment. Cavalry units have been continually modified to fulfill an expanded purpose or to meet the needs of the current conflict. Cavalry organizations conduct and will continue to conduct operations beyond the scope of current doctrine. Therefore, we must seek to officially modify their orga-

nization, doctrine, and training to match and properly resource this need.

History has proven that organizations capable of fighting for information and carrying out offense and defense in an economy-of-force roll remain effective information gatherers. Perhaps they are even more effective based on their ability to survive chance encounters with the enemy. Doctrine should be modified to match this reality. To maintain the status quo is to do so at the expense of situational awareness and ultimately soldiers' lives.

Notes

[1] I use the term "cavalry" liberally throughout this article. When referencing cavalry units, I am referring to all units carrying a cavalry regimental lineage and those organized to conduct reconnaissance. This refers to all cavalry organizations.

[2] Dr. Robert S. Cameron, *To Fight or Not To Fight? Organizational and Doctrinal Trends in Mounted Maneuver Reconnaissance from the Interwar Years to Operation Iraqi Freedom,* manuscript (pending publication), U.S. Army Armor Center, Fort Knox, KY, 2009, p. 1-2.

[3] Ibid., p. 1-1.

[4] Headquarters, Department of the Army (HQDA), U.S. Army Field Manual (FM) 3-90.6, *The Brigade Combat Team,* U.S. Government Printing Office (GPO), Washington, DC, 4 August 2006.

[5] HQDA, FM 3-20.96, Reconnaissance Squadron, GPO, Washington, DC, 20 September 2006.

[6] Lieutenant Colonel Jeffrey D. Broadwater, Telephone Interview with Author, 25 August 2009.

[7] Ibid.

[8] Michelle Tan, "Specialist who dove on grenade nominated for Medal of Honor," *Army Times,* 13 December 2006.

[9] Jomana Karadsheh, "Clashes in Baghdad's Sadr City Kill 20," CNN.com, 9 April 2009, available online at *http://edition.cnn.com/2008/WORLD/meast/04/09/iraq.main/index.html#cnnSTCText.*

[10] Dr. Robert S. Cameron, Correspondence with Author, 24 September 2009.

[11] FM 3-20.96, pp. 1-9 and 1-10.

[12] Major Daniel L. Davis, "Fighting for Information," *ARMOR,* May–June 2008, p. 29.

[13] FM 3-90.6, p. A-1.

[14] Ibid.

[15] Dan Lamothe, "Oshkosh to make new M-ATV, Pentagon says," *Army Times,* 1 July 2009.

[16] Lieutenant Colonel Jeffrey D. Broadwater, "Reorganizing the Recon Squadron to Enhance Heavy Brigade Combat Team Capabilities," *ARMOR,* September-October 2007, p. 41.

The Staff Ride
by Colonel Thomas Williams

The U.S. Army is at a potentially dangerous crossroad; it has been at war for nearly 8 years and will very soon promote a generation of field grade officers and senior noncommissioned officers who have never known an Army at peace. While they have earned invaluable combat leadership experience, they are also at risk for developing operational myopia. This happens when (absent critical thinking) leaders fit events and evidence into preconceived patterns and make decisions using mental templates and checklists. Given our enemy's ability to learn and adapt, this is a sobering thought. Therefore, the Army needs to give these leaders an opportunity to transcend the immediacy of Iraq and Afghanistan, to explore the theory and practice of battle command without debating the tactics, techniques and procedures (TTP) particular to any past commander, region, or unit.

The staff ride is one of the best ways to provide this type of professional development; it allows the study of leadership, modern doctrine, and decisionmaking without the burden of a learning environment. The staff ride's effectiveness is based on its low-stress environment where the objective is an exchange of ideas, not a quiz on methods. Participants have the freedom and time to think about all aspects of the operational problem and can debate ideas and unconventional solutions without the fear of being wrong. In the process, they have the added advantage of learning something about themselves and how they see the world, including the line between audacity and foolishness, between initiative and opportunism, between agility and aversion to risk.

Although the basic format for the staff ride comes from William Robertson's seminal work, *The Staff Ride*, there are ways to make it more effective as a teaching tool.[1] For example, keep Robertson's three phases — the preliminary study phase, the field study phase, and the integration phase, but emphasize or introduce something broader such as the elements of reasoning or the intellectual standards leaders might have used to reach a decision. To do this, the learning objective must clearly focus on modern doctrine. For example, on a recent staff ride to the battles of Trenton and Princeton, New Jersey, the learning objectives were actually four modern doctrinal constructs: con-

structing and leading effective after-action reviews (AAR); analytical decisionmaking using the military decisionmaking process (MDMP); intuitive decisionmaking using the rapid decisionmaking and synchronization process (RDSP); and the role of the Noncommissioned Officer (NCO) Creed and Army Values in mission command — all chosen for their relevance to the unit's mission. The battlefield's anatomy (who did what, when, where, why, or even the end result) serves to amplify, illustrate, or provoke the discussion toward one of these objectives. The idea is to study why events happen and their root causes.

The preliminary study phase included a briefing and discussion on the strategic situation, as well as a recommendation to read one or more books on the subject, such as *The First American Army; The Day is Ours! An Inside View of the Battles of Trenton and Princeton, November 1776 – January 1777; Washington's Crossing; The Winter Soldiers: The Battles for Trenton and Princeton; and 1776*.[2] Most will remember from American history that George Washington crossed the Delaware on Christmas day to defeat the Hessians,

but the campaign between 25 December 1775 and 3 January 1776 actually consisted of three battles: two at Trenton and one at Princeton. Preceding these battles were a string of defeats that left the army, and the cause, in jeopardy. During these 10 crucial days, George Washington's army defeated and outwitted more than just the Hessians; he defeated the better equipped and more disciplined forces of General Charles Cornwallis. This major victory saved the Continental Army and renewed the Nation's will to continue its struggle for independence.

To provide a structure for this discussion on the strategic context, the participating group used U.S. Army Field Manual (FM) 3-0, *Operations*.[3] They considered the operational environment in 1775, including an analysis using the operational variables (political, military, economic, social, information, infrastructure-physical environment, and time (PMESII-PT)), and how respective forces viewed and used the soldier's rules (and to what effect.) They framed the campaigns using the continuum of operations and operational themes, going over each side's plans in the context of full-spectrum operations and the elements of combat power. Lastly, these soldiers applied the concept of operational art to each commander's plan and debated the effective use of information and knowledge management. Complex topics all, but history brought them to life.

The next segment of Robertson's program is called the field study phase, which consists of a series of stops along the battlefield, called "stands." Typically, stands are the location of some significant event, but in this modified program, a stand can also serve as a means to describe how a modern process, such as the MDMP, might have served the battlefield commander and his staff. During the Trenton and Princeton ride, the group stopped at five stands: the crossing, the monument, the barracks, Assunpink Creek, and Princeton. Here, in brief, is how the day unfolded.

Stand one — the crossing

With the Delaware River as a backdrop, facilitators briefly reviewed the tactical situation that brought Washington to this decision point. The facilitator's knowledge and preparation allowed him to prepare and deliver a full operations order brief to the training audience, which told them what was meant to happen (delivered as Washington might have) without giving away any details on what actually happened. The facilitators did this because they had an unfair advantage knowing how the battle unfolded. The idea was to create the same conditions that con-

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temporary leaders face — specifically, not knowing how their decisions will turn out.

Stand two — the monument

This is the stand where participants learned what did happen. The monument sits in the center of downtown Trenton right at the point where George Washington placed his artillery (and dominated the Hessians.) Here, the group discussed how the battle unfolded, using play-by-play sequences, punctuated by key decision points made by both forces. Participants considered more than unit dispositions; they struggled with the notion of friction, the fog of war, and how things are not always as simple as they seem. They began thinking about the battlefield cause-and-effect relationships that might drive the content of an AAR.

Stand three — the barracks

At the southern end of Trenton battlefield, there is an historic museum known as "The Barracks." The group did not tour any museums on this trip as it was not an historic tour, but the barracks made a nice backdrop for the ensuing conversation. The facilitators led two discussions, beginning with the NCO Creed and Army Values, both of which are essential for the tenets of mission command. Our creeds and values serve as guides because they check opportunistic behavior when taking the initiative; allow leaders to build teams on trust, not rules; and ensure leaders know what it means to take care of soldiers in conjunction with the mission, not despite it.

We can relate to these men and their actions because we are fortunate to have

many diary entries from the battle's participants, stories that brought the fight alive and made it personal to the 21st-century audience. The story used for this staff ride was that of Sergeant Joseph White. Colonel Henry Knox, the chief of artillery, told Sergeant White three times to abandon his damaged cannon. White ignored the colonel and brought his piece back across the Delaware River as the Army withdrew. The facilitators, carefully telling this story to avoid biases, forced the group into facing how they would handle this soldier. How would such actions be handled in today's environment; is this how we want our subordinates to behave; and what are the boundaries? Incidentally, Colonel Knox not only praised White, but promoted him.

Following the Sergeant White discussion, the facilitators returned to the subject of conducting an AAR. Using the Warfighter Functions, the group identified which battlefield observations were essential to Washington's success or the Hessian commander's failure. They discussed the causal linkages, being careful to help the group distinguish between the "so what" and the relevant. Lastly, having determined these AAR themes, they brainstormed open-ended questions that might have helped Washington and his team reach the same conclusions (guided discovery), and along the way, identify potential doctrinal or TTP solutions.[4]

Stand four — Assunpink Creek

The Assunpink Creek was key terrain for both sides in this campaign and serves well as the backdrop to describe the events and decisions from 25 December 1776

to 29 December 1776. After providing context, the facilitators led a discussion — using the MDMP — regarding the choices for Washington and his commanders. They compared and contrasted this to Cornwallis and his decisionmaking, as well as how their respective cultures and climates (the elements of combat power) served as the framework for this particular discussion.

Stand five — Princeton

The next stand was an approximate 20-minute drive into the town of Princeton. On the way, the facilitator reminded the group of Washington's plan for an attack on Princeton and how he slipped away from what Cornwallis thought was a sure trap. The attack turned into a meeting engagement between Washington's army and a British brigade rushing south to reinforce Cornwallis, offering a rich illustration of the RDSP — learning and acting faster than your opponent might overcome the weight of numerical disadvantage. The British, heavily outnumbered, did heroically well in this fight.

During the field study phase, it is important to avoid lecturing. The facilitators must develop a set of open-ended questions (not unlike the type used in AARs) that invite participation, as well as challenge assumptions and romantic myths. For example, the facilitators at Trenton asked several provocative questions, including, "What would your recommendations be to General Washington had you learned two of his three crossings had failed?"

The last phase of a staff ride is the integration phase, and the unit accomplished this in two parts. The first part took place right on the battlefield with a discussion of the resulting strategic situation in the Jerseys, to include how decisions at all levels (then and now) have tremendous strategic consequences. The second part was at home station where the group conducted its own AAR, and surprisingly, soldiers continued discussions on the application of doctrine over dinner that evening.

Despite the quality of the experiential learning detailed above, the staff ride remains a neglected teaching tool. There are many reasons for this, not the least of which include the frenetic pace of deployments and training plans, and the stream of administrative requirements that manage the Army, which is precisely the reason to make time. A key premise for this article is that modern Army doctrine is not about memorizing and adhering to rules; it is about harnessing imagination and creativity into a common structure that is replicable and works across different personality types and leadership styles. The staff ride is one of the best ways to nurture the adaptive and agile leadership style that Army doctrine requires.

Think about it this way — to apply the tenets of FM 3.0, *Operations*, or FM (Interim) 5-0.1, *The Operations Process*, or execute mission command as defined by FM 6.0, *Mission Command* (using the tools of FM 5.0, *Army Planning and Orders Production*), the Army clearly needs

to be an organization of critical thinkers, not process experts.[5] The Army's effort to develop adaptive and agile leaders is not a luxury — it is an essential task — because checklists and mental models provided in our doctrine too often substitute for critical thinking; they become a crutch. Decisions can easily become formulaic if time and again a particular cause yields a certain effect — A+B will always equal C because it always has. We must guard against the possibility — given the volatility, uncertainty, complexity, and ambiguity of the contemporary operating environment — that circumstances may look the same, but only on the surface. Tomorrow A+B may not equal C, because we cannot always control the rules. As critical thinkers, leaders must know the difference between accuracy and precision; they must understand logic, relevance, significance, and fairness. If not, they are likely to encounter unexpected implications or consequences from faulty inferences and conclusions.

This is not heretical thinking; in fact, these ideas line up with the Army's education program for field grade officers and what is currently occurring with the noncommissioned officer education system. For example, the intermediate learning environment (ILE) program does not teach *what* to think, it teaches *how* to think. Before students begin classes on operational art, joint doctrine, or Army doctrine, they develop the ability to think critically and creatively. Students learn self-expression in both written and spoken forms, which helps them apply skills,
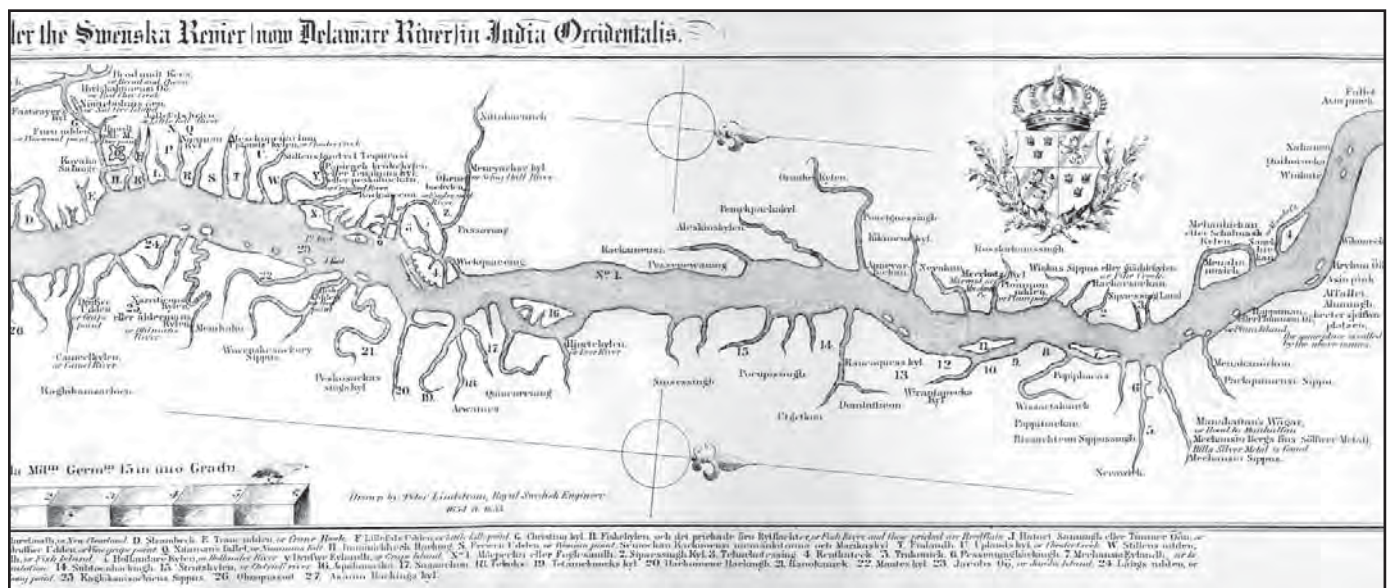
"The Assunpink Creek was key terrain for both sides in this campaign and serves well as the backdrop to describe the events and decisions from 25 December 1776 to 29 December 1776. After providing context, the facilitators led a discussion — using the MDMP — regarding the choices for Washington and his commanders."

analyze problems, and work out valid and cogent solutions in ways useful to the reader. Essentially, they learn (using a "backdoor" method) how to provide the commander with a real mission analysis, not a restatement of the facts. They learn how to follow the logic of their mission analysis argument through to their courses of action recommendations. In other words, they are not two products from two processes, but the latter stems from and clearly (cogently and validly) addresses the former. These skills are difficult to learn and are perishable. They take practice to maintain and mature, but in the "real world," critical thinking often becomes a casualty of our missions, tight suspense dates, and demanding schedules. Senior leaders need to guard against rationalizing these short-term considerations at the expense of the greater good of the profession.

