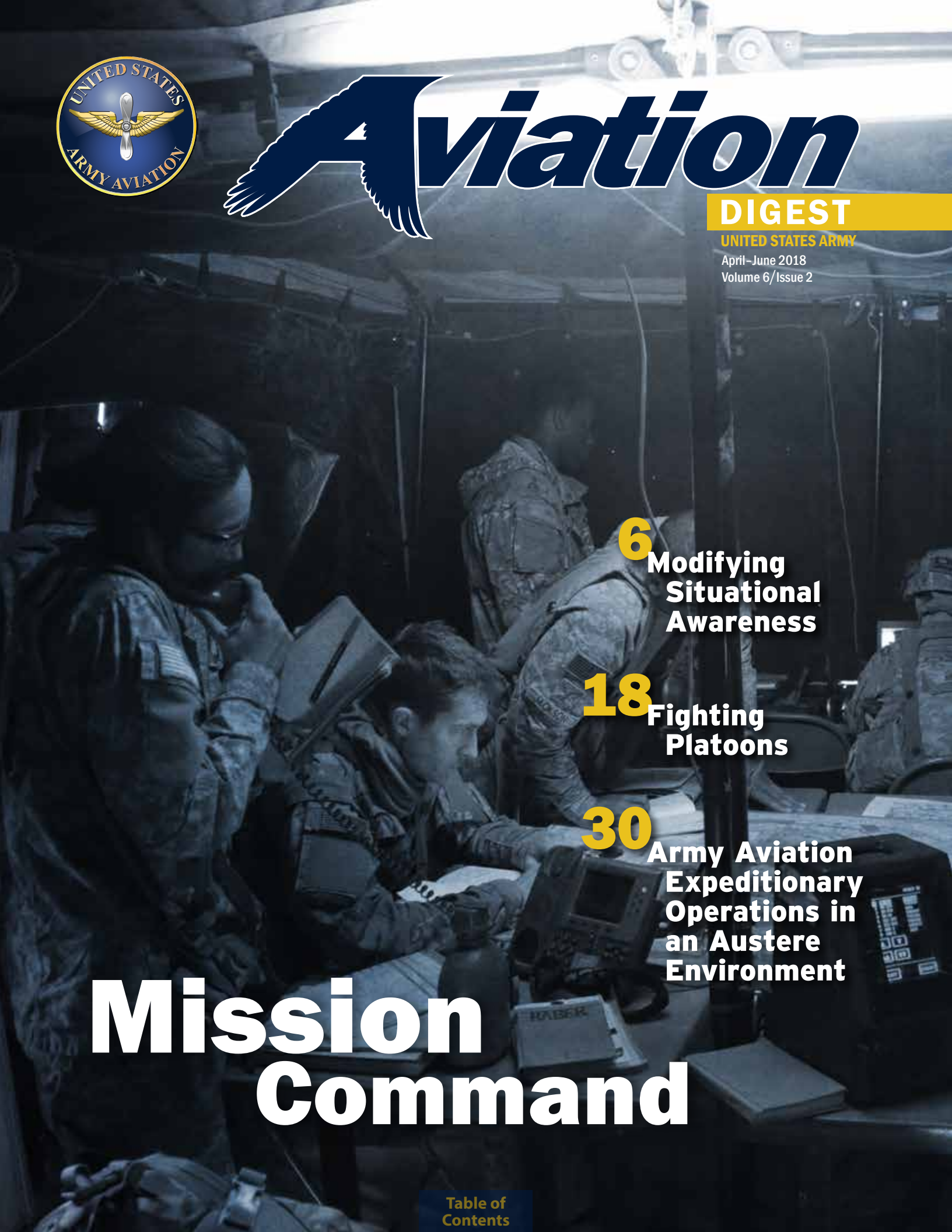

Aviation DIGEST

UNITED STATES ARMY
April–June 2018
Volume 6/Issue 2

Mission Command

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UNITED STATES ARMY Aviation DIGEST
The Professional Bulletin of the Army Aviation Branch, Headquarters, Department of the Army, PB 1-18-2 April–June 2018
Volume 6/Issue 2

About the Cover:

U.S. Army Soldiers assigned to 4th Battalion, 6th Infantry Regiment, 3rd Brigade Combat Team, 1st Armored Division, receive and provide guidance for attack operations in the Tactical Operations Center at the National Training Center in Fort Irwin, California, April 16, 2016. (U.S. Army photo by SPC Austin M. Riel, Operations Group, National Training Center)

The Command Corner

Army Aviation must consistently focus on fighting and winning our nation's wars, and as such, our attention must be geared toward every aspect of operations. To that end, operations begin and end with mission command. Field Manual 3-0, Operations, highlights mission command as the warfighting function that integrates all other warfighting functions. More importantly, mission command "provides purpose and direction to the other warfighting functions." There is little that the mission command warfighting function does not influence, and the conduct of operations will always influence how you exercise mission command.

