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Misinterpretation and Confusion: What is Mission Command and Can the U.S. Army Make it Work?

Donald E. Vandergriff

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AN INSTITUTE OF LAND WARFARE PAPER

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LAND WARFARE PAPER NO. 94, February 2013 Misinterpretation and Confusion: What is Mission Command and Can the U.S. Army Make it Work?

by Donald E. Vandergriff

Donald E. Vandergriff served 24 years of active duty as an enlisted Marine and Army officer. He has authored 60 articles, contributed chapters in three other books and has written four books: Spirit, Blood and Treasure: The American Cost of Battle in the 21st Century (Presidio Press, May 2001), a collection of essays that addresses across-the-board reform of the Department of Defense for the 21st century; Path to Victory: America's Army and the Revolution in Human Affairs (Presidio Press, May 2002), an extensive study of the Army's personnel system and culture, with recommendations for preparing the Army for the 21st century; Raising the Bar: Creating and Nurturing Adaptability to Deal with the Changing Face of War (Center for Defense Information, December 2006), which is currently being used in numerous courses, including in the Department of Military Instruction at the United States Military Academy at West Point; and Manning the Legions of the United States and Finding Tomorrow's Centurions (Praeger, October 2008), an excerpt of which was, in July 2008, sent by Army Chief of Staff General George W. Casey, Jr., to all two-star generals as a recommendation for best practices on how to develop Soldiers. From 2005 to January 2013, Vandergriff was a senior analyst in leader and Soldier development as a contractor in support to U.S. Army Training and Doctrine Command's Army Capabilities Integration Center (Forward) in Crystal City, Virginia. He is deploying to Afghanistan in February 2013 to work for Dyncorp International as a trainer and mentor.

This paper represents the opinions of the author and should not be taken to represent the views of the Department of the Army, the Department of Defense, the United States government, the Institute of Land Warfare or the Association of the United States Army or its members.

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Foreword

In discussing the complexities and nuances of the understanding of Mission Command, the author brings his readers through a historical survey of the development of the military theory behind this term, highlighting specific examples of particular battles and notable military leaders to elucidate instances of Mission Command both in its failures and in its successes. It is rooted in the German idea of *Auftragstaktik*, which implies that once all understand the intentions of their commanders, they are responsible for using their creativity and initiative to adapt to changing circumstances and accomplish their missions within the guidelines of those initial intentions.

The current force structure and personnel system of our Army are largely legacies of the 20th century, although certain elements of both can be traced back to the Civil War and the Napoleonic era. With the onset of increasingly advanced communications technology, the everpresent tendency for senior officers to micro-manage their subordinates—rather than trusting them to accomplish a mission using guidelines and their own intelligence—will be increasingly difficult to avoid. The question arises: Can the Army integrate the latest 21st century information technologies adhering to the philosophy of Mission Command while its personnel system and force structure remain in the 20th century? Through his historical review, the author demonstrates that this cannot be done without seriously examining changes to Army force structure, education and personnel system.

Outcomes-Based Training and Education (OBT&E), currently being implemented in several Centers of Excellence across the Army, provides a solution for how best to teach Mission Command in our 21st century world. According to this author, OBT&E will allow the Army to take the time it needs to reform its personnel system and force structure and also to support Mission Command more adequately, enabling our next generation of Soldiers and leaders with the education necessary to successfully operate in Mission Command.

Gordon R. Sullivan

General, U.S. Army Retired

President, Association of the United States Army

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Misinterpretation and Confusion: What is Mission Command and Can the U.S. Army Make it Work?

Introduction

The emphasis of Training and Doctrine Command Pamphlet 525-3-0, *The Army Capstone Concept: Operational Adaptability—Operating Under Conditions of Uncertainty and Complexity in an Era of Persistent Conflict*¹ discusses evolving toward the practice and culture of Mission Command. The essence of this approach is to ensure that the Army leads through *Auftragstaktik*, a German word that implies that once everyone understands the commanders' intent (two levels up), then people are free to and indeed duty-bound to use their creativity and initiative to accomplish their missions within the intent, adapting to changing circumstances.

Emerging at the same time at an accelerated pace are command and control networks, which already have placed up-to-date tactical information in the hands of squad leaders, while several layers of higher command maintain overwatch. At any level the urge will always remain for the senior officer to micro-manage his subordinate, particularly given the legacies of the Army's culture. Contemporary force structures (hardware and organizations), as well as operational doctrines (ideas, style of war and traditions) are largely legacies of events over the entire 20th century, although one can discern influences reaching back to the Civil War and the Napoleonic era. The assumptions underpinning the Army's force structure, the personnel system and how the Army recruits and develops its enlisted Soldiers and accesses commissioned officers, on the other hand, extend back to the late 18th century, beginning with the widespread fear of a standing army held by the framers of the Constitution.

The question arises: Can the Army integrate the latest 21st century information technologies adhering to the philosophy of Mission Command while its personnel system and force structure remain in the 20th century? An analysis of the how the German army instituted the doctrine of *Auftragstaktik* through their professional military education (PME), as well as through widespread practice in their culture during peace and war, provides insights for the U.S. Army as it takes on this incredibly complex problem. The Germans aligned their leader development with *Auftragstaktik*; thus, future applications of technology to their system only enhanced *Auftragstaktik*. The review of history will find that the U.S. Army cannot successfully integrate the latest command and control technology with the philosophy of Mission Command without seriously examining changes to its force structure, education and personnel system.

A solution to how to implement Mission Command—Outcomes-Based Training and Education (OBT&E)—is already occurring. OBT&E is being implemented at several Centers of Excellence across the Army. As Army G3 Lieutenant General Daniel P. Bolger stated in August 2011, "OBT&E best supports Mission Command." Implementing OBT&E now will allow the Army to take the time it needs to reform its personnel system and force structure to better support Mission Command while developing the next generation of Soldiers and leaders to operate in Mission Command.

It is impossible to calculate all the factors in advance; some things one must leave to chance. He who is worried about everything will achieve nothing; however, he who is worried about nothing deludes himself.²

Is Mission Command yet another buzzword to be spread liberally on PowerPoint® presentations? Who really knows what it is going to take to change Army institutions to fully implement the true meaning of Mission Command?