As noted earlier, a carefully designed staff ride serves as the foundation for this kind of practical, applicable, and professional development. It pushes leaders out of their comfort zone and allows them to explore how commanders and staffs *make decisions* and how mental models, such as the MDMP, RDSP, and boundary systems, such as the Army Values and NCO Creed, work for or against them. Discussions of this quality rarely happen in the classroom, so the opportunity for leaders at all levels to step out of their traditional (read: chain of command) roles and interact — inviting debate between officers and NCOs, junior members and senior members — is invaluable. It promotes the tenets of mission command, as described in FM 6-0, and is vital to sustaining the profession of arms.[6]

The staff ride also offers the advantage of teaching students something about the Army's legacy. Given the absence of professional military historians and a general lack of American history knowledge among soldiers (author's observation), it is important for us to connect our aspiring senior leaders to their past. It is important that they not only learn what happened and why, but to realize they are in good company when it comes to serving their Nation in hard times and at great personal cost.

As with any training event, running an effective staff ride takes more than an afternoon's effort to organize. But there's no need to reinvent the wheel; there are guidebooks and subject-matter experts who can assist you in preparing a staff ride. For example, the Combat Studies Institute at Fort Leavenworth has produced excellent works, which are available on its website.

"The next stand was an approximate 20-minute drive into the town of Princeton. On the way, the facilitator reminded the group of Washington's plan for an attack on Princeton and how he slipped away from what Cornwallis thought was a sure trap. The attack turned into a meeting engagement between Washington's army and a British brigade rushing south to reinforce Cornwallis, offering a rich illustration of the RDSP — learning and acting faster than your opponent might overcome the weight of numerical disadvantage."

There were no guidebooks for Trenton and Princeton, so the facilitation team had to research multiple texts to learn battlefield events, anecdotes, background intrigues, and diary stories that brought the events to life. The facilitators also made a careful reconnaissance of the selected stands to ensure they would meet the unit's needs (bus parking, a place to brief, and safety).

Certainly, nothing will replace the experiences that next-generation field grade officers are getting in Iraq, Afghanistan, Kosovo, or hundreds of other locations around the world. People sometimes mockingly note that the Army prepares for the next war by training for the last, but unless leaders see some diversity, this is all they will know. Using a centuries-old event to talk contemporary doctrine is actually a practical way to mature the academic foundations proffered in ILE in ways that are rewarding in terms of team-building and doctrinal understanding, while simultaneously connecting us to our Nation's past. Given our new field grade officers' limiting experience, it may also be the foundation for our future.

Notes

[1]William G. Robertson, *The Staff Ride,* U.S. Army, Center of Military History, Washington, DC, 1987.

[2]Bruce Chadwick, *The First American Army,* Sourcebooks, Inc., Naperville, Illinois, 2005; William M. Dwyer, *The Day is Ours! An Inside View of the Battles of Trenton and Princeton,* *November 1776 – January 1777,* The Viking Press, New York, 1983; David Fischer, *Washington's Crossing,* Oxford University Press, New York, 2004; Richard M. Ketchum, *The Winter Soldiers: The Battles for Trenton and Princeton,* Henry Holt and Company, New York, 1973; and David McCullough, *1776,* Simon and Schuster, New York, 2005.

[3]Headquarters, Department of the Army (HQDA), Field Manual (FM) 3-0, *Operations,* U.S. Government Printing Office (GPO), Washington, DC, 27 February 2008.

[4]This after-action review format dates back to Carl von Clausewitz; see Clausewitz, *On War,* Ferdinand Dümmler, Berlin, 1832, book 2, chapter 5. English translations include J.J. Graham, translator, Republished 1908, Project Gutenberg eBook, a partial version, 1873; O. J. Matthijs Jolles, translator, 1943; 1968, Edited with introduction by Anatol Rapoport, Viking Penguin, 1968; Howard, Michael, and Peter Paret, editors and translators, Princeton University Press, 1984.

[5]HQDA, 3-0, *Operations;* HQDA, Field Manual (Interim) 5-0.1, *The Operations Process,* GPO, Washington, DC, March 2006; FM 6-0, *Mission Command,* GPO, Washington, DC, 11 August 2003; and FM 5-0, *Army Planning and Orders Production,* GPO, Washington, DC, 20 January 2005.

[6]FM 6-0, *Mission Command.*

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Highlighting the Most Significant Work of
Volume V, Part 2: Further Details of the 1920 Revolt (1918-1921)

by Commander Youssef Aboul-Enein, U.S. Navy

Foreword

Dr. Ali al-Wardi's narrative of the 1920 revolt is particularly important given our involvement today in the Middle East. It provides an Iraqi, vice an American or British, perspective of this incident, which is pertinent to our current conflict. It also offers a point of view steeped in the peculiarities of a sociologist and historian, who spent the majority of his life in Iraq, becoming the father of Iraqi sociology.

By exploring Arabic works, such as those of Wardi, we have a prepackaged history that offers valuable lessons on how the Ottomans, Persians, British, and Iraqi Monarchy under King Feisal I, addressed insurgencies, nationalist movements, tribal hostilities, and clerical hierarchies. By highlighting Wardi's works, Commander Aboul-Enein, in collaboration with AR-MOR, emphasizes the need to educate America's military using Arabic sources. We owe our soldiers, who are going into harm's way to protect the Iraqi population, an understanding of the area of operations that goes beyond a basic orientation or language pleasantries. It is hoped the Wardi series

published by ARMOR *will be used during pre-deployment training and be the subject of discussion and debate in professional military circles.*

I applaud ARMOR *for providing Commander Aboul-Enein a forum for his important collection of review essays. Commander Aboul-Enein and I had the pleasure of serving together aboard the USS* GUAM *(LPH-9) when I commanded the 24th Marine Expeditionary Unit. During Exercise Bright Star, he not only provided me sound force-protection advice for my Marines and cultural orientation, but also arranged for hundreds of Marines to tour the El Alamein battlefield in Egypt's Western Desert. His work is a valuable contribution in the continuing education of our forces on Iraq's human terrain.*

Lieutenant General Richard F. Natonski
Commander, U.S. Marine Corps Forces Command;
Deputy Commandant of the Marine Corps
for Plans, Policies, and Operations (2006-2008)

The Mosque of the Prophet is Islam's second most sacred site. The single dome in the center (background) stands above Muhammad's tomb.

Photo: Ali Mansuri
http://en.wikipedia.org/wiki/File:Masjid_Nabawi._Medina,_Saudi_Arabia.jpg

Iraq's Social, Political, and Military History:
of the Multivolume Collection of Dr. Ali al-Wardi

Further Details of the 1920 Revolt

The 1920 revolt is a decisive event in modern Iraqi political history. Dr. Ali al-Wardi's multivolume set devotes two full volumes just to this incident, revealing the most comprehensive examination of the revolt against British authority in Iraq from a religious, tribal, social, and military vantage. This topic is covered in two books, totaling more than 800 pages, because the revolt engulfed large swaths of Iraq. Wardi describes the unique nature of how the revolt started in Baghdad, Irbil, Baaquba, and Fallujah, just to name a few places touched with insurrection against the British mandate of Iraq. There are many lessons to be learned from reading Wardi's seminal volumes. From a strategic perspective, it discusses the British realization that Iraq had to be placed on a tangible course toward independence. On the tactical front, the British attempted to subdue Iraq using the new technology of airpower when, in actuality, more troops were needed to finally pacify the revolt. Finally, there is much to be learned about committed nationalists versus those involved in the nationalist cause only to enrich themselves on the booty from raids conducted against urban areas, British treasury houses, or rail links.

Wardi devotes more than 800 pages to dissecting the social, tribal, political, and military aspects of the 1920 revolt in his crucial volume six, "Lamahaat Ijitmayiah min Tareekh Iraq al-Hadeeth," or "Social Aspects of Iraqi Modern History," which will be published in the May-June 2010 edition of *ARMOR*. In popular history, Iraq's 1920 revolt began with the murder of British Colonel Leachman in central Iraq, which is now known as Al-Anbar Province. However, the Leachman murder was only one incident among dozens that British forces had to address throughout Iraq. It is vital for America's military planners to dissect this event carefully by reading this important Arabic series. It is also important to explore British accounts in an attempt to understand the complexities of counterinsurgency that are unique to Iraq.

Sheikh Taleb al-Naqib:
Covering all Bases in the 1920 Revolt

One of the most interesting characters in Iraq's modern history is Sheikh Taleb al-Naqib, also referred to as Said (honorific title connoting descent from Prophet Muhammad) Taleb al-Naqib, the Sheikh of Muhammara, a region encompassing Basra and Umm Qasr. Sheikh Taleb was a master at playing many sides. During World War I, he escaped Ottoman authorities and sought temporary asylum in Central Arabia under Ibn Saud. Taleb was involved in a failed attempt to get Ibn Saud to plunder Southern Iraq, thereby challenging British authority and repairing his reputation with the Ottomans.

"In popular history, Iraq's 1920 revolt began with the murder of British Colonel Leachman in central Iraq, which is now known as Al-Anbar Province. However, the Leachman murder was only one incident among dozens that British forces had to address throughout Iraq."

At left, Colonel Gerard Leachman, intelligence officer in Arab disguise.

In 1920, assessing that the British were facing mass insurrections, Taleb wrote the English asking for their pardon and offering his services. The British, facing tribal chaos and nationalist insurrections, invited him to Baghdad. Ever the cautious intriguer, Taleb arrived in Baghdad in July 1920 and visited with his supporters to assess British intentions toward him and evaluate whether or not he was falling into a trap. He discussed possible British objectives with Abdel-Kader Khudairy and learned the extent of the rebellion. Taleb also visited the British political agent in Iraq, Ms. Gertrude Bell, who was intrigued by his proposal of forming a moderate political party that would form a counter-weight to

"Ever the cautious intriguer, Taleb arrived in Baghdad in July 1920 and visited with his supporters to assess British intentions toward him and evaluate whether or not he was falling into a trap. He discussed possible British objectives with Abdel-Kader Khudairy and learned the extent of the rebellion. Taleb also visited the British political agent in Iraq, Ms. Gertrude Bell, who was intrigued by his proposal of forming a moderate political party that would form a counter-weight to Iraq's nationalist parties."

Iraq's nationalist parties. Taleb also asked for an appointment in British-mandated Iraq.

Taleb then spent time with leaders of the nationalist movement in Baghdad, and acting as a double informant, he passed information between the British and the Iraqi nationalist leaders. As an example, Wardi captures a conversation between Taleb and Yousef al-Suwaidi (one of the leaders of the nationalist cause in Baghdad). Suwaidi proposes that Taleb become a nationalist leader who Iraqis can support, saying, "You were a native Iraqi and a force for rebellion." Taleb affirms he is Arab and Iraqi and then asks Suwaidi to explain exactly why they are fighting. Suwaidi replies that they are fighting for "the principle of no foreigners, no mandate, and no external interference." Taleb asks him to further explain his *manhaj* (program); Suwaidi replies that they have none. Taleb then declares, "You are no better than brigands; you cannot lead a revolution without a doctrine or program; you cannot defeat the British without a program for the future of Iraq." Taleb explained that the British are planning to bring more forces from India to suppress any rebellion in Iraq and that the nationalists cannot hope to defeat the might of the British army. He explained that to join the nationalist cause, the nationalist leader must be an Iraqi from among the best lineage, and a provisional delegation must be formed to discuss gradual emancipation of Iraq from the British mandate. Taleb then went to see Gertrude Bell and informed her of the conversation and the fear expressed by Suwaidi at the prospect of British military reinforcements from India.

During discussions with Iraqi nationalists, Taleb also learned that Shiites and Sunnis were unified in the cause of Iraqi independence; calling Abdullah ibn Hussein "king" was a ruse designed to drive a wedge between the Hashemite leaders, who supported the Arab Revolt, and the British, who incited this revolt against the Ottomans in World War I (it was also seen as a means to have international expression of their grievances through the Hashemites, who were attending international conferences to determine the fate of the Middle East); Iraqi nationalists had no intention of allowing Prince Abdullah to have any real authority in Iraq; and Iraqi nationalists were frustrated by Iraqis in Syria who were among the entourage of King Feisal ibn Hussein (brother of Abdullah) of Syria (they found the 16,000 pounds of financial support insufficient to incite rebellion and conduct attacks against British forces).

Sir Percy Cox Returns

On 6 June 1920, Sir Percy Cox, the British Minister Plenipotentiary in Persia, was informed of his reappointment as high commissioner in Baghdad. He was recalled to London for discussions on the state of Iraq and to outline a plan for setting up an autonomous Iraqi national government. He left Persia for London via Baghdad, stopping a few days to consult with the then current high commissioner, A.T. Wilson. During this visit, the two men (Cox was Wilson's men-tor) drafted a proposed official statement announcing plans to transition Iraq toward independence as early as autumn 1921. Wilson would discuss aspects of the statement with Iraq's nationalist leaders, while Cox discussed it with officials in London.

In August 1920, Wilson attempted to reason with reactionary revolutionary elements who wanted immediate and unconditional independence for Iraq. Wilson argued this would lead to a collapse of administration and services. Moreover, the country would digress into tribal, as well as sectarian, bloodshed. The reactionary Iraqi nationalists replied that this price needed to be paid for independence and that freedom is taken and not given! Wilson explained the mandate would gradually transition Iraq to independence; in addition, Britain would protect Iraq from Turkish interference. The answer of the revolutionaries was that the Turks were Muslims and the new regime offered unconditional independence for Iraq based on the 1919 National Compact. Wilson then stressed that the British guaranteed the rights of Iraq's other groups such as the Kurds and Shiites. Iraqi leaders replied that these people were peasants and would obey their tribal and religious leaders. The Shiite religious *hawza* (clerical cluster) were unified with Iraqi nationalists for the independence of Iraq. Wilson was so frustrated with Iraqi nationalist leaders that he threatened the revolt and insurrection with military force. The Iraqis responded that British military leaders were vacationing in Persia (a reference to Lieutenant General Aylmer Haldane and his staff) and British troop concentrations were busy guarding oil interests in Abadan. Once the order for those troops to redeploy to Iraq occurred, a campaign of sabotage, disruption, and attacks on rail links, riverboats, oil terminals, and depots would begin, and the Iraqi police force set up by the British was unreliable.

Wilson left the meeting, and the next morning, drew up arrest lists of nationalist leaders. The revolutionaries began to flee. Police altercations with pro-independence factions in Baghdad spread panic in Kazimiyah as Shiites came to defend Muhammad al-Sadr; ironically, the British had not included Sadr on its list of revolutionaries to detain. Nationalists fled Baghdad and hid in Yousoufiyah and Karbala. Martial law was imposed by British authorities in Baghdad, which led to the capture of seven revolutionaries, who were tried by military tribunal for firing at police forces, and six were given death sentences.