The articles you'll find in this issue either speak to an aspect of mission command or something that influences the execution of that function. CPT Hybart's article discusses the complexities of maintaining a unit's individual and collective training program while deployed. SFC Hervey's provides a thought-provoking article on training a unit to operate within a Global Positioning System (GPS) denied environment. His article should have us all asking whether our units are ready to operate in GPS-denied environments? Finally, CW4 Momeny offers meaningful discussion on the question of aviation's support role, whether direct-support or general-support, in relation to large-scale combat operations.

Aviation leaders must be aware of the challenges associated with exercising effective mission command. They must also be aware of the complexities of integrating all of the warfighting functions. To our warrant officers, I encourage you to consider ways that you can advise and assist your commanders to more effectively implement mission command. Lastly, to our noncommissioned officers, I recommend that you seek out ways to optimize your interaction with commanders at every level to better enable mission command throughout the organization. I urge us all to be better students of our profession, to learn from the experiences of others, and to apply that knowledge in your next mission command experience.

In closing, strive to be the very best that you can be, for everything you do—or fail to do—has an impact on Mission Command. As always, we exist for the Soldier on the ground, and to do so, we must be expert in the employment of Aviation.

ABOVE THE BEST!

William K. Gayler
Major General, USA
Commanding

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October–December 2018 issue articles due September 1, 2018 (magazine published on or about November 15, 2018)

January-March 2019 issue final articles due December 1, 2018 (magazine published on or about February 15, 2019)

April-June 2019 issue articles due March 1, 2019 (magazine published on or about May 15, 2019)

Authors are asked to observe posted deadlines to ensure the Aviation Digest staff has adequate time to receive, edit, and layout materials for publication.

AVIATOR PERCEPTION

AN IMPERATIVE SAFETY ISSUE

By CW2 Anya K. Sharman

In 2003, David R. Hunter published a paper in the International Journal of Aviation Psychology entitled "Measuring General Aviation Pilot Judgment Using a Situational Judgement Technique." Hunter's article described two studies led to develop and evaluate a Situational Judgement Test (SJT) demonstrating that pilots who scored higher on the SJT had fewer hazardous events. The findings led to an additional study Hunter and his coauthor, John E. Stewart, published in the same journal entitled "Safety Locus of Control (LOC) and Accident Involvement among Army Aviators" (2012). The additional study further clarified judgement ability in terms of internal and external controls. The 2012 study found a higher accident rate among pilots who scored lower in perceived internal control. The bottom line is that pilots who believe they can maintain control are generally involved in fewer accidents. It is my opinion that Army aviation should consider funding further studies in order to develop quantifiable data on each pilot, assigning a score in judgment and decision-making ability.

Locus of control is defined as a personality trait that reflects the degree to which a person perceives events to be under his or her own control (internal locus of control) or under the control of outside forces (external locus of control). The benefits of expanding the 2012 study and analyzing the results show potential for use in the assessment of the aeronautical decision-making (ADM) process. The ADM process "is a systematic approach to the mental process used by pilots to consistently determine the best course of action in response to a given set of circumstances. It is what a pilot intends to do based on the latest information he or she has" (Federal Aviation Administration, n.d.).

The analysis results for each pilot could be useful in the implementation of readiness levels, crew mixes, and risk assessments. Army aviation currently evaluates each pilot on judgement and maturity as part of readiness level (RL) progression training (RL3 [uncertified], RL2 [receives mission-oriented training], and RL1 [certified]), for consideration of pilot-in-command (PC), and for consideration of air mission Commander (AMC). If instructor pilots (IPs) assigned a score to each pilot based on a predetermined guideline and the score combined with the individual's locus score, the information would assist the Commander in determining when to assign a pilot as a PC or AMC. This analysis would provide the Commander with a scientific, non emotion-based way of making decisions that could potentially prevent future accidents.