We must understand what causes us to comply, even today, with the Anglo-American method of central, hierarchical planning and tight control cycles ("red tape") that cause mistrust, while maintaining a centralized personnel system that causes undue competition between officers and noncommissioned officers, when trust is needed. This, of course, also influenced the manner in which strategic planning developed in U.S. corporations and the Allied armies over a hundred years ago in the Industrial Age, but still lays the foundation for our culture today. This kind of planning can be applied in a stable environment. But war is turbulent and this form of bureaucratic, strategic long-term planning is inadequate to counter the often fast and unpredictable changes in the environment.³

First the Prussian and then the German military began their cultural movement toward what we know as Mission Command, which they eventually called *Auftragstaktik*. At the Battle of Jena in October 1806, Napoleon achieved an incredible victory over the Prussians, destroying their army and overrunning their country in six weeks. By 1809, the great Prussian reformer Gerhard von Scharnhorst had come to the conclusion that the commanders behind the battlefield, due to the "fog of war," were unable to obtain an accurate view of what was really happening at the front and in the chaos of combat. Those who knew what was actually happening were the subordinate commanders and officers in the field.⁴

As a battle is always plagued by uncertainties and characterized by unforeseen situations, the Prussians tried to find a concept of planning—a culture of command—that would ensure flexibility. This system should ensure that commanders in the field would react quickly to the situation at hand and take the initiative independently, without first consulting higher command to exploit an unexpected favorable situation or respond immediately to an unfavorable development. The result of this requirement was *Auftragstaktik*, what we call Mission Command.⁵

The Prussians institutionalized it in 1870, on the verge of the Franco-Prussian War, after years of experimentation; while the word itself did not appear until the manual of 1888, the practice of *Auftragstaktik* had evolved almost a hundred years earlier. *Auftragstaktik* is not only about delegating decisions to subordinate commanders; it implies a whole set of measures that have to have been developed during the implementation of this concept. In fact, it required the whole German army to be reorganized, a process comparable to reengineering the U.S. Army today if we were truly to practice Mission Command. Applying *Auftragstaktik* meant that the overall commander would formulate the broad goals that had to be achieved by the officers in the field,

who would be given a relatively large amount of latitude for the manner in which the desired goals were to be achieved. In other words, the goals were known, what had to be achieved (the outcome) was known, but how they should be achieved was left to the subordinate commanders.

This system of command and its closely related doctrine are a far cry from the rigid, hierarchical and bureaucratic *Befehlstaktik*, the centralized/top-down command of today. This new form of planning and its command doctrine were perfected by von Moltke the Elder, who in the 19th century embedded it deeply into the organization of the German army. Integrating technological advances (such as the telegraph and, during World War II, the radio) along with their instillment of *Auftragstaktik*, the Germans were able to strengthen their military effectiveness.⁶

Two questions are addressed here: First, can the U.S. Army integrate the latest in command and control technology with the recurring concept of Mission Command while freeing itself from its legacy of over-control? Second, how can the U.S. Army revolutionize its leader development in order for its leaders to grasp and perform under a culture that embodies Mission Command?⁷ Answering the second question through a revolution in professional military education will also provide an answer to the first question.

What are Auftgrastaktik and Mission Command?

The idea of *Auftragstaktik* originated with Frederick the Great. He repeatedly chastised his seasoned and experienced regimental commanders for not taking independent action when they saw it was necessary. Such a request was unheard of on the rigid battlefields of the 18th century. Because all Prussian/German commanders were great admirers of Frederick the Great, they brought along most of his teachings. But the leadership became so enamored of past successes under Frederick that they ignored the revolutionary changes to warfare that France was making, predominately involving decentralization at the operational level and combined arms at the tactical level.⁸

With the defeat at Jena-Auerstedt at the Battle of Jena, several reformers took notice and began the necessary changes to the culture. Gerhard von Scharnhorst was the first to focus on the development of leaders in the art of war. The reforms after 1806 were more about a flexible army structure and the development of light units than about command reform. With the light units necessarily came the need for a greater independency of command, but there is no codification of *Auftragstaktik* in the writings of Scharnhorst and Prussian field marshal August von Gneisenau. On the development of Jena Prussian field marshal August von Gneisenau.

By 1860, the Army had taken up the practice of trust through strenuously selecting and rigorously developing subordinates. In 1860, Prince Frederick of Prussia described the character of the Prussian army: "[A]n unusual desire for freedom from above and a desire for responsibility, unlike any other Army, has developed in the Army, supporting the ingenuity of the individual in full measure; hold the reins more loosely, and support every success." The concept prevailed during the wars of 1866 and 1870.

During the 1866 Koniggratz campaign, it was demanded of each soldier that he make use of his initiative first and foremost. If a leader was unsure whether to intervene in the battle or follow his initial—now conflicting—orders, the military culture recommended in most cases the former, as the opportunity for a tactical victory overshadows all other considerations. To allow subordinates more initiative, the 1888 *Exerzierreglement für die Infanterie* (Drill Instructions for the Infantry) called for higher headquarters to issue orders only when necessary.

The first person to use the term *Auftragstaktik* was Moltke the Elder. Author Jörg Muth wrote in his 2011 book *Command Culture*,

Knowing the superiors' intentions, however, is a prerequisite for the successful employment of the famous *Auftragstaktik*, a cornerstone of the German military culture. . . . Moltke the Elder is one of the earliest proponents of this revolutionary concept. As early as 1858, he remarked at the annual great general staff wargames, which were traditionally held in a different part of Germany every year, that "as a rule an order should contain only what the subordinate for the achievement of his goals cannot determine on his own." ¹²

Moltke and his pupils promoted the system, but it was not institutionalized until written down in the Army Manual of 1888, the same year Moltke retired. Yet the cultural foundation, a result of intellectual rigor, had been set. This allowed for changes in other institutions to enhance Mission Command as they were developed to deal with the changing face of war.¹³

How the United States Interprets Auftragstaktik into Mission Command

Since the 1870s, when the U.S. Army sent General Philip Sheridan and Lieutenant Colonel Emory Upton to study the Prussians—along with the other armies of Europe and Asia—the U.S. Army, like many others, has tried and failed to understand and apply the meaning of *Auftragstaktik* to its own culture. Muth writes,

Auftragstaktik. The word sounds cool even when mangled by an American tongue. What it means, however, has always been elusive to Americans. The problematic translation of that core German military word into mission type orders completely distorts its meaning. *Auftragstaktik* does not denote a certain style of giving orders or a certain way of phrasing them; it is a whole command philosophy.¹⁴

Others have been just as critical of the continual attempts and failures of the U.S. Army to adapt *Auftragstaktik*. Dr. Daniel J. Hughes remarks on the cultural reason that the U.S. Army has failed to implement it:

One prominent example of the failure to understand German terms and concepts is the term *Auftragstaktik*. This was not a basic word used by the old Prussian army or the German army of World War II. It has no meaning when rendered as "mission-type order."¹⁵

In contrast, the U.S. Army continues to worship at the technological and management science altar by combining Mission Command with emerging communications technology, as if one will not work without the other, or simply and constantly saying that this combination will somehow magically work and that the harder decisions about aligning the force structure, providing the necessary training, education and personnel system can be avoided:

Network enabled mission command will require an institutional culture that fosters trust among commanders, encourages initiative and expects leaders to take prudent risk and make decisions based on incomplete information. Network enabled mission command will also require commanders, staffs, and logisticians who understand the complexities of the emerging operational environment, as well as the highly-integrated joint, multinational and interagency characteristics of full-spectrum operations. ¹⁶