The case of Abdel-Majid Kennah is an interesting one to examine; he was a smuggler involved in the nationalist cause for patriotic reasons, but also for a chance to make money. He would be among those given a death sentence by British military tribunal at the urging of Sheikh Taleb to make an example of those Iraqis undermining the gradualist approach of transitioning Iraq toward peaceful independence. The nationalists used funerals of those executed to organize mass public demonstrations of Shiite and Sunni solidarity.

In September 1920, when Wilson departed Iraq, he delivered a speech in Arabic that expressed his sorrow for departing, as well as his delight of passing his commission to his professional father, Sir Percy Cox. He made mention of Iraqis, such as Sheikh Taleb, who wanted a peaceful transition to Iraqi independence. Wilson ended his speech with a quotation from the Quran appropriate for these difficult times, "With every difficulty, there will come times of ease." His remarks at the train station showed Wilson publicly acknowledging two reasons for the ongoing revolt. First, British policies in World War I incited nationalist feelings against the Ottomans. British policymakers did not consider sending guidance on the channeling of this nationalist sentiment in creating a transition to an Iraqi nationalist government.

Second, Iraq's nationalist movement had been infected with reactionary, extreme, and anarchist elements that retarded progress toward an independent Iraq. However, the arrest of leaders in Baghdad, coupled with their fleeing the capital and the imposition of martial law, led to calm being restored to the city by late August 1920. Unfortunately, with this calm, Diyala Province exploded in rebellion.

Diyala Province was important to the British, just as it had been to the Ottomans, because it contained access roads connecting Baghdad with the Persian border. Baaquba, the provincial capital, was the first major city for caravans, pilgrims, and travelers arriving from Persia. Events in the middle Euphrates region, Baghdad, and the Iraqi-Syrian border led tribes in Diyala to consider rebelling against British authority. The tribal chieftains in Diyala deluded themselves into believing that tribes in other parts of Iraq enjoyed fabulous plunder and that revolutionary activity paid those willing to take risks.

Said Habeeb Edroosi, a Sufi leader, was a key contact between Iraq's nationalists in Baghdad and Baaquba's leaders. Mahmood Mutwali, a leader in Baaquba, had absolute hatred for the British due to the loss of his authority, privilege, and position, which

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Baghdad, the riverfront, looking north to the Old City from the right bank, near the British Embassy.

was bestowed on him and his clan by the Ottomans. He would be a key inciter in the urban areas of Diyala, chiefly Baaquba, as he represented many of the educated *Effendiah* (bureaucratic) class that brought and spread revolutionary ideas among the populace. Said Saaleh Hilli, a Shiite, was a famous orator of *taziyah* (religious passion plays commemorating the death of Hussein, Muhammad's grandson) and ran a *Husseiniyah* (religious center) in Baaquba. He had many contacts within the clergy and mosques located in Diyala that could incite rebellion and support his cause. Saaleh Hilli would be a link between Baaquba's leaders and anti-British Shiite clergy in the Najaf and Kufa *Hawza* (Shiite clerical hierarchy). The Sunnis of Baaquba were represented by Sheikh Habeeb al-Khalsi. Tribal leaders, who would play a major role in the Diyala insurrection, included Sheikh Habeeb al-Khuzairan of the Uzzah Tribe and Mohammad Ukh'shaim of the Khubaysat Tribal Confederation.

The Diyala insurrection began with tribal greed in August 1920. The Kar'khiah Tribe attacked remote train stations and a treasury known to have a safe filled with government funds for payroll in the town of Mehrut. The British responded with two regiments to pacify the Kar'khiah, which brought order in Mehrut initially, but the British were lulled by their success at driving away the tribal fighters. The British did not understand that 300 mounted tribesmen were charged with harassing these regiments, looking for weaknesses. Once weakness and daily routines were discovered, the tribesmen would pounce on the regiments in a mass attack. This was the ancient tactics of *al-farr wal-karr* (retreat and attack) that wore down an adversary while probing them. These tribal attacks were beaten back only by a concentration of artillery fire.

General Haldane felt this final push by the tribes signified the subjugation of the wayward tribes and the artillery attack blunted any further attacks by this rabble. Wilson, the high commissioner, disagreed with Haldane, withdrawing the two regiments from Mehrut and Baaquba. Even the British major in charge of Baaquba disagreed with General Haldane. However, the commander in chief of British forces in Iraq thought Baaquba was a side show, a tribal rebellion that would be quickly suppressed, and Baghdad was a more important objective that needed protection. In essence, General Haldane had scarce amount of troops to keep the peace in Baghdad while dealing with insurrections in other parts of Iraq.

Not long after the two British regiments were removed from the area, tribal raids and lawlessness moved from Mehrut to Baaquba. The Kar'khiah raided the city, its markets, government houses, and more importantly, the treasury and arsenal. Residents of Baaquba formed a local government, raised an Arab flag, and convened a municipal independent government in the post office. This effort would be useless as tribes intimidated the government into submission. The Uzzah Tribe, which was away from Diyala supporting the nationalist cause in the Middle Euphrates, returned to fight the Abeed Tribe that was encroaching on its lands. Haldane had only dealt with Diyala as fresh regiments arrived from India. But soon, Haldane had to make a choice: either devote troops to deal with the Middle Euphrates and Syrian-Iraqi border region that were taken over by Iraqi nationalists or address the anarchy in Diyala. He decided to quickly address the chaos in Diyala, pacify Baaquba and Shaherban, as well as secure the access roads to Persia.

Haldane used a combination of infantry, artillery, armored mobile infantry, and aerial bombardment to clear the road of tribal threats. Regular troops took over the city and drove out the tribes, imposing fines on rebellious tribal chiefs and demolishing homes of rebel leaders. Hiding in Diyala was Muhammad Sadr, who would flee and seek refuge in Karbala, successfully inciting rebellion in Samaraa. By September 1920, the Diyala insurrection was subdued. The British issued a proclamation, which stated that all tribes who raised a white flag and sent a delegation to negotiate terms with British commanders would not be molested or fired on by airplanes. Tribal chiefs clamored to see the general in charge of the Diyala operation. The chiefs signed loyalty oaths, agreed to repay or replace damaged and stolen goods, and pledged not to offer asylum to nationalist agitators. The British set up a committee made up of tribal elders, municipal leaders, and British officers to form a reconciliation and recompense committee. A side benefit to this committee was the intelligence provided on insurrectionists, as well as those involved in murder and sabotage of British forces and property.

In 1919, the Kurds conducted a major revolt that was brutally suppressed by the British. It lasted from May to June 1919 and resulted in the exile of Kurdish leader Mahmoud al-Hafeed to India. In 1920, small pockets of Kurdish resistance broke out in areas bordering Diyala Province. The Khanqain revolt involved the Kurdish Dahlu Tribe. The Turks financed the rebellion of the Kurds with the additional help of an Ottoman officer, Khorshid Bey. The organized rebellion of the Jabbur, Rabiah, and Bani Wais tribes attacked British army camps containing 158 troops. The British used forces on hand with reinforcements from the town of Qazwain to bring order to the town of Khanqain and Kafri. The city of Irbil would be pacified by rebelling tribes using British forces in Kirkuk and Mosul. These forces were marched as a show of force to entice the Kurdish tribes to negotiate. The tactic worked, as the 1920 Kurdish rebellion was not as potent as the region's 1919 revolt; however, with some gold and a Turkish military officer, the Kurds succeeded in tying down a few British regiments to suppress the Kurdish outbreak of hostility.

Fallujah and al-Anbar

Popular history has the 1920 revolt starting in Fallujah, which is mythical. The revolt occurred in various regions of Iraq and was based on a range of motives from nationalism to outright greed. What makes this insurrection, known as the "Zaubah rebellion," stand out was the murder of British colonel and intelligence officer, Gerard Leachman. The roots of the Zaubah rebellion began in 1917, when the British pursued the policy of selecting a tribal chieftain to be the one person responsible for a specific region. In the Zaubah area, the British selected Sheikh al-Dhari as the responsible leader. The British gave him an allowance of 750 silver rupees a month. However, in 1918, the British withdrew its support for al-Dhari, for reasons unknown.

Following the 1920 revolt, the British resumed their payment to al-Dhari, but decreased the compensation to 500 silver rupees a month. This was viewed by the Sheikh as inadequate. Only to make matters worse, Colonel Leachman treated al-Dhari with great contempt, insulting him publicly numerous times. For example, Wardi reveals how Dhari attended a banquet and was not seated among tribal elders; instead, he was turned away by Leachman himself. This unnecessary treatment drove al-Dhari toward collaborating with the revolutionaries. Leachman, who was more

"The line between the noble values of Arab self-determination and outright brigandage was somewhat blurred in the 1920 revolt, just as it was blurred during the 1916 Arab Revolt in Arabia. Wardi humanizes the characters of the revolt with all their intrigues and double dealings. He brings to life the stories of terrain, cities, areas within those cities, and incidents that drive Iraq's social, tribal, political, and military history."

attune to events in Arabia, was out of touch with Iraq. During a speech, he claimed that the British were the only ones keeping Shiites and Sunnis from killing each other. Leachman was unaware that awarding Iraq as a British mandate outraged Iraqis and the call for independence was shared by Shiite and Sunnis alike. Al-Dhari inspired tribes in and around Fallujah and Ramadi to raid roads and rail links to Baghdad. Leachman used motorized gendarme and police to pursue these tribal brigands.

Wardi writes that in 1928, the court of inquiry best describes the events of Colonel Leachman's murder, as follows. Leachman had insulted Dhari too many times. When Leachman and Dhari were negotiating a cessation of hostilities, Dhari insisted that he had nothing to do with the raids. Not believing this account, Leachman addressed him as y*a Dhari* (you Dhari) instead of Sheikh Dhari, called Dhari a liar, and spat on him. Dhari ordered his son to *Khamis dook'uh* (kill him). Obeying, the son fired his rifle into Leachman while Dhari took a sword to him. They also killed Leachman's Indian driver.

The revolt in Zaubah isolated British forces in Fallujah and Ramadi. The murder of this senior British officer emboldened tribes and made Dhari a hero. The British could not travel from Baghdad to Fallujah, except in an armored railcar with mounted machine guns. General Haldane used combined infantry, motorized infantry, and air forces to regain control, while the negotiations in the 1921 Cairo Conference led to pacification of this region of Iraq. Three leaders of the Zaubah rebellion fled to Arabia with one, Jameel Madfai, serving the future king of Jordan, Abdullah ibn Hussein. Sheikh Dhari had a 10,000 silver rupee bounty on his head. In 1927, he was betrayed by his Armenian driver and would die that year awaiting trial by a military tribunal. The British system of paying off tribal elders would continue until 1933. The 1921 Cairo Conference installed Prince Feisal ibn Hussein as king of Iraq, thus placing the nation on a course of independence by 1932.

Dhari's importance remains relevant today as his descendants, Muthana and Harith al-Dhari, are major representatives of the Sunni Iraqi Nationalist Insurgency. They headed up the Muslim Ulema Council (MUC), which is one of the brigades that turned against al-Qaeda, after cooperating with the group during the 2007-2008 movement, known as the "Anbar Awakening." The militia who cooperated and then turned against al-Qaeda called the "1920 brigades," after the 1920 revolt.

Wardi ends his volumes on the 1920 revolt by asking, and then attempting to answer, why the Iraqis did not revolt against the Ottomans, as they so zealously did against the British? He lists the following factors:

- Religious influence was a factor as the Ottomans were Muslims and the British were not; this underlying tension was always present when the British attempted to govern Iraq.

- The death of the quietist Grand Ayatollah Yazdi and his replacement, the anti-British Grand Ayatollah Shirazi, brought the Shiites to cooperate with the Sunnis over Iraqi independence.

- Provocation by the Effendiah class. Iraq's bureaucrats were unemployed and underemployed. They were the Iraqi masses' first introduction to the ideas of the French revolution, European nationalism, and news of Arab revolts against the British in places such as Egypt and India.

- British broken promises. Just as A.T. Wilson said in his farewell remarks, the British did not adequately or even attempt to address what a mandate over Iraq meant, nor did they provide any sort of timeline for Iraqi independence.

- External influences. The 1920 revolt was sustained by outside interferences, including Syria, Persia, Turkey, and Arabia. Iraqis who fought against the Ottomans in the Arab Revolt coalesced in Syria with the Hashemites and formed a cadre of incitement and rebellion directed against the British in Iraq.

In Volume VI, Wardi covers the process, personalities, and events that led to creating the nation-state of Iraq in late August 1921, which occurred following a plebiscite showing 96 percent in favor of this proposal. The clear majority of the vote has been questioned by historians and was most likely engineered by the British who wanted to put Feisal bin Al Hussein Bin Ali El-Hashemi, known in western references as "Feisal ibn Hussein" in power. Feisal, who was already king of Greater Syria, agreed to become king of Iraq. King Feisal I would face the typical challenges of a Sunni ruler attempting to rule a Shiite majority. He ruled until his death in 1933.

The line between the noble values of Arab self-determination and outright brigandage was somewhat blurred in the 1920 revolt, just as it was blurred during the 1916 Arab Revolt in Arabia. Wardi humanizes the characters of the revolt with all their intrigues and double dealings. He brings to life the stories of terrain, cities, areas within those cities, and incidents that drive Iraq's social, tribal, political, and military history. To Iraqis, these are not objectives or operating bases, but areas where a rebellion started or was suppressed. This land is where ancestors who opposed British rule are buried, and terrain where tribes made a stand against Royal Air Force warplanes and British infantry formations. As we focus on educating America's servicemen and women on the human terrain, we would be remiss if the works of Dr. Ali al-Wardi were not highlighted, discussed, and taught to deploying units operating in Iraq. Familiarization with the history of this region will go a long way to understanding its people.

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So, You Think You Know LRAS3?

by Victor Combes

In September of 2008, Product Manager Forward-Looking Infrared (PM FLIR) began a new training program for units fielding the long-range advanced scout surveillance system (LRAS3). The use of mobile training facilities (MTF) incorporates the newest technologies, including simulations and interactive multimedia instruction. Not only are seasoned instructors enhancing soldiers' knowledge on how the LRAS3 operates, they are also teaching soldiers how the sensor functions and how to maintain the system.

The idea that the LRAS3 is just "a big pair of binoculars" is disingenuous; the LRAS3 is so much more. This system allows students to identify threats that would not otherwise be visible to the naked eye, and makes it possible to positively identify a vehicle from a distance greater than any other sensor. The LRAS3 has a specific versatility, which permits it to operate on a tripod in the prone position, mounted on a vehicle, and in all weather conditions.

Based on feedback from soldiers with previous deployment experiences, we learned that our training program was long overdue; the majority of students in the program used the LRAS3 for more than 12 months in theater and had no idea of its capabilities. PM FLIR quickly reacted to the need for improved training and developed the LRAS3 operator new equipment training (OPNET) and direct support new equipment training (DSNET) to not only instruct the student, but enable him to train other soldiers.

The OPNET course consists of 3 days and 1 night of training and is designed for military occupational specialty (MOS) 19D, and occasionally 11B. By the end of the course, the student operator will know all system capabilities, basic thermal theory, and the importance of being the operator. Student operators learn fundamentals such as proper system mounting and dismounting, operator-level maintenance, and vehicle recognition through thermal cues. By the end of training, they will have more than 15 hours of operating time on the simulator and live LRAS3.