Soldiers from the Massachusetts National Guard's State Aviation Office, assigned to Army Aviation Support Facility #1, provided airlift for 5 civilian construction contractors from Hyannis to Nantucket to respond to a sewer line break emergency. Photo by SSG Thomas Swanson

Application of these findings would give the unit a clearer picture of how the aviator perceives himself or herself, his or her flight abilities, and how to implement his or her own safety controls. Pilot judgment is a combination of several concepts including cognitive ability, task-specific knowledge, and personality.

For the purpose of both studies, the term "pilot judgement" was separated into two subcategories: rational judgement and motivational judgement.

RATIONAL JUDGEMENT is the ability to diagnose an in-flight issue, specify courses of action, and assess risk associated with each alternative.

MOTIVATIONAL JUDGMENT is the motivation to choose and execute a suitable course of action within the time available.

An assigned score in pilot judgement during an emergency would greatly influence how crews are battle rostered.

Pilots lower in perceived internal control tended to experience more hazardous aviation events. The SJT is invaluable at the unit level to show a pilot his or her shortfalls in decision-making and helping him or her to become more self-aware. Hunter endorsed the scale as a self-

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awareness exercise for pilots wishing to explore potential aspects of their personality that could place them at greater risk for accident involvement (Hunter, 2003). The idea behind this research was to develop a way to measure and assess LOC, hazardous events, safety-related attitudes, and risk orientation among U.S. Army aviators. Instructor Pilots and Commanders would be able to use this new device to develop applicable instruction for pilots with a low SJT score who may be at a greater risk of being involved in a hazardous event. The Commander would have a greater array of tools available when determining how to apply appropriate risk-mitigation techniques.

Once all the data are taken into account, the Commander would be better prepared to mitigate risk while battle rostering or creating flight schedules. This would allow for tailored and specified crews based on self-awareness, personality traits, and known habits. I believe the Army LOC scale needs immediate implementation to develop aviator self-awareness of personal risk factors. As Hunter explains, one goal of military aviation training is to instill the belief that upon completion, an aviator is able to influence the outcome of the military situations that they will encounter proactively. Implementation of this evidence-based study into daily aspects of safety and risk-mitigation techniques would enhance crew understanding, accident profiles, and further development of a Commander's control base.

CW2 Anya K. Sharman is an Aviation Safety Officer stationed at Fort Bliss, Texas.

Chief Warrant Officer Two Colin Loveless, a pilot with the 3rd Battalion of the 126th Aviation Regiment, Maine Army National Guard, tests his night vision goggles for night time operations in Bangor, Maine. The 126th Aviation Regiment is the only MEDEVAC support unit in the state and helps organizations from the Warden Service to Acadia National Park. Photo by SPC Patrik Orcutt

An flight medic from C/1-214 Aviation laughs with relief following a successful evacuation training mission with the 173rd Airborne Brigade at Grafenwoehr, Germany. Photo by LTC John Hall

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MODIFYING SITUATIONAL AWARENESS:

PERFECT KNOWLEDGE AND PRECISION ARE FANTASY

By MAJ John Q. Bolton

Army mission command, significantly influenced by German concepts of mission orders, Auftragstaktik (mission-type tactics), Schwerpunkt (focal or center point), and the Truppenfuehrung (the Wehrmacht's WWII field manual), emphasizes subordinate initiative within the framework of commander's intent (Department of the Army [DA], 2012; Hughes, 1986). Combined with the Army Operating Concept, mission command reflects a now-codified common-sense approach to command in a complex environment. However, fully implementing mission command within the Army remains a challenge on both conceptual and practical levels. Conceptually, leaders fail to understand how to develop the mutual trust mission command requires while subordinates resent any oversight as micromanagement (Hastings, 2017). Practically, Army systems inhibit mission command by demanding precision and instantaneous results.

Whether a Prussian/German system is appropriate, any army serving a multiethnic, diverse democratic society is another debate; this paper is concerned with our Army's fascination with statistics, numerical precision, and "Information Dominance." The Army's devotion toward analytics, particularly demonstrated by Digital Mission Command Systems (DMCS), like the Command Post of the Future (CPOF), places undue emphasis on data and inhibits the exercise of mission command as described in doctrine (Bolton, 2017). This emphasis leads to overemphasizing data and systems to the detriment of analysis and context. Using DMCS as a panacea, rather than as means to enhance mission command, we expect our digital systems to derive precision from an imprecise, complex world, which inevitably causes frustration and failure. Combined with American educational heuristics, our systems do not prepare us for battlefield chaos.