Thus, Mission Command, as it did in the 1980s, is becoming a method of orders and control rather than a cultural philosophy that can greatly enhance a leader's ability to make rapid and

sound decisions without waiting for permission. Additionally, examinations of the recently released Army Doctrine Reference Publication (ADRP) 6-0 and Army Doctrine Publication (ADP) 6-0—both titled *Mission Command* and both released in May 2012—reveal no "how to" in implementing Mission Command, no use of case studies, no examples of good and bad command cultures. Instead, the doctrinal manuals are filled with theories, philosophies and charts on how the U.S. Army interprets Mission Command. No one at any level of the Army has conducted the difficult analysis of how Mission Command would be implemented across the operational and, more important, the institutional or generating forces. Implementing Mission Command as a powerful combat multiplier must begin at the top and filter down by example to all ranks, military as well as civilian.¹⁷

But confusion reigns. In May 2012, while attending the Training and Doctrine Command (TRADOC) Army Learning Model conference, several senior leaders were asked by the audience how Mission Command would be practiced by TRADOC and the institutional Army. The responses ranged from, "I will refer this to others to answer," to "We cannot have seven different courses doing seven different things; we must standardize." The audience then asked, "Why does it matter as long as your outcome for that course is met, and they operate under the resource parameters you put them under?" Other senior leaders answered, "We will bring in commanders that are good at it [Mission Command] from the operational Army to be in charge of our Centers of Excellence." 18

Yet, there is hope. Chairman of the Joint Chiefs of Staffs (CJCS) General Martin E. Dempsey's April 2012 "Mission Command: A White Paper" expresses the need to train and educate officers to operate under Mission Command on two pages of a seven-page document, which is more than any official Army *or* Department of Defense document has said on the subject since Mission Command was introduced in the 1982 U.S. Army Field Manual 100-5, *Operations*. Yet, as a high-level document should, the CJCS paper provides a well-versed concept without going into great detail on how subordinates should meet the intent of preparing leaders to operate in Mission Command. For the U.S. Army and the Department of Defense to effectively implement Mission Command, the drive must come from the top and the bottom. General Dempsey's paper is a good start for the top-down implementation of the concept.¹⁹

Mission Command is more than a method of control; it is a cultural philosophy that demands the highest in professionalism. The way the institutional Army practices through top-down control, endless regulations and inspections focused on inputs rather than outcomes, is in contrast to what is needed to practice Mission Command: rigorously selected, highly competent leaders with the strength of character to stand by their decisions regardless of the career consequences. The personnel system is the biggest contrast to what Mission Command needs to succeed.²⁰

Rhetoric Does Not Match Reality²¹

While the quote from the 2009 Capstone Concept mentions the importance of "institutional culture" in the embracing of Mission Command, the Army culture is dominated by a personnel system that runs on out-of-date assumptions and facts. The regulations, policies and laws that guide the personnel system impact all behavior throughout the Army. Personnel bureaucrats fight the wars of today with practices from the past.²²

Little has changed since Vietnam. While the names of key players are different, the substance of their policies is not. As Jörg Muth recently wrote in reference to the 3d Infantry Division's 5 April 2003 "Thunder Run" into Baghdad:

The episode shows a command culture that has only gradually evolved from the days of World War II. While the technical knowledge of today's U.S. Army officers is far superior to that of their predecessors, their leadership capabilities are not. There are exceptions as some of the aggressive officers of the 3rd Infantry Division have demonstrated. Before the second Thunder Run, [Colonel David] Perkins outlined for his officers which decisions were his to make and which ones they could make. That is as close as the U.S. Army has ever come to *Auftragstaktik*, but Perkins has proven to be an exceptional officer. This most effective and democratic of all command philosophies has, 120 years after its invention, been studied but not yet understood nor yet found a home in the armed forces of the most democratic of all nations.²³

As a retired command sergeant major who spent his career in special operations stated, "Soldiers succeed in spite of the system, not because of it."²⁴

For example, standards in officer accessions (how we prepare individuals to become officers), leader development, promotions and attendance to military and civilian education opportunities were recently lowered to meet the need for "bodies" or "spare parts." Despite lessons that ought to have been learned from the mistakes made in the personnel arena during World War II, Korea and Vietnam, these mistakes were repeated during the past 10 years due to being fenced by legacies of the past. In 2010, the Defense Science Board report on the personnel system concluded that the Defense Officer Personnel Management Act (DOPMA) [with "up or out" as its centerpiece] and other policies and regulations "have the effect today of inhibiting the Department's flexibility and adaptability." ²⁵

A 2011 Secretary of the Army Human Dimension Task Force found that the Army's solution was to balance input with output by pumping up the input, in this case by beginning to demand more from accession sources, raising the percentage of Soldiers who just made major, considering cutting down pin-on time to major, and, one of the worst decisions, sending lieutenants to a combat zone without going to Ranger school in order to fill "lieutenant slots" in battalions deploying to an insurgency war. In short, despite past evidence of its weaknesses, the conveyor-belt method of mass production of Soldiers and officers ensures only that the quantity of servicemembers remains high; their quality, on the other hand, is compromised by the inadequacies present in these current methods of educating them.²⁶

This leads the Army to do two things that undermine its ability to practice Mission Command. Today, and in the future, asking lieutenants to make decisions with strategic implications, while decreasing their development opportunities and the time available to learn the soldierly arts at the small unit level, is a recipe for disaster. However, we continue to move them along this conveyer belt.²⁷

For the past 10 years, the Army's solution has been to increase the size of the bilge pump rather than to plug the hole that is sinking the ship. Why is this happening in the 21st century?

The Army still views the management of its people through the tired old eyes of Secretary of War Elihu Root and turn-of-the-century industrial theorist Frederick Taylor. This was further impacted by the institutionalization of management science by Secretary of Defense Robert McNamara in the 1960s.²⁸

In recent years, the Army has retained officers by promoting them, trying to solve a structural problem by bribing people to stay, hoping that the positive incentive of faster promotions could buy their loyalty, patriotism and the moral strength to go into harm's way. Yet this kind

of appeal to self-interest is precisely the kind of policy that has failed repeatedly in the past and will actually increase the exodus of our "best and brightest" young people, thus jeopardizing the Army's future. It is based on the dehumanizing assumption that our officers (and noncommissioned officers) are mindless, undifferentiated, replaceable cogs in a machine. This implies that any body of a certain rank will do—so much for highly developed professionals.²⁹

A little history will help us understand where this hidden assumption came from. In 1899, President McKinley picked Elihu Root as Secretary of War to bring "modern business practices" to the "backward" War Department. Root was a highly intelligent lawyer specializing in corporate affairs. He acted as counsel to banks, railroads and some of the great financiers of that era. Root's approach to reforming the American military was to insert the ideas of management science then in vogue into the Army's ossified decisionmaking process. He wanted the Army to run like a modern large corporation (sound familiar?). To this end, Root took Progressive ideas in personnel management—ideas such as social Darwinism—and applied them to the Army's personnel management. This approach should not be surprising. Root was a product of the big corporations that dominated the Progressive Era and would soon dominate the U.S. government. Root was also a disciple of the management theories propounded by Frederick Taylor. He believed that Taylor's theories could be used to make the military more efficient. Taylor.