The DSNET course is for maintainers, normally MOS 45G, 94A, or 94F, and is a 3-day course to refresh students on the sensor and provide up-to-date information on correct procedures for testing, removal, and replacing parts. The maintainer course also includes instruction on sensor operations, system capabilities, and thermal theory. Student maintainers learn how to identify components and properly disassemble the sensor. They also learn about key maintenance requirements, such as how to operate the maintenance support device (MSD) and what is included in the test program set (TPS). With this extensive training, student maintainers can troubleshoot and fix problems that may occur with the sensor.

Implementation of the DSNET mobile maintenance facility, in September 2009, provides unit maintainers additional training tools such as the LRAS3 maintenance emulator. This emulator takes the student maintainer through step-by-step troubleshooting paces; the instructor induces faults/component failures and follows procedures taken by students to ensure they completely understand LRAS3 maintenance.

As part of its effort to continuously improve the entire NET package, PM FLIR also recognized the need for leader training on the LRAS3 system's capabilities and possible tactics, techniques, and procedures that can be used with the sensor. For example, if the S2, S3, or commander is in the tactical operations center (TOC) and receives targeting information from a soldier on the ground, there may be a delay in response if the leader does not clearly understand the LRAS3's capabilities. It is difficult to understand, without training and hands-on experience, the true capabilities of this sensor and the distances from which it can detect the enemy. The leaders training class is 1 day and covers capabilities, operations, and scenarios using the simulator and LRAS3. Training consists of area and zone recons (near and far locations), as well as checkpoint operations. As we continue to make improvements to the LRAS3 simulator, the ability of leaders to maneuver LRAS3 on the simulated battlefield will also improve. For example, students will soon use simulators to rehearse possible objectives for upcoming deployments.

In addition to training classes, each student is given an interactive multimedia instructional compact disk, which enables students to refresh training on an as-needed basis or train others on the LRAS3's capabilities. The CD includes a test on each section, which allows experienced trainers to test their soldiers, review test scores, and save the results to guarantee soldiers know the intricate details of how the LRAS3 operates. The multimedia instructional packet also contains the recognition of combatants (ROC) suite with improvised explosive devices (IEDs), suicide bombers, and vehicles, which enable students to positively identify IEDs, suicide bombers, and thermal cues for different vehicles when using the LRAS3.

The future of LRAS3 brings operational and technological advancements that require training and awareness. Currently, a Picatinny Rail (which allows soldiers to mount a PEQ-2 laser illuminator) and monocular display are provided with the sensor. The PEQ-2 capability allows soldiers to illuminate targets at extended ranges; the monocular display provides the vehicle commander the opportunity to view what his operator sees. This capability enables the vehicle commander to populate the Force XXI battle command, brigade and below (FBCB2) more quickly, providing ground units updates as they occur.

Beyond these enhancements, PM FLIR is working to provide a networked LRAS3 capability to interface with the FBCB2, which will allow the operator to populate call for fire and entity reports while he has eyes on the target. The networked capability will allow soldiers to conduct cooperative engagements with other networked systems by providing a cue-to-target. When the network is more robust, the netted LRAS3 will be able to send embedded images and video. Other future improvements include video-processing enhancements for image recording, scene stabilization, and moving-target indicators. The evolution of the LRAS3 will continue as other enhancements are being developed.

So, if you think you know the LRAS3, or you refer to it as "a big pair of binoculars," think again!

Retired Master Sergeant Victor Combes is currently the training team lead, LRAS3, Product Manager Forward-Looking Infrared, Fayetteville, NC. His military education includes Advanced Noncommissioned Officer Course; Special Forces Advanced Reconnaissance, Target Analysis, and Exploitation Techniques Course; Special Forces Qualification Course; Special Forces Combat Diver Course; Special Forces Dive Medical Course; Special Forces Operations and Intelligence Course; and Ranger School. During his career, he served in various leader and staff positions, to include team lead, personal security detail, U.S. Department of State, Iraq; actions officer, G7, Special Forces Command, Fort Bragg, NC; and detachment sergeant, U.S. Army 3d Special Forces, Fort Bragg.

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Operational Contract Support:
A Nonlethal Enabler by Major Christopher L. Center

Strategic and Operational Implications

Pre-deployment training for the critical duties of a contracting officer representative (COR), commander's emergency response program (CERP) project purchasing officer (PPO), and field ordering officer (FOO) is available at multiple bases and posts worldwide. The Expeditionary Contracting Command's subordinate contingency contracting teams (CCTs) are subject-matter experts in providing this training and serve as enablers in nonlethal mission analysis, planning, and execution in support of the commander's mission.

Commanders and their staffs take eight operational variables into account as they plan and execute operations. According to U.S. Army Field Manual (FM) 3-24.2, *Tactics in Counterinsurgency*, "Even, a tactical unit will use the operational variables as a way to define their operational environment, which often corresponds to their area of interest (AI)."[1] Nonlethal mission analysis and planning must account for the operational variables, which include political, military, economic, social, information, infrastructure, physical environment, and time. The CCTs provide expertise and resources that, if properly used, can affect several of these variables. Rebuilding Iraq and Afghanistan local, regional, and national economies provides legitimacy to these young democratic governments. It also influences the population, which is the "center of gravity," by creating jobs and a means to earn a legitimate income, free from corruption or the influence of the insurgency. The U.S. Army Center for Lessons Learned (CALL) Manual 09-27, *Money As A Weapons System Handbook*, states, "Warfighters at brigade, battalion, and company level in a counterinsurgency (COIN) environment employ money as a weapons system to win the hearts and minds of the indigenous population to facilitate defeating the insurgents. Money is one of the primary weapons used by warfighters to achieve successful mission results in COIN and humanitarian operations."[2]

Iraq and Afghanistan will develop into independent and self-reliant governments or they will descend back into the chaos that ensued prior to the 2006 surge in Iraq and ongoing operations in Afghanistan. One critical step in building strong governments at the local, regional, and national levels is a functioning and stable economy. The CCT enables the building of these economies.

CALL, Graphic Training Aid Cards, and CCT Resources

In CALL Handbook 09-27, *Commander's Guide to Money as a Weapons System,* General David Petraeus states, "Money is my most important ammunition in this war."[3] The frontline soldiers that pull the trigger on this weapons system are the contingency contracting officers in Iraq and Afghanistan. Prior to deployment, the CCT assists the deploying brigade combat team (BCT) by providing the aforementioned training. Additionally, the CCT assists in the mission analysis for the operational contract support and use of CERP money by the PPO. Using these funds in Afghanistan is important and will become more so as we attempt to influence the center of gravity and build an economy. Properly trained CORs and PPOs will be vital assets in conducting

this mission. Recommended training tools include the following publications, which are available through local CALL representatives or training and audiovisual support centers (TASC):

- CALL Handbook 09-27, *Commander's Guide to Money as a Weapons System.*[4]
- CALL Handbook 09-48, *Developing a Performance Work Statement in a Deployed Environment.*[5]
- CALL Handbook 08-47, *Deployed COR (Contracting Officer Representative).*[6]
- CALL Handbook 09-16, *Field Ordering Officer and Paying Agent Tactics, Techniques, and Procedures.*[7]
- CALL Graphic Training Aid (GTA) 70-01-001, *Contracting Basics for Leaders Smartcard.*[8]
- CALL GTA 90-01-017, *CERP (Commander's Emergency Response Program.*[9]
- CALL GTA 90-01-016, *The Deployed Contracting Officer's Representative (COR) Smartcard.*[10]

Lessons Learned from COR, PPO, and FOO Training

The 2d Brigade Combat Team, 10th Mountain Division pre-deployment COR, PPO, and FOO training overview provided lessons learned, which are discussed below in an "issue, discussion, and recommendation" format. This training exercise was conducted on 24-26 August 2009 at Fort Drum, New York. The lessons learned from this pre-deployment training focus on supporting a BCT's nonlethal training and mission analysis on arrival in theater. Ultimately, the training provides them with another tool to counter insurgent groups or networks in future areas of operation and areas of interest.

Issue: Command Influence

Discussion. Command influence is an important factor in successfully integrating into the BCT's pre-deployment preparation. COR, PPO, and FOO cannot be viewed as an additional duty by the chain of command. At a minimum, the BCT executive officer, S9, and S4 should be present for training, which enables them to understand the duties and responsibilities of their respective CORs, PPOs, and FOOs, and how they enable BCT mission accomplishment. These programs are responsible for multiple colors of money and greatly affect a BCT's operating expenses while in theater. Commanders need to ensure this training is fully integrated into the BCT's pre-deployment mission analysis to produce the requisite number of CORs, PPOs, and FOOs as dictated by ongoing and projected contracts and CERP projects.

The BCT must have a firm grasp on the contracts that it will assume upon relief in place/transfer of authority (RIP/TOA). Command influence will ensure that these important tasks are completed and the BCT will experience a reduction in contract-specific tasks and training during a turbulent RIP/TOA phase.

Recommendation. Upon redeployment, the BCT should contact its supporting CCT in garrison to establish how this training can be incorporated into a BCT's Army Force Generation (ARFORGEN) cycle and reset phase. There are many opportunities while in garri-

son for the CCT to train and appoint CORs to manage BCT-specific contracts. During command post exercises, the BCT S4 should integrate the CCT into the sustainment cell to assist the BCT S4 in building a contract support plan within the service and support annex (Appendix 9 of Annex I, according to FM 5.0, *Army Planning and Orders Production*).[11] Finally, the BCT needs to identify who will make up their contract management cell within the sustainment cell. Upon identification, these individuals and their alternates should attend the Operational Contract Support Course located at Fort Lee, Virginia. This course will provide them with the knowledge of how to manage the CORs, PPOs, and FOOs.

Issue: Division G8 involvement

Discussion. The division G8, as the resource manager, should be incorporated into the COR, PPO, and FOO training to explain how requirements generated by the BCT S4 are funded by the G8. This will give the appointed CORs, PPOs, and FOOs a common understanding how different colors of money are obligated within division headquarters and allotted to subordinate BCTs. Ultimately, this will result in a reduction in the amount of time a BCT spends deciding what money can fund specific contracts or projects and enable more timely execution of these contracts.

Recommendation. The CCT and G8 should be in constant communication and coordination during a BCT's pre-deployment training. This unity of effort between the G8 and CCT will result in the BCT understanding how the current edition of CALL Handbook 09-27, *Money as a Weapons System*, can be an enabler in a forward-deployed location.[12]

Issue: Contracts and Projects as a Nonlethal Enabler

Discussion. The United States has been engaged in ongoing combat operations in Afghanistan (OEF) and Iraq (OIF) from 2001 and 2003, respectively. Lethal operations have had an effect in capturing dedicated insurgents, but there remains a certain percentage of the population, or center of gravity, that can be influenced through the many different colors of money that

"Warfighters at brigade, battalion, and company level in a counterinsurgency (COIN) environment employ money as a weapons system to win the hearts and minds of the indigenous population to facilitate defeating the insurgents. Money is one of the primary weapons used by warfighters to achieve successful mission results in COIN and humanitarian operations."[2]

exist in the Department of Defense's arsenal. *Money as a Weapons System* should be read from cover to cover by the BCT commander, deputy commander, executive officer, S3, S4, fires and effects coordination cell (FECC), staff judge advocate, and civil military operations officer to obtain a thorough understanding of how money can be a nonlethal enabler during Operation Enduring Freedom and Operation Iraqi Freedom.[13] For example, the Sons of Iraq program was funded using CERP funds to provide security for their muhallas. Disarmament, demobilization, and reintegration (DDR) funds influenced Iraqis to leave the Iraqi insurgency, turn against al-Qaeda in Iraq, obtain technical skills, and be hired by local and national firms, thus helping to rebuild the Iraqi economy.

Recommendation. The chain of command and aforementioned staff sections need to read and understand how *Money as a Weapons System* can enable their nonlethal operations.[14] Integration of *Money as a Weapons System* into nonlethal training and planning down to the individual COR, PPO, and FOO levels will produce technically and tactically competent personnel in the proper uses of different colors of money.[15]

Conclusion

The proper use of money as a weapons system will enable commanders to influence the economic variable, one of the eight operational variables described in FM 3-24.2, *Tactics in Counterinsurgency*.[16] In the counterinsurgency plan, the economic variable should minimize damage to existing economic systems and support economic development.[17] Economic development can result in job training and creation of new businesses. Job training and new businesses impact the recruitment efforts of the insurgency and decrease its ability to influence neighborhoods or villages. Steven Metz, author of *New Challenges and Old Concepts: Understanding 21st-Century Insurgency* stresses the importance of the economic variable and its inclusion into the overall counterinsurgency plan: "Economic assistance and job training are as important to counterinsurgency as political reform. Businesses started and jobs created are as much 'indicators of success' as insurgents killed or intelligence provided. Because

the margins for economic activity tend to widen during conflict, counterinsurgency should attempt to make markets as competitive as possible. Because economies dependent on exports of a single commodity or a few commodities are particularly vulnerable to protracted conflict, counterinsurgency operations need to include a plan for economic diversification. A comprehensive counterinsurgency strategy should offer alternative sources of identity and empowerment for the bored, disillusioned, and disempowered. Simply providing low-paying, low status jobs or the opportunity to attend school is not enough."[18]

The economic variable must be part of the counterinsurgency plan in Iraq and Afghanistan. Long-term economic viability, low unemployment rates, and diversified markets will empower the population to reject the insurgency. The mission analysis conducted in support of the economic variable, should be enabled by the contingency contracting team.

Notes

[1]Headquarters, Department off the Army (HQDA), U.S. Army Field Manual (FM) 3-24.2, *Tactics in Counterinsurgency,* U.S. Government Printing Office (GPO), Washington, DC, 2009, p. 1-3.

[2]U.S. Army Combined Arms Center (CAC), Center for Army Lessons Learned (CALL) Handbook 09-27, *Commander's Guide to Money as a Weapons System,* Fort Leavenworth, KS, April 2009, p. 1.

[3]Ibid.

[4]Ibid.

[5]CAC, CALL Handbook 09-48, *Developing a Performance Work Statement in a Deployed Environment,* Fort Leavenworth, KS, September 2009.

[6]CAC, CALL Handbook 08-47, *Deployed COR (Contracting Officer's Representative),* Fort Leavenworth, KS, September 2008.

[7]CAC, CALL Handbook 09-16, *Field Ordering Officer and Paying Agent Tactics, Techniques, and Procedures,* Fort Leavenworth, KS, July 2009.

[8]CAC, CALL Graphic Training Aid (GTA) 70-01-001, *Contracting Basics for Leaders Smartcard,* Fort Leavenworth, KS, February 2008.

[9]CAC, CALL GTA 90-01-017, *CERP (Commander's Emergency Response Program),* Fort Leavenworth, KS, November 2008.

[10]CAC, CALL GTA 90-01-016, *The Deployed Contracting Officer's Representative (COR) Smartcard,* Fort Leavenworth, KS, November 2008.

[11]HQDA, FM 5-0, *Army Planning and Orders Production,* GPO, Washington, DC, January 2005.

[12]CALL Handbook 09-27, *Commander's Guide to Money as a Weapons System.*

[13]Ibid.

[14]Ibid.

[15]Ibid.

[16]FM 3-24.2, *Tactics in Counterinsurgency.*

[17]Steven Metz, "New Challenges and Old Concepts: Understanding 21st Century Insurgency," *Parameters,* U.S. Army War College, Winter 2007-08, pp. 20-32.

[18]Ibid.

"The United States has been engaged in ongoing combat operations in Afghanistan (OEF) and Iraq (OIF) from 2001 and 2003, respectively. Lethal operations have had an effect in capturing dedicated insurgents, but there remains a certain percentage of the population, or center of gravity, that can be influenced through the many different colors of money that exist in the Department of Defense's arsenal."

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PRESS ON!
Selected Works of General Donn A. Starry

A Review Essay by Roger Spiller

If you look carefully in *The Lieutenants*, the first novel in W.E.B. Griffith's *Brotherhood of War* series, you will find a curious dedication page, which reads, "and to Donn. Who would have believed four stars?"

The unusual spelling of the name is a dead giveaway to the generation of Army officers who served between World War II and the first Gulf War. The reference is made to General Donn A. Starry, a man who is arguably one of the most important figures in the U.S. Army's modern history. Not incidentally, he was also one of the leading armor officers of his day, one whose innovations continue to bene-fit members of the armor community this day.

Starry enlisted as a private during World War II and entered West Point in 1944. He graduated from West Point in 1948 and was commissioned in the transportation branch. Transportation? Starry had expected to join the Air Corps as a pilot, but, running afoul of the assignment bureaucrats, he was given an early lesson in how not to play the game.

Fortunately, Starry landed a 2-year detail to the cavalry branch. The transportation branch would never get him back. The cavalry was in Starry's blood. His father served as a cavalry officer in the tank corps during World War I and kept up his service after the war in the Kansas National Guard. Young Starry spent many summers with his father during training tours at Fort Riley, and at the tender age of four, was commissioned a "brevet first lieutenant." His brevet now superseded by a regular commission, Starry went back to Fort Riley and Fort Knox for more training and landed an assignment with the 63d Heavy Tank Battalion, 1st Infantry Division.

At the time, the 63d was the only U.S. tank battalion in postwar Europe. It was commanded by one of the most highly regarded tankers of the day, Lieutenant Colonel Creighton Abrams, who had commanded the 37th Tank Battalion, 4th Armored Division, during the war. Starry flourished under Abrams' command, and Abrams, never one to dispense praise casually, rated the young man as "the most outstanding officer I know." For the rest of Abrams' career, the two men were inextricably linked.

During the 1950s, Starry steadily rose through the officer ranks, serving in a variety of line, staff, and instructor positions — but never far from the cavalry. By 1960, he was once again in Germany, commanding 1st Medium Tank Battalion, 32d Armor. And, in what was be-

coming a normal officer evaluation report (OER) for Starry, his division commander rated him as the best of his battalion commanders.

Starry's expertise grew apace. Always a voracious reader, he thrived intellectually while moving up the rungs of the Army's professional education system. Not only was Starry regarded as one of the bright stars among the young armor commanders, he was also in demand as a staff officer and occasional instructor throughout the Army's schools; it was as a staff officer that Starry did his first tour in Vietnam, serving in Major General Arthur West's Mechanized and Armor Combat Operations Study Group. After this tour, Starry was called back to the Pentagon, where his work brought him in close contact with senior military and civilian officials in the office of the Secretary of Defense.

Starry's Pentagon tour did not last long, however. By early 1969, he was back in Vietnam, this time directly subordinate to General Abrams and working on one of the most challenging tasks facing the Army of the day — how to "Vietnamize" the war while drawing down America's commitment. Starry's second tour was not destined to be spent in staff work, however. In late 1969, he was given command of the 11th Armored Cavalry Regiment. He led the regiment during its well-known incursion into Cambodia's "fish hook" the next year. All those who had soldiered with Starry over the years were not surprised to hear that during this action, while characteristically on the ground with his troops, he was seriously wounded trying to shield another officer from an enemy grenade.

When the war ended and Abrams returned to Washington to become chief of staff, Starry was not far behind. The task facing Abrams was even more daunting than that of extricating the Army from a misfired war. Abrams and his team had to keep the Army from going completely under; they had to repair an Army deeply demoralized by its experience in the war. Starry had found himself in the middle of a complex, wholly different kind of "campaign."

It was during this time that Starry would begin a close association with another officer who was to have enormous influence in determining the shape of the future Army. General William DePuy saw in Starry the same qualities that Abrams had seen. In 1973, DePuy was given command of the newly-formed Training and Doctrine Command (TRADOC). Starry was promoted to his second star and assigned to command Fort Knox and the Armor Center and School. Abrams gave Starry his mission, couched in his typical manner: "Don't screw up the tank program. Just start with the doctrine, describe the equipment requirements, reshape organization. And get the Army off its ass."

For the remainder of his career, until he retired in 1983, Starry followed Abrams'

"Starry's second tour was not destined to be spent in staff work, however. In late 1969, he was given command of the 11th Armored Cavalry Regiment. He led the regiment during its well-known incursion into Cambodia's "fish hook" the next year. All those who had soldiered with Starry over the years were not surprised to hear that during this action, while characteristically on the ground with his troops, he was seriously wounded trying to shield another officer from an enemy grenade."

orders. Even though Abrams died of cancer soon after becoming chief of staff, DePuy and Starry continued the campaign to reform the Army. A pivotal element of that campaign came in the form of a new doctrine for operations, U.S. Army Field Manual (FM) 100-5, *Operations*. Preoccupied by the war in Vietnam, the Army's major items of equipment had atrophied, falling farther behind those of the Soviet Union, still considered the Nation's primary threat. Abrams and his team lobbied hard for a new generation of these major weapons systems, including the M1 — the future Abrams tank. Their campaign was made all the more difficult because the Army had difficulty translating the service's needs into terms that would convince lawmakers. A new, modern vision of future war was of paramount importance in making their case.

The Arab-Israeli War of 1973, in which Soviet equipment and modern operational techniques were on display when the Syrian and Egyptian armies took to the field, offered the clearest picture of what the Soviet threat might look like in action, if it attempted to mount an offensive in Europe. Based on studies by several U.S. teams who visited Israel in the aftermath of the war, including one led by Starry, it was decided that lessons learned in that war could provide the foundation for new U.S. fighting doctrine. The doctrine was published in 1976, and Starry's fingerprints were all over the new book.

The new doctrine, which was known by the shorthand, "the active defense," was nothing if not controversial. For the first time in the history of American doctrine-making, it became public business as civilian analysts weighed in on the pros and cons of the new manual. While the controversy continued on op-ed pages and in Army professional journals, Starry received his third star and took command of V Corps in Europe. Now, he had a chance to test the new manual in the field, to take account of the critical reaction to the new doctrine, and train a new generation of young armor officers on the intricacies of modern mechanized warfare.

Starry's command of V Corps was the perfect training ground for him as well. When General DePuy retired in 1977, Starry was selected to succeed him as commanding general of TRADOC. He now had a chance to accelerate the reforms Abrams had initiated and DePuy had promoted so vigorously. In short order, Starry commissioned a successor to FM 100-5, and, like his predecessor, kept the development of this new manual un-

der close supervision. Under his direction, a new FM 100-5 was published in 1982, and it was this manual that introduced the new concept of "the operational art" to the Army.

Starry's work on Army doctrine was not his only innovation while at TRADOC. In tandem with the new operational doctrine, he instituted nothing short of a training revolution in the Army that was meant

LEWIS SORLEY
Editor
VOLUME I
Selected Works of
General Donn A. Starry
PRESS ON!
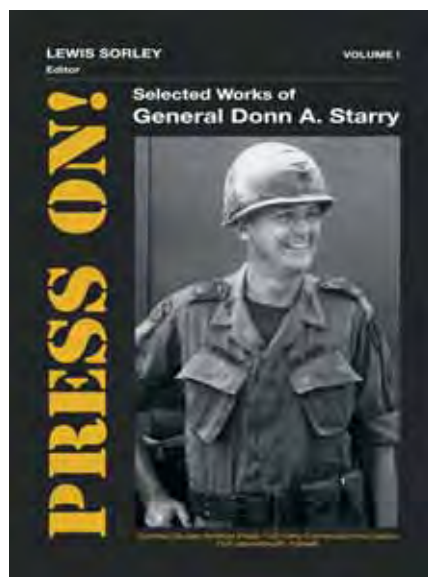
to ensure that the new operational doctrine prepared the Army for its execution. At the same time, the new major weapons systems that Abrams had promoted as chief of staff were beginning to take shape.

When Starry left TRADOC for his final assignment as commander in chief of the U.S. Readiness Command, he left an Army that had come a long way toward restoring itself as a credible, expert component of America's national security. He retired from active service in 1983, but his association with the Army and his involvement in national defense policy continued as he served on the Defense Science Board and several other organizations.

Even this abbreviated account of Starry's career leaves one to wonder how he found time to do much else. Somehow, along the way, Starry became a writer. Since childhood, he has been an avid student of history, and by the time he came to command the Armor Center and School, he decided he would try his hand at writing history. The result was *Mounted Combat in Vietnam*, originally published by the Army and later published commercially as *Armored Combat in Vietnam*. And just

so he didn't get too bored in retirement, in 1990, he published *Camp Colt to Desert Storm: The History of the U.S. Armored Forces.*

Although *Press On!* weighs more than a dozen meals-ready-to-eat, it does contain only the *selected* works of General Donn Starry. The task of selecting these extraordinary articles fell to Starry's expert editor, Lewis Sorley, a career officer turned historian, the author of several highly regarded works, including *A Better War: The Unexamined Victories and Final Tragedy of America's Last Years in Vietnam*, as well as biographies of Abrams and Harold K. Johnson.

Rather than take the simpler road of merely arranging Starry's work in chronological order, Sorley organized *PRESS ON!* along thematic lines, with subjects ranging from leadership, command and control, force structure, and even uniforms. The 2-volume boxed set was published by Fort Leavenworth's Combat Studies Institute (CSI), which turned in the fine job we have all come to expect. And for those who may be put off by the work's heft, CSI published the entire works on compact disk.

Summaries of a professional officer's career, no matter how extensive, are of little help to the reader who wants to understand how a military leader's mind matures in the course of a very active career. *PRESS ON!* allows readers to follow Starry's intellectual and professional development throughout his more than 3 decades of service and see the modern history of the Army from the point of view of a fledgling lieutenant to the highest levels of command responsibility, and all stations in between. Young officers, perhaps thinking that the problems they face are unprecedented, may be surprised to find their problems are not so new after all. And senior officers who may think they have learned every lesson they need to know, may be surprised as well. This volume belongs on every serious military professional's desk — not in the bookshelf, on the desk.

Roger Spiller served for many years as the George C. Marshall Professor of Military History, U.S. Army Command and General Staff College, Fort Leavenworth, KS. In 2007-2008, he was the Charles Boal Ewing Distinguished Professor of Military History at West Point. He is now adjunct Professor of History at the University of Kansas. His most recent book is *An Instinct for War: Scenes from the Battlefields of History*, Harvard University Press, 2005.

How to Fit a Starfish and a Spider Into Your Load Plan

by Colonel Ricky J. Nussio

Every U.S. Army officer and noncommissioned officer recently assigned to the U.S. Army Training and Doctrine Command (TRADOC), either as a student or instructor, has heard about two members of the animal kingdom — the starfish and the spider. These two creatures diverge at next immediate biological classification, the phylum, but share a general similar shape of multiple legs and a central body. They are remarkably separated by a distinctive nervous system. Read on — this is not a lesson in animal biology; it is an analogy to put organizational theory into practical application for the military leader.

General Martin Dempsey, TRADOC commander, recommends *The Starfish and the Spider: The Unstoppable Power of Leaderless Organizations,* by Rod A. Beckstrom and Ori Brafman, as a professional-development reading assignment from his personal reading list.

This article does not intend to review the book, or dissuade readers from purchasing the book or drawing their own conclusions about the book, but merely suggests one reader's potential application of organizational theory to the military lead-

er. It is also meant to serve as a primer for other professional-development reading assignments and books from suggested reading lists. This writing serves an example of a direct application of theory put to tangible use. Rather than reading books, searching for potential application of the subject matter, this article serves as one example of how to use professional-developmental material in a practical sense.

The authors' main premise of *The Starfish and the Spider* concerns organizational design. Written for corporations in the business sector, this book has definite military and government application. A basic question to ask when determining your organization's effectiveness is whether you operate in a decentralized or centralized manner? Through the use of a comparison between two animals, the authors posit the benefits and capabilities of a decentralized organization.

The animal analogy is simple: a spider has a head with a brain; if you cut off its head, the spider dies. On the other hand, a starfish has no brain, if you cut off a starfish's leg, or even cut it in half, through

the process of regeneration, the starfish will replace the lost appendage and continue to thrive. An organization is most effective when all elements of the organization understand their raison d'être, or their state of being, which is the primary reason for our existence.

Animals have a survival instinct: a spider will attempt to escape or defend itself to prevent its head from being severed; a starfish will regenerate a severed leg to retain mobility and, therefore, survive. To apply this to the corporate or military model, one must consider survival equal to organizational success. Businesses try to make a profit, individual soldiers on the battlefield try to survive, and military units on the battlefield attempt to achieve an objective (victory). Throughout their book, Beckstrom and Brafman use military, business, and historical models to emphasize and illustrate their points, including the struggle between the Spaniards, Incas, and Apache Indians, as well as modern examples of General Motors, al-Qaeda, and alcoholics anonymous.

Choosing an Organizational Design to Effectively Achieve an End State

Regardless of size, a centralized hierarchical organization, whether a scout platoon or a Fortune-500 company, requires a single leader (spider's brain) for direction and purpose to function efficiently. Orders and directives flow down, information flows up, decisions are modified, and new orders and directives flow back down. In a decentralized formation (starfish), there is no head or leader. Information flow, decisionmaking, and actions are all executed at the lowest level without any directive, but with a unified purpose. The authors highlight the lethargic nature of command or "centralized" organizations where information flow, productivity, and adaptation to changing conditions all suffer. At the other end of the spectrum, a decentralized organization reacts to change faster and more efficiently, thereby making it more resilient, survivable, and, most importantly, more productive in achieving mission success or profit. The authors also discuss the hybrid solution, which given the hierarchical structure and discipline of the military, is probably the model most will follow. This is described by the authors as the "decentralized sweet spot" that balances control and chaos. A leader must decide how much control is needed to guide his organization and balance that with the freedom to operate to produce the best competitive position.

Fitting a Starfish or Spider into a Load Plan

How does a scout or tank platoon leader fit a starfish and spider into a load plan? The military requires the hybrid solution. Within the military structure, the basis for existence is one of discipline and order, which begs for a centralized system to be effective. The leader issues all the orders and directives; without this leader, nothing is accomplished. The absence of the leader can lead to organizational paralysis where nothing is completed. The military requires leaders at all levels to unify the effort and organizational purpose. To achieve the hybrid solution, leaders must issue mission-type orders, rely on simplified standard operating procedures (SOPs) and battle drills, and ensure that their intent for every action and operation is very clear and understood by subordinate leaders. Essentially, mounted leaders should form wingman vehicles or dismounted elements into the legs of a starfish.

One of the unintended consequences of the poorly executed Normandy invasion airborne operation was known as the "little groups of paratroopers," who effectively blocked German counterattacks toward the Normandy beachheads. For various reasons, paratroopers from the 82d and 101st Airborne Divisions were dropped across a wide expanse behind the beachheads. Many units were miles from their assigned objectives and without leaders due to casualties and dispersion. Prior to the planned invasion of Haiti in September 1994, the commander of the 82d Airborne Division, Major General Mike Steele, commented on the fact that paratroopers from the 82d and 101st Airborne Divisions were scattered across the countryside with little to no semblance of task organization. However, they remained unified in their purpose because they understood their mission — protect the beachhead, disrupt German counterattacks. They acted much like a starfish with its five legs severed during those crucial days in June 1944. The decentralized sweet spot were well trained and motivated paratroopers with limited mission focus, but broad latitude, who executed the mission and achieved significant results with little to no centralized control.