Fredrick Taylor is one of the intellectual fathers of the modern industrial production system. Perhaps his greatest contribution to production efficiency was to break down complex production tasks into a sequence of simple, standardized steps. This permitted him to design a standardized mass-production line around a management system that classified work into standard tasks and workers into standard specialties. This combination established work standards, and the people who were trained to these standards became interchangeable cogs in the machine. This greatly simplified personnel management in a vast industrial enterprise.³³

To be sure, Taylorism transformed industrial production, but it also had a dark side: Taylorism treated people as unthinking cogs in a machine. By necessity, these people had to accept a social system based on a coercive pattern of dominance and subordinance and centralized control from the top. Every action and every decision made in the organization was spelled out in the name of efficiency. In theory, the entire regimen flowed from the brain of one individual at the top of the hierarchy.³⁴

A complimentary management dogma also emerged during the Progressive Era. This was the theory of "Ethical Egoism," which asserted that all people are motivated solely by self-interest. By extension, all people would respond predictably to a variety of positive incentives (money, pleasure, advancement, distinction, power, luxurious prestige goods and amenities) or negative incentives (which took the primary form of a fear of losing the positive benefits, but also of outright punishment and pain). Easier accessions, faster promotions, no obligation to attend professional courses and quicker pay raises are fully consistent with this theory of human behavior.

Taken together, the idea that people are interchangeable cogs in a machine and the idea that self-interest is the only significant motivator of behavior help explain why the Army thinks that increasing its "production" of lieutenants, cutting out necessary training for young leaders and reducing the promotion time to major will solve its statistical readiness issues with deploying units, meet near-term requirements mandated by the Army and Congress for field grades and solve potential retention problems.

The ideas of Taylor and Root dominated management science and War Department circles a century ago, but their ghosts are haunting the Army's Human Resources Command and the Deputy Chief of Staff for Personnel (DCSPER) staff. Moreover, the ghosts of Taylor and Root will continue to haunt the Army's personnel managers as long as Congress shows no interest in rooting out the causes of our personnel crisis.

But Congress and the press are blinded by the sterile promises of another techno-centric analogy—the Air-Sea Battle ("Revolution in Military Affairs on steroids")—which is based on the idea that war is a mechanistic process and that machines are the true source of military prowess as U.S. opponents stand in the open all day and let us kill them. It was with this belief that the Army went to war with Iraq. As soon as the troops were out of Iraq and starting to pull out of Afghanistan, the Air-Sea Battle, the specter of Root and Taylor, began to haunt the Pentagon once again.

There are dangers of reasoning by analogy. Used properly, analogies are powerful reasoning devices because they unleash the genius of imagination and creativity, Einstein's thought experiments being cases in point. But analogies are also very dangerous, because they simplify complex problems and capture our imaginations. Used improperly, they shackle the mind and take it over the edge of the cliff. Believing that the Army is like a business, or that good business practices will solve military problems, are examples of misplaced and dangerous analogies. Effective business practices are often very different from effective military practices such as Mission Command. This is particularly true in the area of personnel policies, where the idea of soldierly virtue embodies the ethos of self-sacrifice and where, as Napoleon said, the moral is to the material as three to one. Numerous studies over the years have pointed out these issues with the American way of war. In 2011, Eitan Shimar stated in *Transforming Command: The Pursuit of Mission Command in the U.S., British, and Israeli Armies*,

The American approach [to war] was influenced by Frederick Taylor's principles of scientific management. They sought to control war through efficient planning and execution processes. Thus, for example, the regulations emphasized loyalty as opposed to independent action.³⁷

Army Chief of Staff General Raymond Odierno and Chairman of the Joints Chief of Staff General Martin Dempsey have endorsed a belief in Mission Command and Leader Development as their top priorities. To succeed, they must also boldly take on the personnel bureaucrats to undertake the necessary reforms in regulations and work with Congress to change laws such as DOPMA 1980. To make Mission Command a powerful combat multiplier, they must exorcise the ghosts of Root and Taylor from Human Resources Command and the staffs of DCSPER and U.S. Army Training and Doctrine Command.

German Integration of the Telegraph and Railroad within Mission Command

Helmuth von Moltke was the crucial figure in late 19th century European warfare. Following the French Revolution and the Napoleonic Wars (1792–1815), technology, such as the telegraph, railroads and new weaponry, grew rapidly and complicated military operations. In particular, offensives became increasingly difficult, as experienced in the Crimean War (1854–56) and the American Civil War (1861–65). This new technology coincided with the dramatic rise of mass armies.³⁸

More than any other individual, Moltke balanced the new technology and mass armies with the unchanging characteristics of war. He guided Prussia to victories over Denmark (1864),

Austria (1866) and France (1870–71). Prussia became the leader of a new, unified German Empire. Moltke's art of war was not based on a strict set of rules but rather followed general outlines that allowed for flexibility. Most important, however, it was practiced by highly developed professionals.³⁹

Moltke was a follower of Carl Maria von Clausewitz, one of the most influential military writers of the modern age. Clausewitz argued that war was too unpredictable to be explained by specific theories. In his book *On War*, he stated that "Everything in war is very simple, but the simplest thing is difficult," and "No other human activity is so continuously or universally bound up with chance." He went on to declare, "War is thus an act of force to compel our enemy to do our will."

Moltke believed that war was too uncertain to be guided by a strict set of rules. He also followed Clausewitz's belief that probabilities would determine each encounter while an army adapted to each circumstance as it arose. Moltke served as chief of the Prussian General Staff from 1857 to 1888. He almost immediately expanded the General Staff's influence, developing it into a permanent, peacetime war planning organization.

To achieve this, he divided the General Staff into several planning divisions. These departments included a Geographical–Statistical Section, a Military History Section and a Mobilization Section. The Geographical–Statistical Section estimated numerous aspects of specific theaters of war. Some items analyzed included cartography, weather charts and opposing armies. The Military History Section studied past campaigns, such as the Seven Years' War (1756–63) and the Franco–Austrian War (1859), distilling important lessons of operational combat.⁴¹

Finally, there was the Mobilization Section, which organized detailed plans for initial deployments of the military in future conflicts. Within this section, a Railway Section was created to prepare timetables for the quick mobilization of troops toward the front lines via railroads. It is interesting to note that while these departments operated under strict timelines and mobilization tables, they did not diminish the impact of *Auftragstaktik* on the culture.