Applying the Starfish/Spider Method to the Modern Mounted Leader

Most seasoned tankers and cavalrymen will identify with the following analogy concerning the motor pool layout. How does a tank or scout platoon prepare for an inspection or the dreaded hand receipt update? Simple; the tank/vehicle commanders are provided with a diagram that indicates where every piece of the vehicle's basic issue items (BII) should be placed on the tarpaulin. The BII is laid out exactly six feet in front of each vehicle, so when the troop commander or first sergeant (1SG) walk the line, they see 14 legs of a starfish. Each layout is the exact same design, purpose, raison d'être. This requires one member of the organization (it doesn't have to be the commander or the 1SG) to design the most efficient layout for all soldiers to use. Once approved by the leadership, the information is disseminated and, on demand, a particular task can be executed with minimal command directive, freeing leaders at all levels to focus on the next objective or the unknown. When organizations act and react with minimal directives from higher, but within the parameters of higher intent, the organization is more adept at dealing with unknowns and leaders can focus on impending challenges or emerging threats, not the current fight.

Another example is the necessity for combat lifesaver bags, fuel cans, water cans, recovery tools, and equipment to be stored in an exact location. This load plan is designed so any member of the organi-zation — under fire in the middle of the night — can access necessary items to complete the mission, perform immediate first aid, or recover the vehicle. SOPs and battle drills serve similar functions. Imagine a tank battalion or cavalry squadron performing a tactical road march under radio-listening silence at night. The only way to execute this mission successfully is with a starfish mentality of operations and, more specifically, orders and existing SOPs. Clearly understood and rehearsed mission-oriented orders, battle drills, and SOPs are the foundations of any successful military operation. These are just a few examples of the benefits and efficiencies gained through standardization of practices and procedures to develop a starfish mentality. There are many applications and lessons to be gained from *The Starfish and the Spider: The Unstoppable Power of Leaderless Organizations* by military leaders of all ranks. Not only are the authors' comments dedicated to building a starfish organization, but they also recommend how to defeat one.

The applications of this starfish theory are endless to any organization. Organizations have an internal tension that leaders must manage — the need to retain control while enabling subordinates to operate freely and effectively. Organizations want to grow; more is always better in many aspects. Growth leads to complexity, more people, more equipment, more missions, and more products, which potentially leads to greater victories or profits. However, growth can lead to lethargy and cumbersome layers of bureaucracy (command and control). As leaders are promoted (growth), they must adapt the way they manage their organizations — military leaders must graft the starfish nervous system into the spider brain to produce an efficient unit design.

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Applying Information Operations at the Company Level in a COIN Environment

by Major James P. Smith

In today's media-rich environment, both positive and negative actions of a single company will be seen and heard by billions of people. A company commander's ability to use provided tools or enablers can and will gain an advantage of the local networks and populace he is trying to influence or destroy. Information operations (IO) is one of the most important aspects of a mission for which company commanders must plan. Company commanders can enhance their operations with enablers, such as psychological operations (PSYOP), civil affairs (CA), human terrain teams (HTT), and other agencies such as provincial reconstruction teams (PRT). When one refers to IO, they think of a handbill as an integrated approach to enhancing the commander's current operation. This is a common misconception of the full scope and capabilities IO provides.

This article addresses several questions which will aid company commanders in applying tactical IO to shape the fight including, during a counterinsurgency (COIN) environment, how does a company commander apply IO; what is tactical IO; and where can a company commander request assets to shape his fight and support both lethal and nonlethal operations?

Information operations at all levels is a planned operation and best used proactively. Company commanders have the best advantage of IO and information engagement (IE) — they are at the ground level accessing word on the street. In most instances at the company level, IO is used reactively, instead of planned, to support either steady-state operations or time-sensitive missions. A before, during, and after approach that identifies local leader messages, shows current progress, and demonstrates the lasting positive results of any mission can increase the effectiveness of a $10,000 project ten-fold. Conducting IE operations within the local populace, using several information mediums to inform and influence the populace, gains support for coalition force objectives and not enemy objectives. A company commander's operations reach across all levels of war in counterinsurgency.

Every deliberate attack, time-sensitive mission, or routine patrol is planned, prepared, and executed. IO is a shaping effort, or sometimes the main effort, to an operation. A commander must understand the environment in which he is operating. Identifying the enemy is important; a commander can use IO or IE to find and influence people who can assist in identifying and locating the enemy. IE
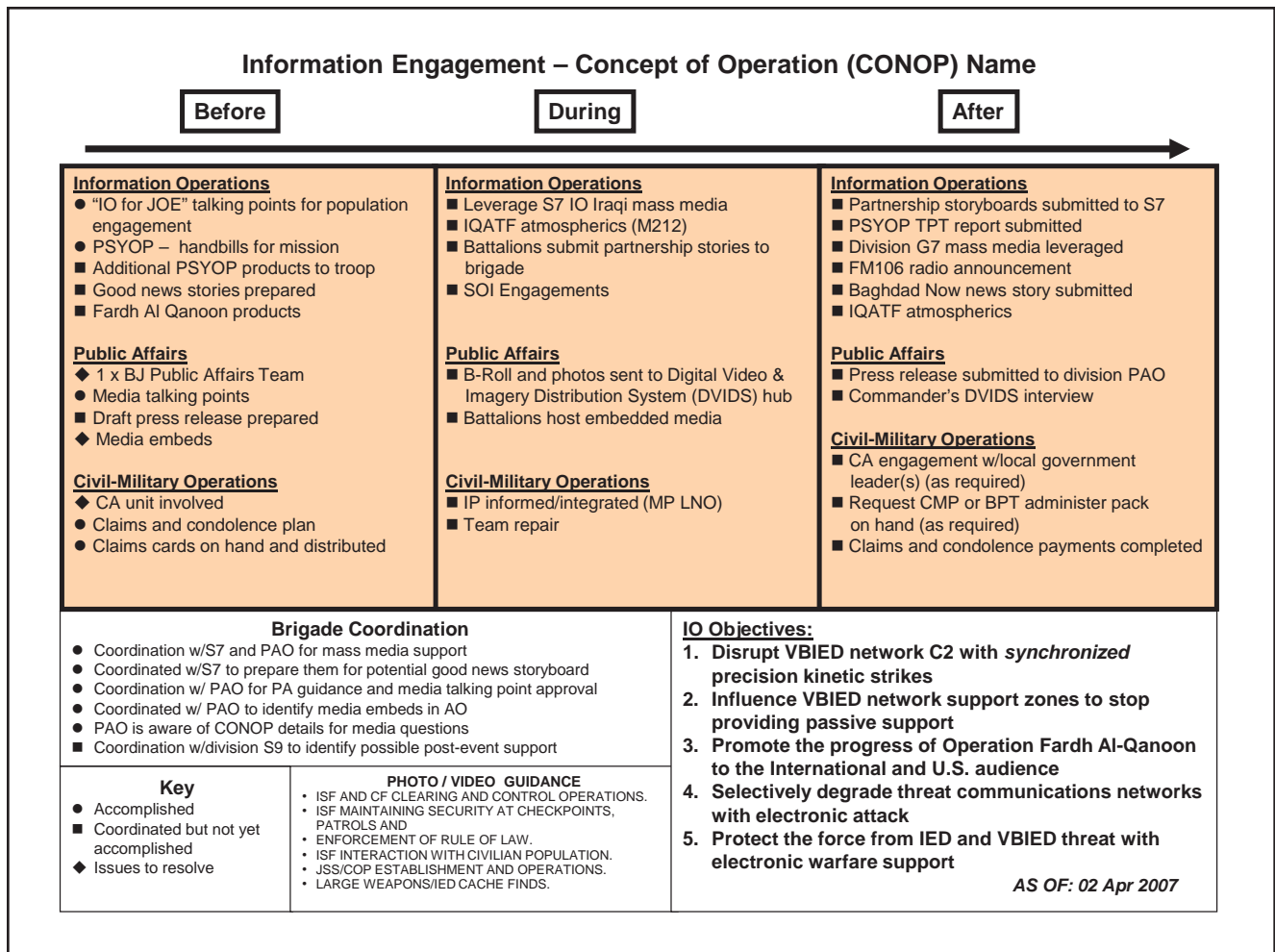
Information Engagement – Concept of Operation (CONOP) Name

Before ──────── **During** ──────── **After** ⟶

Information Operations (Before)	Information Operations (During)	Information Operations (After)
● "IO for JOE" talking points for population engagement ● PSYOP – handbills for mission ■ Additional PSYOP products to troop ● Good news stories prepared ■ Fardh Al Qanoon products	■ Leverage S7 IO Iraqi mass media ■ IQATF atmospherics (M212) ■ Battalions submit partnership stories to brigade ■ SOI Engagements	■ Partnership storyboards submitted to S7 ■ PSYOP TPT report submitted ■ Division G7 mass media leveraged ■ FM106 radio announcement ■ Baghdad Now news story submitted ■ IQATF atmospherics
Public Affairs ◆ 1 x BJ Public Affairs Team ● Media talking points ■ Draft press release prepared ◆ Media embeds	**Public Affairs** ■ B-Roll and photos sent to Digital Video & Imagery Distribution System (DVIDS) hub ■ Battalions host embedded media	**Public Affairs** ■ Press release submitted to division PAO ■ Commander's DVIDS interview
Civil-Military Operations ◆ CA unit involved ● Claims and condolence plan ● Claims cards on hand and distributed	**Civil-Military Operations** ■ IP informed/integrated (MP LNO) ■ Team repair	**Civil-Military Operations** ■ CA engagement w/local government leader(s) (as required) ■ Request CMP or BPT administer pack on hand (as required) ■ Claims and condolence payments completed

Brigade Coordination
- Coordination w/S7 and PAO for mass media support
- Coordinated w/S7 to prepare them for potential good news storyboard
- Coordination w/ PAO for PA guidance and media talking point approval
- Coordinated w/ PAO to identify media embeds in AO
- PAO is aware of CONOP details for media questions
- Coordination w/division S9 to identify possible post-event support

IO Objectives:
1. Disrupt VBIED network C2 with *synchronized* precision kinetic strikes
2. Influence VBIED network support zones to stop providing passive support
3. Promote the progress of Operation Fardh Al-Qanoon to the International and U.S. audience
4. Selectively degrade threat communications networks with electronic attack
5. Protect the force from IED and VBIED threat with electronic warfare support

AS OF: 02 Apr 2007

Key
- ● Accomplished
- ■ Coordinated but not yet accomplished
- ◆ Issues to resolve

PHOTO / VIDEO GUIDANCE
- ISF AND CF CLEARING AND CONTROL OPERATIONS.
- ISF MAINTAINING SECURITY AT CHECKPOINTS, PATROLS AND
- ENFORCEMENT OF RULE OF LAW.
- ISF INTERACTION WITH CIVILIAN POPULATION.
- JSS/COP ESTABLISHMENT AND OPERATIONS.
- LARGE WEAPONS/IED CACHE FINDS.

Figure 1. Planning Concept

is defined as "the integrated employment of public affairs to inform U.S. and friendly audiences; psychological operations, combat camera, U.S. Government strategic communications, and defense support to public diplomacy and other means necessary to influence foreign audiences; and leader and soldier engagements to support both efforts."

Coordinating PSYOP, public affairs (PA) assets, and other enablers, such as CA, prior to the mission increases a commander's success in current areas, and helps define the root problem and separate the populace from the enemy in areas where there is greater tension. The commander identifies, through reconnaissance, patrol debriefs, PSYOP, and CA situation reports (SITREPs), a method of engagement to begin separating the populace from the insurgency. Those members of the local populace who "stay on the fence" or passively support the insurgency simply because they do not feel secure have to be convinced that the forces patrolling their streets are better than the insurgency. IE and the unit's actions must match the message being conveyed on the street. The effectiveness of the operation is clear when visible signs of change occur as soon as a plan is publicized. Information engagements that begin with local leaders, through PSYOP messages and CA government development efforts, inform and influence the populace, who "sanctions" the plan and permits it to unfold.

During the development of the operation, or essential service revitalization, the commander focuses on the progress being made. In each engagement, commanders reinforce progress through quantifiable talking points and storyboards, which should be reviewed by the brigade combat team (BCT) S7 to ensure message synchronization, and provide bottom-up refinement to higher level leaders. The conclusion of the operation exploits the successes over the period of the project with either a media ribbon-cutting ceremony or a press conference, all led by the host nation. Coordination by the BCT public affairs office (PAO) provides an instant public message across all networks and newspapers. PSYOP uses factual information provided by the PAO and the aspects of the project to create a lasting effect with local citizens and leaders. (An example of the before, during, and after planning concept is shown in Figure 1.)

There are three lines of effort (LOE) that a brigade uses to drive operations in the current counterinsurgency: the brigade plans governance, economics, and security operations while the company commander develops plans to support the LOE. Information operations enhance these plans by publicizing the positive progress made by the commander and local officials. IO and IE at the tactical level are about perceptions of the unit's actions; for example, are the local people confident that the unit and host-nation forces have the ability to provide professional security? The unit's actions must change the way the people see its local government; they must be convinced that the government is looking out for their best interests. These same actions must change the people's perception to one of believing that better opportunities exist within the local economy — not in taking money from insurgents to plant bombs and kill U.S. soldiers.

Commanders at all levels can commit information fratricide if the message is not synchronized. Company commanders engaging local mayors have the ability to arm higher commanders with local issues that elected officials are not pushing higher. BCT commanders can influence their sphere of influence with those issues.

Creating certain perceptions is not as simple as throwing out a handbill or buying a generator for a community. IO planning and execution at the tactical level ensures consistent actions align with messages that commanders and soldiers on patrol share with local communities. A handbill, message, or press release reinforces soldiers' actions, which influence the people who support the cause. For example, if the company is consistently putting out messages that soldiers are protecting the people, yet soldiers on patrol are rude and treat people badly, day-to-day operations become increasingly difficult.

A commander does not have to create his own messages or objectives; he can use those of the brigade, which are typically generic in nature. He can request help from the brigade IO officer to quantify his messages, which will be more effective than the generic "the government is working for you" messages. Providing quantifiable messages that the local area is improving, combined with visible signs of change, will permit continued momentum and a belief that things will continue to get better. Integrating IO into a company operation enables efforts to improve people's lives, which will lead to the development of a social network, build a trust between the unit and the local neighborhood, and facilitate an information exchange that will lead to defeating enemy networks.

A commander does not have to plan IO on his own; key enablers, such as PSYOP, CA, and HTT, under tactical control of the task force are assigned to the company headquarters and can be used by the commander to develop an integrated IO plan. The primary mission of PSYOP is to persuade, change, and influence the behavior of the local nationals. If used to only make handbills or broadcast loudspeaker messages, the commander wastes a key asset in determining effectiveness within his plan. PSYOP teams are passive intelligence collectors; they can be used to confirm a unit's priority intelligence requirements (PIR). PSYOP teams and the PSYOP detachment develop the plans to find key decisionmakers and influences within the town.