Moltke's consistent use of rapid mobilization was a key ingredient of his art of war. Besides reorganizing the General Staff, Moltke issued a series of guidelines—1869 *Instructions for Large Unit Commander*—for its training. 42 He organized these teachings into maneuvers and free-play force-on-force war games. Maneuvers, which often included entire divisions, involved simulated war exercises on realistic terrain; war games primarily featured theoretical war situations in huge sandboxes. The most important exercise was the annual staff ride. It included both maneuvers and war games and involved intimate contact between the chief umpire and a small group of officers chosen for combat. These games often resulted in promotions and provided strategy for future wars. Since the purpose of maneuvers, war games and staff rides was to form leaders of one mind, these exercises were taken very seriously. A unique characteristic of warfare quickly developed.⁴³

The Prussian General Staff was the first organization to formulate a "common body of military doctrine." Beyond the vast Prussian military reforms, Moltke is historically significant for his great accomplishments as a field commander. Although a Clausewitz disciple, he exhibited definite beliefs on military strategy, operations and tactics. He balanced the strategic offensive with the rise of technology, which usually favored the tactical defensive. Moltke's art of war can be organized into three distinct characteristics: the importance of the *Aufmarsch* (initial

deployment); a preference for the *Kesselschlacht* (cauldron or envelopment battle); and the use of *Auftragstaktik* (mission tactics).

Moltke's first constant in war was *Aufmarsch*, the initial deployment of the army. Efficient orders via the telegraph, as well as proper assemblage of troops, would result in a rapid mobilization of forces. He emphasized that if these demands were not strictly adhered to, the entire campaign could be ruined:

Even the first deployment of the army—assembling the fighting means in readiness—cannot be planned without a previous plan of operations, at least in a very general sketch. One must consider in advance what one intends in the defense, just as for the attack. The first deployment of the army is inseparably connected with the operations themselves. . . . If the views shaping original deployment are incorrect, the work is completely without value. Even a single error in the original assembly of the armies can hardly ever be made good again during the entire course of the campaign.⁴⁴

Moltke's second constant in war was *Kesselschlacht*, the envelopment of the enemy army. Here, he applied his doctrine that preached the strategic offensive and the tactical defensive. Utilizing this formula, one army pinned the enemy in place while another army hit him in the flank and rear:

Another means is to fix the enemy's front with part of our strength and to envelop his flank with the other part. In that case it is necessary for us to remain strong enough opposite the hostile front so as not to be overpowered before the flank attack can become effective. We must also be very active in his front to prevent the opponent from throwing himself with superior numbers on our flank attack.⁴⁵

He stressed that the goal of *Kesselschlacht* was the complete destruction of the enemy army:

Victory alone breaks the will of the enemy and forces him to submit to our will. Neither the possession of a tract of land nor the conquest of a fortified position will suffice. On the contrary, only the destruction of the enemy's fighting power will, as a rule, be decisive. This is therefore the foremost object of operations.⁴⁶

Moltke's third constant in war was the use of *Auftragstaktik*, mission tactics for army officers. The supreme commander gave his subordinate commanders a general mission. The application of these orders was left to the field officers. In other words, Moltke's officers carried out his plan, as general headquarters played a secondary role. He devised a simple plan and then trusted his General Staff, which had undergone vast reforms, by placing well-developed staff officers alongside the large unit commanders to advise them on the higher's intent.

Moltke also stressed that orders must be direct, clear and concise. Otherwise, the main objective might be misunderstood or even forgotten. Moltke stated "strategy is a system of expedients" and "no plan survives contact with the enemy's main body." As Clausewitz had already stated, Moltke understood that war was completely unpredictable. Therefore, planning the entire campaign in immense detail was senseless:

One does well to order no more than is absolutely necessary and to avoid planning beyond the situations one can foresee. These change very rapidly in war. Seldom will orders that anticipate far in advance and in detail succeed completely to execution. This shakes the confidence of the subordinate commander and it gives the units a feeling of uncertainty when things develop differently than what the high command's order had

presumed. Moreover, it must be pointed out that if one orders much, then the important thing that needs to be carried out unconditionally will be carried out only incidentally or not at all because it is obscured by the mass of secondary things and those which are valid only under the circumstances.⁴⁷

The classic example of Moltke's art of war was Prussia's 1866 campaign against Austria. The Austro–Prussian War began in June, and Moltke was eager to mobilize the Prussian army as soon as possible. However, Prussian King Wilhelm I delayed mobilization orders. Wilhelm finally unleashed Moltke on 2 June, empowering him with complete control of Prussian forces. But he was already behind the Austrians, who had begun troop deployment weeks earlier. Fortunately, he had already finished Prussian mobilization plans. Austria had only one railroad leading into Bohemia, the main theater of war, as opposed to Prussia's five. When the demands for efficiency under mobilization ended, the German army began to be effective as German subordinate commanders operated under the philosophy of *Auftragstaktik*.⁴⁸

Consequently, efficiency and effectiveness under *Auftragstaktik* prevailed as Prussia mobilized in three weeks, while Austria took twice as long. On 22 June, Moltke ordered the concentric advance of two Prussian armies into Bohemia. The 2nd Army was commanded by the Crown Prince; the 1st Army was led by Friedrich Karl (the "Red Prince"). Thus began the initial stage of Moltke's planned *Kesselschlacht*. His armies, widely separated by several days' marches, were to converge near the town of Sadowa and link up only during battle. One army, whichever was closest to the Austrians, would pin the enemy in place, while the other was to attack from the flank and rear. In the next two weeks, Prussian armies won a series of engagements and were within a day's march of each other on 2 July.

The 1866 campaign effectively illustrated Moltke's art of war. He solved the problems of mass armies and new technology by formulating a simple yet well constructed plan. In achieving this, he enacted his *Kesselschlacht* doctrine, the ultimate goal of the Prussian army. When the 1866 operations began, Moltke's *Aufmarsch* gave Prussia a tremendous advantage over Austria. Furthermore, he utilized *Auftragstaktik*, allowing his subordinates to carry out his general orders. Most important, his consistent use of flexibility saved the Prussian army from several possible disasters. When all else failed, his iron will thrived amid great adversity.⁴⁹

The best way to summarize Moltke's art of war is Clausewitz's famous dictum: "What genius does is the best rule." Although he emphasized war's uncertainty, Clausewitz believed great commanders could rise above this "fog of war." The past is filled with striking examples, from Alexander in ancient Greece to Napoleon in revolutionary France. Whether Moltke belongs in this tiny, elite group of military geniuses is open to question. In any case, he had undoubtedly placed his mark on the modern German army. However, it remained to be seen if Moltke's successors could duplicate his astonishing victories. This would only be ensured by linking German professional education with the culture of *Auftragstaktik*.⁵⁰

Practicing Mission Command in the Institutional Setting

The best way to implement Mission Command is to examine how others have done it through case studies. Until recently, most historical studies focused on the Prussian and German practice of Mission Command on the battlefield. But emerging today are studies that examine the "peacetime practices" that enabled the Germans to put Mission Command to practice once they went to war. Even the U.S. Army has recently stated in its Field Manual 7-0, *Training*, "If mission command is not practiced in training, leaders will not use it in operations." ⁵¹

Recent examination of how the Germans prepared their leaders and soldiers to execute Mission Command was tied to their personnel and professional education systems and how their institutional side practiced it. All of these institutions had evolved since the reforms of Gerhard von Scharnhorst, which began in 1809. Over a century they evolved together with the emphasis being developing and nurturing leaders of strength of character, of independence, who took and sought responsibility, even took joy in making and standing by decisions.⁵²

The German personnel system was decentralized. Leader development was held as the premier mission of commanders in the German army. Officers were strenuously developed and selected through one of the finest professional education programs in the world. Intensive professional education came first in an officer's career, beginning when he was a new cadet and continuing through the last course he would take as a captain at the *Kriegsacademie*. After that, professional education, though on the shoulders of the individual, was highly encouraged. There was not centralized control of training and education except through guidance from the General Staff and commanders. If leaders needed updating on the latest tactics, techniques and technology, it was left to corps and divisions to set up their own courses to provide notifications to their subordinates about these advances.⁵³

Commanders used staff rides and after-action reviews of free-play force-on-force exercises to further develop their subordinates. Additionally, from the time they were cadets at the military academies throughout their time as junior officers attending army schools, German officers were given time off and then evaluated on their character and conduct during this unsupervised time. Conduct off duty was as important as performance on duty. One cannot determine a leader's potential to innovate, problem solve or make decisions if he is completely controlled in his professional educational environment, be it on or off duty.⁵⁴

Another way to practice Mission Command on the institutional side was to keep written correspondence as concise and short as possible. This began in the education of officer cadets. Examinations were used to screen candidates as they advanced from different levels of cadet through lieutenant and then to captain. Examinations centered around tactical problems that put the cadet and junior officers in roles of responsibility two to three levels above their current position. For example, the German cadet or lieutenant would be given a regimental problem to solve, but the solution had to be expressed in the form of written orders as concise as possible, one page being preferred, with no school solutions on which to base their prior knowledge. Their problem-solving ability had been developed through numerous map and staff exercises and an exhaustive study of military history.⁵⁵

Another example is how the Germans approached and evaluated training. In 1888, records indicate that German army guidance on training was based on principles and outcomes. A German cavalry squadron was expected to do certain tasks, expressed in German army training guidance: attack, defend, screen and conduct reconnaissance. The guidance expressed how the desired outcome of success was defined, but determining how best to train to this was left to the squadron and regimental commanders within the parameters of their resources, also given to them by the German army. Each commander could deviate from the other squadrons as long as he adhered to the principles (or outcomes) of the General Staff and his commanders. ⁵⁶

When members of the General Staff later inspected the performance of the seven different squadrons in free-play force-on-force maneuvers, six succeeded and one failed. The German army took actions by relieving the failed officers and promoting the most successful commanders from the exercise. This example is just one of thousands of how the Germans applied

Auftragstaktik to their training institution. British officers after World War I and U.S. Army officers in World War II were amazed by this decentralization of training based sometimes on "little more than a page of yearly guidance." German officers replied again and again that their army valued the independence and innovation of their subordinate commanders over standardization so that all units could reach a minimal standard for war.⁵⁷

In *Command Culture*, Jörg Muth describes the outcome that the culture of *Auftragstaktik* had on German military effectiveness:

The strength of the *Wehrmacht* officer corps lay in the creativity, leadership capabilities and tactical finesse of officers who commanded anything from platoons to corps. They had been taught to be innovative and inventive, to disregard doctrine when desirable, to surprise the enemy whenever possible, and to live and survive in the chaos of war. They were taught to welcome that chaos and use it against the enemy instead of making sense of it with a "school solution" or a preconceived doctrine. German officers were able to give oral orders an instant after a short tactical deliberation, employing *Auftragstaktik*, trusting their subordinate commanders to carry out those orders with minimum interference. They would go forward with their troops into battle to observe the fighting and go into combat themselves if necessary—from lieutenant to major generals. Those abilities were the power of the German officer corps that enabled them to hold out for so long, inflict catastrophic casualties on their enemies, and made them the terror of Europe.⁵⁸

Already mentioned is the need to reform the U.S. Army personnel system, and there are multiple efforts beyond the scope of this paper that promise effective reform if put to practice. What can take place today to enable Mission Command is the revolution in training that is already occurring in the U.S. Army by the application of Outcomes-Based Training and Education (OBT&E), which best supports Army Learning Model (ALM) 2015. It is happening in the best spirit of *Auftragstaktik* in that leaders and Soldiers are taking the spirit of ALM 2015 and implementing methodologies and doctrines that, after 10 years of war, they believe best prepare Soldiers and leaders for the future.

The Future is Now

Training is what an army does most of the time when it is not actually fighting, and it is in training that the heart of an army's culture lies. Training is where ideas are instilled and refined, and it is the best place to analyze how an army *really* thinks about things and behaves

Colonel Casey Haskins, June 2008⁵⁹

Outcomes-Based Training and Education best supports Mission Command principles in that it operates on outcomes while subordinates select the appropriate way to achieve those outcomes. Results show that adaptive and innovative Soldiers and leaders who continually engage in problem-solving and learning have proven abilities to make timely decisions under stress. In this case it would be TRADOC/the Combined Arms Center (CAC) that would define the outcomes for each Center of Excellence (CoE) for the operational Army as well as the resource parameters, and allow the CoEs and their subordinates to figure it out.⁶⁰

Current Army learning methods teach Soldiers and leaders how to apply approved, doctrinal solutions to specific tasks, whereas OBT&E teaches them how to frame and solve problems, focusing on the results rather than the methods. OBT&E seeks to shift leader training from a traditional construct that focuses on teaching doctrinally approved solutions to one that equips

leaders with solid fundamental skills and builds expertise in critical thinking and problem-solving. OBT&E is designed to develop leaders and organizations adept at framing complex, ill-defined problems and making effective decisions under stressful conditions with less than perfect information. From the instructor perspective, it seeks to encourage the trainer to *teach* rather than *present*, to *coach* rather than *direct*, to *develop* rather than *instruct*.⁶¹

OBT&E differs in that it focuses on the outcomes, not specific tasks, and the skills necessary for the Soldier and leader to accomplish the mission. With OBT&E there is more emphasis on small-unit (down to squad level) leadership, a much more varied operational environment and availability of much more situational information. These factors also extend the requirement for critical and adaptive thinking down to lower levels. As a result, our institutions will not only be conducting education but also training at the small unit level.⁶²