The PSYOP detachment, based on assessments from company areas of operation, develops the plan to influence target audiences within each area of operation based on the objectives laid out in the overarching brigade information plan. Tactical PSYOP teams (TPT), if given

Tactical PSYOP is not a handbill. PSYOP teams are adept at collecting information and identifying key people within the town to influence company objectives. They identify those who support our high priority targets (HPTs), as well as exploit successes degrading the enemy's ability to control the population. In kinetic operations, the loudspeaker has an immediate ability to get the information on the street. Commanders can see immediate results by the number of people listening.

permission to run PSYOP-specific patrols, can assist a commander's decisions on where to increase patrols, where security is perceived as good, and where using money as a weapons system will be more effective. One of their objectives is to locate enemy propaganda and develop a counter to that propaganda, if necessary. The tactical PSYOP detachment (TPD) tracks propaganda and assists the BCT S2 by developing a pattern analysis and determines the location of enemy encroachment. TPTs assist company intelligence support teams (CoIST) in determining patterns of threatening messages or propaganda at the company level. That determination identifies how much influence the enemy has on the population and how much support they provide. If there is heavy influence and company actions are inconsistent, the insurgents have a recruiting base to support their operations. These recruits are the target for TPTs, which will begin separating them from the populace.

Civil affairs teams (CAT), another passive intelligence collector for the company, focus on civil reconnaissance, which educates the commander on the civilian and infrastructure aspect of area, structure, capabilities, organizations, people, and events (ASCOPE). For a commander to effectively operate in an area of operations, he must know who and what is operating on his battlefield. Units that conduct a mini-census can truly identify the root problem. CATs head up civil reconnaissance, in conjunction with HTTs, PSYOP teams, and unit biometric automated toolset (BAT) and handheld interagency identity detection equipment (HIIDE) systems, to allow units to develop a clear hierarchy, find informal leaders and locations to spend money, and assist in identifying public enemy number one.

The CA plan, focused on the government and economic lines of effort, complements the security LOE. The commander's approach should be evenly distributed to allow the local government to take charge of its district. For example, a commander who fixes every problem and fails to incorporate the local community will continue to be called on to fix problems, which creates an impression to the local people that their government is not working. Civil affairs integrate local leaders into the company plan; local leaders, formal or informal, provide more credibility to the plan. These leaders, educated by CA and PRTs, develop priorities and publicize them first through the unit, then their own media outlets. People can

Street-level engagements are a great opportunity to gather intelligence and confirm current priority information requirements.

perceive all day long that security is fine, but they will not trust their government if it is not out front fixing problems without our soldiers. The local police force will not fix the electricity or the sewer system. PRTs complement government efforts and can help company commanders with local issues and assist CA in developing a local strategy to improve the community.

In many cases, PRTs are the initial link for company commanders as they have the local development plan laid out. PRTs bring money and influence to a commander's area of operation, which encourages local leaders to develop priorities and stabilize the community. If a commander understands the neighborhood in which he is operating, he can assist the PRT in applying resources, and incorporate local security forces to keep the community safe. Understanding the capabilities of each enabler permits the company commander to use these assets to conduct operations effectively, massing his efforts on the root problem.

Information operations are an aspect of every company's operation, which is linked to the company's actions on the ground. Kicking in doors at 0200 hours in the morning and dragging suspected criminals or terrorists into the street has a lasting effect on the entire community. This idea is not new and is discussed each time a unit goes into theater; however, we are still making the same mistakes. A company commander needs to identify the next order of effects when he kicks in

a door at 0200 hours. The company commander may not understand that, in many cases, he has a strategic effect in his operation. Even if the detainee is guilty, a clear engagement plan to speak with informal and formal leaders is necessary. A storyboard of the incident, translated with the alleged crimes he has committed, stops many arguments in their tracks. PSYOP, the following morning, can assist patrols in the neighborhood to help explain the detention through public messages and face-to-face meetings with informal leaders. In just about every case, waiting for a handbill to be approved and printed causes delays — making the message too late. Face-to-face communications with the people is far more effective than a handbill.

A handbill, if crafted with quantifiable messages, is a talking tool that soldiers can distribute. The handbill approach is more effective when specifically designed for each operation — print only a few hundred instead of several thousand; otherwise, the handbills are considered trash. If the detainee is truly guilty, then the amount of IO needed to mitigate risks will be very intense for the first couple of weeks. The patrols do not do this just as a crowd pleaser; force protection is necessary to prevent retaliatory attacks on our troops. Other than telling people why we detained a certain individual, talking points should deflect possible attacks against our troops.

Planning to mitigate risks is essential and allows for more effective IO; future

events have greater impact when commanders identify and exploit successes in local plans. These events are not driven by division or brigade, but are identified at the company level — whether it is a new market to improve the economy or a local government event in which leaders have finalized and completed projects to improve essential services. When requesting IO products, commanders should seek assistance from their TPTs, just as they request public affairs officers to engage local media. IO is the plan; PAO, PSYOP, and soldiers on the ground are execution elements of that plan.

Separating the enemy from the people influences the people to move toward coalition objectives. TPTs use brigade products that are intended to have a lasting effect and are appropriate for their areas of operation. In most cases, it requires simply modifying an existing product. These products should be planned in advance for future operations and be truthful and credible.

To attain the full effect, a company commander should coordinate for PAO and PSYOP support to exploit his operation. PAO and PSYOP complement each other by hitting all information mediums with credible and factual information. PAO informs the people; PSYOP influences the people. The PSYOP call to action is the action we want the populace to take, such as reporting improvised explosive device (IED) makers and mortar teams, and supporting local school projects.

Coordinated efforts with higher reach many audiences; the PAO, brigade S7, and PSYOP planner bring assets from the brigade and higher to support the commander during operations. The PAO can immediately affect the operation by reaching local papers and satellite television with factual events of the operation. Messages synchronized with PSYOP have a lasting effect through the use of media outlets such as newspapers, documentaries, and public service announcements. Exploiting the positive event or mitigating the negative event does not end with the event. For example, at a ribbon-cutting ceremony or community medical engagement many units miss opportunities to gather information from people waiting in line to partake in either of these events. Assets, such as CA, PSYOP, human intelligence collection teams (HCTs), and HTTs, all have a specific mission to gather information to support future operations. If there is no effort to identify the needs and issues of the people, the unit continues to walk the streets, without a clear end state for transition or passage to the next unit, and the problem remains.

Commander's control their operations through patrols and actions conducted within their areas of operation. Rumors and negative incidents that happen among our forces fuel the enemy's information effort; many of the unit's actions have a tactical, operational, and strategic effect. Escalation of force (EOF) incidents may be local, but the parties involved are typically at higher levels of government and coalition headquarters. These incidents, when severe, reach U.S. audiences and could cause U.S. Forces to lose the support of the American people, which would severely impact the mission.

Embedded media is another key enabler a commander can use to influence audiences and achieve his end state. Media, in most cases, have an agenda — journalists are typically fair in reporting, listen to both viewpoints, and ultimately report accurate information. The issue is that most soldiers are not comfortable using open media sources to tell "our side" of the story. In such cases, commanders should use the brigade PAO, who will identify the information the reporter is seeking and provide an operational overview of the unit's efforts. Commander's who provide factual information will avert the risk of "journalistic misperception."

On today's battlefield, company commanders are required to have varied assets, which serve as key enablers, at their disposal. Tactical IO enhances operations by separating the population from the enemy, thereby setting conditions for the local populace to support coalition efforts instead of enemy activities. A commander who integrates enablers, such as PSYOP and CA, will soon realize he has gained operational advantage in his area of operations. Incorporating these capabilities and focusing on face-to-face meetings, supported by targeted handbills, provide higher quality information and intelligence gathering to identify insurgents determined to thwart a unit's plan. Company commanders need to remain aware of brigade-level assets, which have capabilities to support the unit's requirements. The strategic effect a company commander brings to his operations supports the overarching campaign to claim victory in a counterinsurgency, neighborhood by neighborhood.

Even after 7 years of conflict, many companies and S2s still don't understand what to do with propaganda. Insurgent propaganda is an indicator of possible upcoming actions. PSYOP teams analyze the message and make recommendations to commanders for future operations.

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Return to Duty in Initial Entry Training

The Road to Recovery Following Anterior Cruciate Ligament (ACL) Reconstruction Surgery

by Captain Melissa D. Ogle

The knee is the largest joint in the body and also one of the most frequently injured joints. Those engaging in athletic activities, such as those involved in military training, are particularly susceptible. The knee is inherently unstable due to its location at the end of the two longest bones in the body, the tibia and femur. Within the 194th Armored Brigade, partial or complete tears of the ACL accounted for 6 percent of total injuries in fiscal year 2007 and 10 percent of total injuries in fiscal year 2008. Sixty percent of soldiers who were diagnosed with ACL injuries in 2008 returned to duty. In 2007, ten percent of soldiers with ACL injuries successfully returned to duty.

The ACL is the primary restraint to anterior tibial translation on the femur. Knee stability is maintained by static restraints (ligaments) and dynamic restraints (muscles). Mechanisms for injuring the ACL are varied and may occur with or without physical contact. Typically, the ACL is torn during a quick deceleration, rotational, or hyperextension injury that usually does not involve contact with another individual. Often the athlete lands on the leg and quickly pivots in the opposite direction. Injury is often accompanied by a "popping" sensation and depending on the mechanism of injury, may also involve injuries to the medial meniscus, as well as the medial collateral ligament (MCL). Non-operative management of an ACL tear is not a successful option for those participating in high levels of physical activities. Injury prevention is crucial due to potential surgery complications and low historical return-to-duty rates.

Rehabilitation

Injury to the ACL can result in recurrent instability, impairment, and progressive joint damage in individuals performing high-risk athletic activities. Reconstruction surgery is often indicated. ACL surgery is a complex procedure with many possible complications. Enabling a safe return to daily activities and preventing premature knee joint osteoarthritis requires carefully designed and appropriate rehabilitation strategies. Protocols for rehabilitation following ACL surgery have changed significantly during recent years. Exercises are becoming increasingly aggressive with the primary goal of returning the patient to the pre-injury activity level. Emphasis includes restoration of normal knee range of motion, strength, and stability to allow return to function-

"Injury to the ACL can result in recurrent instability, impairment, and progressive joint damage in individuals performing high-risk athletic activities. Reconstruction surgery is often indicated. ACL surgery is a complex procedure with many possible complications. Enabling a safe return to daily activities and preventing premature knee joint osteoarthritis requires carefully designed and appropriate rehabilitation strategies."

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al activities. Physical therapy is challenging as the patient and therapist must determine the correct balance between protecting the healing ligament, preventing excessive strain on the graft, and preventing disuse atrophy, as well as the negative changes in articular cartilage. The five phases of ACL rehabilitation and timelines include:

- Activity maintenance (ongoing).
- Maximum protection (12 weeks).
- Moderate protection (24 weeks).
- Minimum protection (48 weeks).
- Return to activity (60 weeks).

Return to Duty

There is an absence of objective, standardized criteria that accurately and safely assesses a patient's ability to progress through the stages of ACL rehabilitation and a safe return to sports. Advances in graft reconstruction and fixation techniques have consistently yielded good surgical outcomes, making it increasingly possible for patients to return to their previous function level. Although advances in ACL reconstruction surgical techniques and rehabilitation therapy have increased over the past 25 years, recent studies report that between 20 and 50 percent of athletes do not return to their pre-injury sports activities and 10 to 70 percent of those who return to pre-injury sports participate at a reduced level or with functional impairments.

Anecdotal clinical observations and patient reports suggest the inability to return to pre-injury functional states may be partially attributed to fear of re-injuring the knee. Fear of re-injury has been associated with increased timeframes of returning to pre-injury function. There are also published case reports suggesting that return to high levels of competition and physical performance is possible in some instances. Success factors include, but are not limited to, optimal fitness prior to surgery, strong psychological deter-

Phases/Expected Timeline	Rehab Guidelines	Goals of the Phase
Immediate Post-op – 1 week	Continue passive motion Foot and ankle exercises Isometric hamstring exercises Inflammation control Quadriceps setting Weight bearing as tolerated Education	Passive range of motion, 0-70 degrees
Weeks 1-2	Progress weight bearing Ankle/hip exercises Modalities Range of motion	Passive and active range of motion, 0-90 degrees
Weeks 3-4	Progress range of motion/ Weight bearing Begin closed chain strengthening Stationary bike	Active and passive range of motion, 0-100 degrees
Weeks 5-6	Begin pool rehab Calf strengthening Full weight bearing Continue range of motion and close chain exercises	Active and passive range of motion, 0-110 degrees
Weeks 7-8	Continue as above Add treadmill Begin proprioceptive exercises	Active and passive range of motion, 0-110 degrees
Weeks 9-10	Continue as above Begin retro treadmill Progress closed kinetic chain Upgrade functional exercises	Active and passive range of motion, 0-120 degrees
Weeks 11-16	Continue as above Upgrade functional exercises Progress closed kinetic chain	Active and passive range of motion, 0-130 degrees
Weeks 16+	Continue range of motion, functional, and strengthening exercises	Full active and passive range of motion, lower extremity strength near full

Figure 1. Post-surgical ACL Rehabilitation Protocol

mination, an isolated ACL lesion, properly placed graft, and a personal progression of the volume and intensity of exercises mixing the gymnasium, pool, and field exercises. Recognition of deficits early in the rehabilitation process are important to notice as they will likely continue on to the later stages or rehab. Late ACL rehabilitation is considered to be a high-risk period, as perceived, versus actual sports readiness, which often varies. Although we lack objective criteria as to how or when an athlete can progress through the end stage of rehabilitation, criterion-based algorithms, not yet validated, are often used.

A Soldier Success Story

Private (PVT) Thompson, an 18-year-old male, entered the Army in July 2008 with military occupational specialty 88M. During his 6th week of initial entry training, he experienced a sudden deceleration injury while racing against another soldier. Following medical evaluation, he was diagnosed with a noncontact, full-thickness tear of his ACL with an associated bony contusion in the femoral notch and lateral tibial plateau regions. During scheduled surgery on 24 September 2008, PVT Thompson received ACL reconstruction surgery using a hamstring autograft. Following surgery, he was assigned to the Fort Knox Physical Training Rehabilitation Platoon (PTRP) where he underwent physical therapy three times weekly. During this time, his progress was periodically evaluated by his orthopedic surgeon and physical therapist. In December 2008, he was released to continue rehabilitation, independently, in the physical training rehabilitation platoon. PVT Thompson was cleared to return to duty late December 2008 and resumed military training in January 2009.

Although ACL rehabilitation protocols vary in regards to return to athletic activities, it has been suggested in recent literature that return to pre-injury athletic activities should no longer be based purely on time restraints and should be individualized. PVT Thompson is an example of a soldier-athlete who successfully expedited return to daily activities and training.

ACL Injury Prevention Programs

Many factors have been proposed as potential causes of non-contact ACL injuries. These include, but are not limited to,

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a lack of control in inward and outward muscle forces crossing the knee, hamstring weakness, delay in hamstring activation, decreased co-contraction of the quadriceps and hamstrings, muscle fatigue, reduced gastrocnemius strength or recruitment, and reduced efficiency of ankle and hip balance strategies.

In the military, a soldier's level of physical fitness directly impacts combat readiness. Ruptures of the ACL are common with an arduous course of rehabilitation required for full recovery. Our ability to understand ACL injuries, surgical procedures, and rehabilitation strategies have improved significantly over the past 25 years. Even with current technology, prevention and injury awareness remains the best strategy. Rehabilitation from ACL reconstruction surgery varies from 6 to 12 months, having a significant impact on the fighting force. ACL injury

prevention strategies include well-balanced physical training programs, sports education, risk management, and bracing. Incorporating injury prevention education into physical training programs is recommended and advantageous.