OBT&E represents an evolution of decades of experience in planning and executing "good training" and reflects bottom-up refinement and application of best training and education practices within the Army. OBT&E improves instructor and faculty quality and focuses assessments on learning outcomes. It relies on the credibility and influence of experienced instructors and trainers who are accountable for instructional strategies and integral to assessment of outcomes achievement, rather than enforcement of external controls and processes. OBT&E is "learner-centric" and requires increased importance to be placed on developing and rewarding quality instructors.⁶³

OBT&E can best be described as "developmental learning"—development occurs while training a military task. OBT&E and Outcomes-Based Learning are the intersection of training and education. The Outcomes-Based Instruction Model (shown in the figure on page 15) outlines the three elements of an outcome: Tangibles, Intangibles and Context. Each element provides an essential component to the training and education to maximize the overall impact that the Soldier and leader will have on their unit due to their training experience. The Outcomes-Based Instruction Model provides an approach to leader development that employs "context-based, collaborative, problem-centered instruction" in accordance with the ALM 2015 framework to ensure development of 21st century leader competencies. Es

OBT&E builds on the Army Capstone Concept (ACC), the Army Operating Concept (AOC) and the Army Training Concept (ATC) 2012–2020 and directly aligns with Army Learning Model (ALM) 2015 by developing 21st century leader competencies through a learner-centric outcomes-based approach that enables career-long learning. OBT&E is specifically highlighted in the Army Leader Development Strategy (ALDS) *Imperative #3—Prepare leaders for hybrid threats and full-spectrum operations through Outcomes-Based Training and Education.* Additionally, the ALDS indicates, "Leaders must have the ability to reason, to think critically and creatively, to anticipate consequences and to solve problems." OBT&E provides this competitive learning advantage.

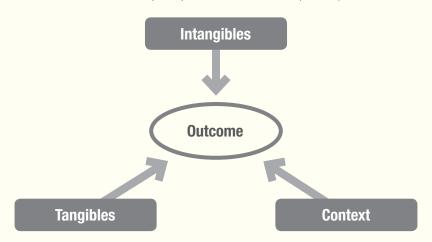
OBT&E also has a direct linkage to the development of Profession of Arms essential characteristics (trust, military expertise, espirit de corps, service and stewardship). It provides guideposts for teaching leader skills and competencies critical to the development and certification of professional Soldiers and leaders who exercise "repetitive discretionary expert judgment." 68

Today's highly complex operations have underscored the importance of sound moral judgment and decisionmaking at junior levels. According to the AOC, "Junior leaders conducting operations guided by mission orders at the ends of extended lines of communications in

Outcomes-based Instruction Model

"Learning Outcomes" = Intended Impact on Soldier > Unit

- Master fundamental tasks, knowledge, skills, abilities (Tangibles)
- Develop essential characteristics, attributes, competencies (Intangibles)
- Connect tasks to complex operational environment (Context)



noncontiguous areas of operations require the maturity, judgment and confidence to develop creative solutions to ill-structured problems and implement those solutions through effective action." Even with modern command, control, communications, computer, intelligence, surveillance and reconnaissance (C4ISR) capabilities, the noncommissioned officer or junior officer on the ground sometimes has the best situational awareness and is more likely to make the best decision—but only if he or she is equipped, intellectually and culturally, to properly assess the situation and creatively arrive at the best solution.

OBT&E employs two innovative teaching techniques: the Combat Applications Training Course (CATC) and the Adaptive Leader Course (ALC). CATC trains individual Soldier tasks, while ALC focuses on problem solving and development of strength of character; both techniques aim to develop effective decisionmaking skills. As a means of demonstrating OBT&E and providing context for understanding OBT&E principles, the Asymmetric Warfare Group (AWG) developed CATC, a field-based course in rifle marksmanship. It includes scenario-based exercises that introduce teamwork and activities focused on problem solving. CATC is a catalyst for educating leaders and instructors about OBT&E. Developed by Army Capabilities Integration Center (ARCIC) Forward, ALC uses situational exercises in a tactical and operational environment to stress effective decisionmaking and adaptability through experiential learning. ALC is also based on the latest learning work of Dr. Robert Bjork of UCLA.

As of June 2012, OBT&E application has been explored in a variety of programs of instruction (POIs) throughout the Army. It is currently being successfully implemented at the following learning institutions: Fort Benning (Georgia) Army Reconnaissance Course—designed using OBT&E principles including curriculum development and instructor preparation; Fort Huachuca (Arizona) Intelligence Center of Excellence—implemented OBT&E in the Basic Officer Leader Course (BOLC) B and the Captains' Career Course; Fort Leonard Wood

(Missouri) Maneuver Support Center of Excellence—integrated OBT&E in selected Military Police, Engineer and Chemical branch courses; Fort Sill (Oklahoma) Fires Center of Excellence—incorporated OBT&E in the Noncommissioned Officer Academy's Army Basic Instructor Course and is attempting to establish OBT&E as the standard throughout the Center; the Department of Military Instruction at the United States Military Academy, West Point, (New York)—revised the cadet training curriculum to incorporate OBT&E principles. A few Reserve Officer Training Corps (ROTC) programs have also successfully integrated the OBT&E approach. These examples can provide TRADOC useful context regarding the advantages and challenges of including OBT&E in the current training and education system, particularly as it looks to implement ALM 2015.

Not Invented Here: The Challenges

I am the Commander of the Intelligence Center of Excellence and have very little say in how my Captains' Career Course is run.

Major General John M. Custer III (April 2009)⁷³

Moving beyond traditional instructor-led "blocks of instruction" will require a "cultural learning evolution" affecting significant changes to established TRADOC institutional processes. TRADOC's Army Learning Coordination Council has taken on the task of synchronizing learning across the Army to ensure implementation of ALM 2015. They have identified key institutional challenges that involve reforming current training resourcing and policy to accommodate One Army School System initiatives and Regional Learning Center fielding; improving instructor quality and utility to ensure selection, assignment, development and sustainment of the best personnel as faculty cadre; enhancing network access and infrastructure to ensure Soldier accessibility and point-of-need delivery of learning content; and retooling the current training development model to develop, maintain and assess learning outcomes across TRADOC.

OBT&E requires a different method of allocating resources to training and more flexibility in using them, as resources are currently aligned to tasks being trained rather than to skills attained. Furthermore, OBT&E can be instructor intensive. It requires a much different level of instructor quality than do current practices. It necessitates reexamining instructor selection, promotion and development, including empowering instructors as leaders. The key to quality training and education relies on a cadre of experienced faculty who are leadership mentors, coaches and teachers.

One of the advantages of the Army's having been at war for more than a decade is the increased level of tactical and operational experience its instructors now possess. OBT&E requires additional instructor training not currently provided by the Army Basic Instructor Course. In OBT&E, the instructor is required to change the conditions of the operational environment based on the ability of each student to produce the desired level of skill proficiency, versus one standardized instruction approach. This instructor skill set requires additional training not currently offered.

Delivery of training and education dependent on actual learning outcomes requires that some consideration be given to multiple learning models, including OBT&E. The "goodness" of ALM 2015 is that we do not have to choose a single "one-size-fits-all" approach to how the Army trains and educates. It further emphasizes that the Continuous Adaptive Learning Model must continually assess outcomes in meeting the needs of the force and be responsive to operational changes and evolving trends in learning technologies and methods.

Difficult, But Not Insuperable

Adapt leader development to meet our future security challenges in an increasingly uncertain and complex strategic environment.

General Raymond T. Odierno Chief of Staff, Army⁷⁴

According to "Marching Orders, 38th Chief of Staff, Army," the Army is expected to fight and win on difficult and rapidly changing complex battlefields. Aligning the institutional Army to the culture desired through Mission Command will vastly increase Army capabilities. But some hard decisions must be made in terms of how to support and institutionalize Mission Command.⁷⁵

While reforms to the personnel system may take years to implement and must overcome deep bureaucratic resistance, OBT&E is already providing an alternate route to prepare leaders to operate under Mission Command. It aligns more closely with the way individuals actually learn and communicate. While results are preliminary and anecdotal, evidence is clear that OBT&E results in superior mastery of fundamental skills, increased retention, higher levels of confidence and improved judgment, initiative and accountability. Further, as an approach that encourages broader development of capabilities, its implementation will better position Soldiers and units for the uncertain missions and ambiguous realities consistent with full-spectrum operations.⁷⁶

OBT&E represents an integrated approach to planning, managing and delivering training, education and self-development. It teaches Soldiers and leaders how to think rather than what to think by developing a deep sense of understanding and increased will to adapt tasks under realistic, complex conditions. It connects the schoolhouse to the operating environment, leveraging combat experience of the force and integrating mission command. OBT&E is consistent with FM/ADP 6-22, *Army Leadership*; FM/ADP 7-0, *Training*; and the ALDS and is linked to the development of Profession of Arms essential characteristics, attributes and competencies.

OBT&E has diverse application across the force. However, achieving an outcomes-based learning approach consistent with the ALM 2015 framework and the ALDS imperatives will require a "cultural learning evolution" that includes major institutional challenges for TRADOC (i.e., resourcing and policy, instructor quality and utility, network access and infrastructure, and training development). Implementing OBT&E also requires an organizational climate with a consistency of collaboration and flexibility in doctrine, policy and allocation of resources to ensure accountability for results. Finally, OBT&E necessitates reexamining instructor selection and development that includes empowering instructors as leaders.⁷⁷

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- ⁵³ Bruce I. Gudmundsson, "The Evolution of Mission Command," *Tactical Notebook*, Summer 1995, pp. 52–57.
- ⁵⁴ William S. Lind, *Maneuver Warfare Handbook* (Boulder, CO: Westview Press, 1985), p. 87.
- ⁵⁵ Muth, Command Culture, pp. 85–112.
- ⁵⁶ Lumley, "On the Training of Prussian Officers," p. 747.
- The author is indebted to the insights of Dr. Bruce I. Gudmundsson and William S. Lind in reference to examples of German application of Mission Command in peacetime. See also, Robert T. Foley, "Institutionalized Innovation: The German and the Changing Nature of War, 1871–1914," *Royal United Services Institute*, vol. 147, no. 2 (April 2002), pp. 84–90.
- ⁵⁸ Muth, Command Culture, p. 205.
- Casey Haskins, "A Good Answer to an Obsolete Question," unpublished paper, United States Military Academy, June 2008), p. 3.
- This comment brought high praise from trainers and educators from Army Centers of Excellence, 1 May 2012, Army Learning Conference, Fort Eustis, VA.
- Discussions with COL Casey Haskins, Director, Department of Military Instruction (DMI) at the United States Military Academy, West Point, NY, 24 July 2011. See also, Haskins, "A Good Answer to an Obsolete Question."

- ⁶² OBT&E tends to blur the lines between training and education; the methodology, as the original name implies, was intended to apply to both operational (training) and institutional (education) domains.
- 63 Donald E. Vandergriff, *Raising the Bar: Creating and Nurturing Adaptive Leaders to Deal with the Changing Face of War* (Washington, DC: Center for Defense Information, 2006), pp. 83–118.
- Saul Magana, "Revised 'ABIC'—Army Basic Instructor Course," Fires Center of Excellence, Intellectual Warrior's Conference Briefing, 13 April 2011. E-mail from Mr. Magana to author, 21 March 2011. Also based on discussions with Mr. Magana, 1–3 May 2012. Mr. Magana has been instrumental in developing the ABIC at Fort Sill, OK, based on OBT&E principles.
- 65 E-mail from Saul Magana to author, August 2011.
- Department of the Army, *The Army Leader Development Strategy*, Draft, 25 November 2009, p. 10.
- 67 *Ibid.*, p. 9.
- ⁶⁸ U.S. Army, "Study of Professionalism" (study, Center for the Army Profession and Ethic, West Point, NY, 2011–2012).
- ⁶⁹ Department of the Army, U.S. Army Training and Doctrine Command (TRADOC) Pamphlet 525-3-1, *The U.S. Army Operating Concept*, 19 August 2010, pp. 10–11, http://www.tradoc.army.mil/tpubs/pams/tp525-3-1.pdf.
- The AWG has also developed CATC Courses for land navigation, urban operations and Soldier-first-responder.
- ⁷¹ Vandergriff, *Raising the Bar*; COL Casey Haskins refers to ALM as the classroom version of OBT&E.
- Dr. Robert Bjork, "Why the Way the Army Learns is Backwards," unpublished briefing to General William Wallace, TRADOC Commander, at the University of California, Los Angeles, School of Psychology in August 2006.
- Quote came from April 2009 discussion at Military Intelligence Center of Excellence Cultural Center Conference in Tucson, AZ, referencing the fact that the institutional Army does not practice Mission Command.
- General Raymond T. Odierno, "Marching Orders, 38th Chief of Staff, Army," January 2012, http://usarmy.vo.llnwd.net/e2/c/downloads/232478.pdf.
- ⁷⁵ *Ibid*.
- Dr. Gary Riccio and Frederick Diedrich, "An Initiative in Outcomes-Based Training and Education" (study, U. S. Army Asymmetric Warfare Group, Fort Meade, MD, 2009).
- Haskins, "A Good Answer to an Obsolete Question," pp. 45–48; Haskins lays out the best way to implement OBT&E in TRADOC.