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Integrating Effective Electronic Warfare into Battalion/Squadron Operations

by Major Bryan Kitchin, U.S. Air Force

Author's note: *In this article, the terms "nonlethal fires/effects" and "nonkinetic effects" are used interchangeably to describe radio frequency jamming (electronic attack) primarily executed by airborne assets. The author generalizes some concepts and descriptions to maintain the proper classification level for this publication.*

During Operations Iraqi and Enduring Freedom, coalition forces continue to disrupt adversary operations by employing components of airborne electronic warfare (EW). Many times, ground commanders must reject traditional kinetic courses of action (COA), due to lack of positive enemy identification or collateral damage risk, in favor of nonkinetic effects. Because they find it difficult to observe, orient, decide, and act based on lack of information concerning the enemy's physical movement, today's battalion and squadron commanders must place increased importance on exploiting, controlling, and manipulating *information routes of travel*. Their ability to understand enemy *information routes of travel* leads to identifying key command and control (C2) nodes to determine critical vulnerabilities and provides a glimpse into the adversary's playbook to successfully plan and execute future offensive operations.

EW Operations: Vetted/Advocated/Doctrine

This article primarily focuses on offensive operations bound by a scenario in which the battalion/squadron area of operations (AO) affords a moderate to high degree of space and time. This is not to say integrated nonlethal fires would not contribute to successful operations in a more geographically constricted, urban-type environment, but time and space allow a greater degree of electromagnetic (EM) spectrum deconfliction, exploitation, and manipulation, all at a decreased risk to blue force C2.

Although current guidance states EW integration is not planned or executed below brigade/regiment levels, battalion/squadron commanders should take advantage of current capabilities and guide their S3s to push for more tactical EW integration to more effectively achieve brigade/regiment commanders' operational objectives.[1] Nonlethal fires, either synchronized with lethal fires or integrated with maneuver elements, act as force multipliers and provide significant contributions to both offensive and/or defensive operations.[2] Comparing EW effects to more traditional land-based mission types, such as scouting, screening, and blocking, may remove the veil of mystery and uncertainty surrounding EW integration into ground operations.

EW Operations for Scouting

Battalion/squadron commanders can effectively use EW's electronic warfare support (ES) component as an airborne scout reconnoitering adversary *information routes of travel*. ES missions differ from traditional signal intelligence (SIG-INT) missions primarily due to the time-critical nature and immediate purpose of the information disseminated from the airborne asset(s) to the intended recipients.[3] Current airborne ES platforms, such as the U.S. Air Force RC-135V/W (Rivet Joint) or the U.S. Navy EP-3E (Aries II), offer a deeper, wider look into the battlespace and are significantly less hindered by terrain than ground-based systems. True, if one were to research these platforms, the word "reconnaissance" would be prevalent, but as reconnaissance is primarily an S2 task, battalion/squadron commanders should not be so quick to dismiss the capabilities these platforms bring as an S3 enabler. Operational commanders task ES missions; S3s lead planning and ensure full integration and support across the staff.[4] Tasking these assets to provide tactical-level data on adversary *information routes of travel* effectively enables commanders to gain a clearer picture of enemy command, control, and communications (C3) to conduct more decisive offensive operations by penetrating and operating inside the enemy's observation-orientation-decision-action (OODA) loop; and commanders gain the ability to identify both centers of gravity and critical vulnerabilities in the adversary's organizational structure.[5] Integrated ES allows commanders to map out key enemy nodes or points of information departure, as well as primary, secondary, and sometimes tertiary *information avenues of movement*. Near-real-time (NRT) tactical reports find, fix, and aid in tracking adversary activity.

The most tangible ES effect on battalion/squadron operations is direct support to maneuver elements conducting (primarily) mounted patrols. Given the right plan and proper coordination, theater-level airborne ES assets can readily provide direct-threat warning down to the platoon level by exploiting the adversary *information routes of travel*. Additionally, they can simultaneously provide the same data to the tactical operations center (TOC) where the information could be used to re-task other maneuver elements to support, launch a quick-reaction force (QRF), or dynamically re-role other airborne assets in the area for further observation or a kinetic response.

To ensure optimal ES to offensive maneuver operations, planners should provide ES platform units basic information,

either directly or indirectly, which includes mission objectives, timing and routing (enhanced by graphics products), the operating communications plan (frequencies, call signs, and crypto), and reporting criteria. Armed with this basic information, ES platform aircrews can deliver timely and tactically relevant threat-warning information directly to the headsets of mounted troopers on the ground.

When executed alone, ES to maneuver elements provides commanders a deep-looking scout who dominates the high ground and can rapidly locate the enemy, reports his use of the EM spectrum, and maps his *information routes of travel*.[6] However, when paired with electronic attack (EA) asset capabilities, ES becomes the key piece in integrating nonlethal fires into battalion/squadron operations. Optimally, ES and EA assets would be packaged together in a hunter-killer type of combination. Operators in the U.S. Air Force EW community commonly term this interaction as "ES to EA." These assets continually train tactics, techniques, and procedures (TTP) to find, fix, track, target, and engage targets up and down portions of the EM spectrum.

EW Operations for Screening

Air Force doctrine emphasizes properly constructed force packages that include EW, which enhances the probability of survival of all forces.[7] While stated in the context of airborne forces facing advanced enemy air defense systems, Army battalion/squadron commanders would benefit by including EW in their operations in and around an undefined enemy battlespace. Applying EW for a screening effect, just as ground commanders have employed the cavalry arm for centuries, significantly increases blue force survival by denying the effectiveness of enemy forward observers, thereby disrupting enemy early warning networks.

By effectively coordinating with the S2, the battalion/squadron S3 can effectively determine key adversary communications nodes used in early warning networks in a particular AO. By integrating synchronized EW into maneuver operations, enemy information flow from forward observer(s) to attack element(s) will either be severely degraded or denied altogether. Airborne EA assets will employ nonlethal fires on a target at a predetermined time, in response to enemy "on air" activity, or by direct communications with the supported maneuver element.

Two factors should be considered when determining the point at which nonlethal fires will be employed: the adversary's assessed communications network complexity; and the adversary's ability to direction find (DF) blue force communications. The risk associated with predetermined timing is that it relies on rigid adherence to the mission timeline, which could be affected by numerous delaying factors. Applying nonlethal effects based on enemy "on air" activity may prove to be too little, too late, where as just a simple mike click or key tone of a hand-held telecommunications device may actually convey all the information needed for enemy attack element(s) to engage blue forces. In the current fight, the direct communications between the supported maneuver element and airborne EA assets would be the most effective way to ensure nonlethal fires are delivered on time and on target. In a major combat operation (MCO) scenario, however, this method may not be ideal because the adversary will most likely have sophisticated DF capabilities, which would aid in finding, fixing, and engaging blue forces.

EW Operations for Blocking

Battalion/squadron commanders should look to integrating EW if they intend to deny, degrade, or disrupt enemy informa-

The USAF EC-130H Compass Call provides ground commanders a high powered broad area or spot location, multi-frequency airborne electronic attack option. Longer on-station durations afford battalion/squadron commanders persistent electromagnetic screening or blocking effects for multiple maneuver elements within the AO.

tion flow across portions of the EM spectrum. Combining ES and EA to limit, or totally block, enemy information transfer is essentially the same as posting a forward ground-based scout element and positioning a heavier blocking force along key routes of travel. The scout element relays key data of the oncoming enemy to the blocking force who, in turn, engages the enemy to prevent further movement. Using ES assets to find and fix key enemy frequencies, then rapidly passing them off to EA assets for targeting and engagement, will, at best, shut down enemy information transfer by denying information reception. The true blocking effect is gained through the enemy's inability to receive information, up or down echelon, leading to disruption of the enemy's C3 network. This disruption causes confusion and degrades the adversary's ability to act on transmitted information, leading to critical delays in execution. It affords maneuver elements the advantage of conducting controlled, coordinated, and decisive operations with a lesser degree of risk.

Using EW for blocking effects is not an "all or nothing" affair. Prior coordination between the S2, S3, and S6 shape mission objectives that determine what enemy information is allowed to pass or, in simpler terms, what frequencies would not be targeted for engagement. For preplanned EW blocking effects, the battalion/squadron would formally run these requests up the chain to place identified frequencies of interest on the theater joint restricted frequency list (JRFL).[8] However, ES and EA assets typically assume any frequency not on the JRFL is cleared "hot" to engage, provided existing rules of engagement (ROE) have been satisfied.

In the event of a dynamic targeting scenario, direct communications with supporting ES and/or EA assets provide a close air support-like effect. ES and EA assets can rapidly respond to immediate requests by shifting sensors and adjusting nonlethal fires in response to details provided by maneuver elements. This may be in response to an enemy ambush on friendly forces beginning when the maneuver element transmits a contact report.

Typically, the airborne ES asset will reprioritize and retask its sensors to the reported location and scout for enemy "over the air" activity. If conditions are met, the ES asset quickly passes targeting information to the EA asset for immediate engagement. Close coordination between sensor and shooter, as well as the supported maneuver element, allows instant feedback on success or failure of intended effects and quickly provides for necessary adjustments.[9] Furthermore, this hunter-killer team will seek to target second-order enemy EM activity to disrupt any organized enemy reinforcement or undo a well-planned enemy withdrawal or retreat. A crucial third-order effect would be the airborne ES and EA platforms' ability to deliver on-time, on-target, nonkinetic effects to prevent an organized enemy counterattack.

The U.S. Air Force, Navy, and Marines continue to deliver nonkinetic effects by airborne platforms to the supported ground commander's scheme of maneuver. EW serves as a critical enabler in most, if not all, offensive operations. When translated into more familiar mission types, such as scouting, blocking, and screening, battalion/squadron commanders may be more inclined to request certain types of EW effects to increase the chances of mission success and reduce risk to soldiers conducting ground-based operations. As stated earlier, an effective EW campaign is most likely achieved when the AO affords time and space. Integrating EW in a more constricted AO requires quite a bit more coordination and acceptance of risk to blue force communications. Battalion/squadron commanders should embrace both electronic warfare support and electronic attack, and strive to integrate and synchronize them into operations.

Notes

[1]Headquarters, Department of the Army (HQDA), U.S. Army Field Manual (FM) 3-13, *Information Operations: Doctrine, Tactics, Techniques, and Procedures,* Government Printing Office (GPO), Washington, DC, 28 November 2003, p. 1-15 (Figure 1-2).

[2]Ibid., p. 2-8, paragraph 2-27.

[3]Chairman, Joint Chiefs of Staff (JCS), Joint Publication (JP) 3-13.1, *Electronic Warfare,* GPO, Washington, DC, 25 January 2007, p. I-11, paragraph 10. See also HQDA, FM 3-36, *Electronic Warfare in Operations,* GPO, Washington, DC, 25 February 2009, p. 4-18, paragraph 4-73.

[4]FM 3-36, *Electronic Warfare in Operations,* p. 4-15, paragraph 4-50. Although this particular paragraph provided guidance on synchronizing intelligence, surveillance, and reconnaissance (ISR) with EW operations, the fact that S3 should ensure full integration across the staff is required for effective ES integration. ES asset capabilities should not be seen as a particular directorate's tool (S2 in particular) not meant for use by other staff directorates, but should be considered as a total command enabler.

[5]Colonel John Boyd, U.S. Air Force, retired, *Patterns of Conflict,* Briefing, December 1986.

[6]Author's note: The enemy must be "on-air," which means he must be transmitting and pushing data over a frequency for ES assets to identify, locate, and exploit. ES assets have no capability against an enemy who is radio silent.

[7]Headquarters, U.S. Air Force, Air Force Doctrine Document (AFDD) 2-5.1 *Electronic Warfare,* GPO, Washington, DC, 19 November 1999, p. 39.

[8]JP 3-13.1, *Electronic Warfare,* p. II-1.

[9]FM 3-36, *Electronic Warfare in Operations,* p. 4-15, paragraph 4-49.

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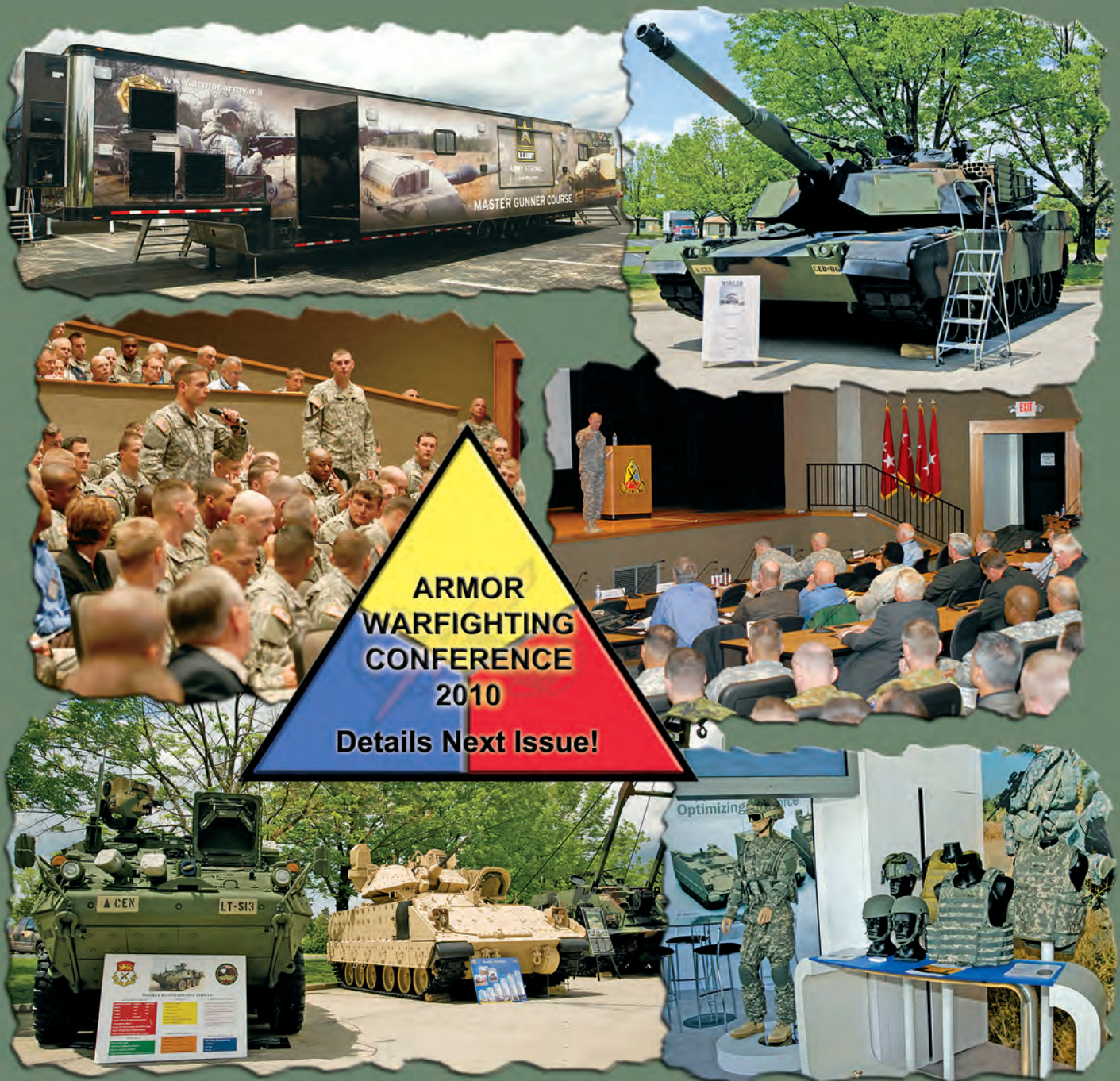
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