This paper analyzes how the Army's bureaucratic mindset, educational heuristics, and focus on big data negatively affect developing situational awareness.* It argues that the Army's bureaucratic mindset, common throughout the Army and resident in DMCS, presumes an ability to quantify the world based on faulty determinative assumptions. After illustrating the challenges associated with DMCS, this paper concludes by describing an alternate framework Soldiers and leaders can use to understand their operational environment or gain situational awareness.

BUREAUCRATIC MINDSET

"MACHINES DON'T FIGHT WARS. TERRAIN DOESN'T FIGHT WARS. HUMANS FIGHT WARS. YOU MUST GET INTO THE MIND OF HUMANS. THAT'S WHERE THE BATTLES ARE WON"—COL JOHN BOYD.

*Though situational understanding is the doctrinal term, situational awareness is more common.

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While the Army espouses mission command, its systems for managing, tracking, and commanding are overwhelmingly bureaucratic. Sometimes this bureaucracy makes sense, but overall, it is pernicious to leader development. For example, except at the local level, officer assignment choices are very limited.

The personnel system prescribes career paths, which may actually curtail critical thinking across a career (Ogden, 2017). It also reduces, as a matter of convenience, officers to a series of data points—to be interchangeably managed by a revolving series of career managers.

Precision and exact numbers are bureaucratic tenets. Although Army Doctrine Reference Publication (ADRP) 6-0 acknowledges that human, not data exchanges are critical to success, a bureaucratic mindset still permeates both doctrine and operations (DA, 2012). Additionally, "the fact remains that the Army's staff training, exercises, and evaluations are based on [adhering] to processes and doctrine rather than attain[ing] rapid and decisive results" (Rebuck, 2017).

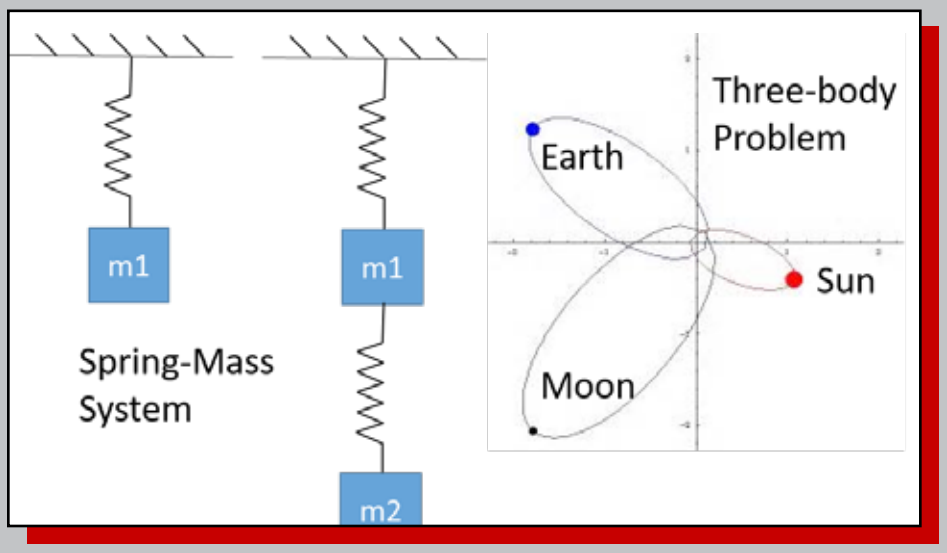
This paradigm inhibits rapid decision-making by forcing micromanagement onto organizations yearning for Mission Command. The resulting cognitive dissonance creates resentment because it destroys the trust that GEN Martin Dempsey called "the moral sinew that binds our force together" (Dempsey, 2012). Like adherence to deterministic theories, Army pathologies foster a "fear of uncertainty and a squeamish aversion to risk, each of which is anathema to a true mission command philosophy" (Rebuck, 2017). Conversely, building implicit trust, while requiring time, can build self-actuating teams based on a shared understanding (Ferguson, 2017).

EDUCATION VS. REALITY: THE NATURAL WORLD DOESN'T BEND TO OUR WILL

The need to quantify and codify everything reflects a pernicious trait of American education. Americans habitually break everything down into parts, assuming that the parts act as composite elements, working together. We assume we can quantify everything. Americans routinely ignore confirmation bias and imprint our methods onto adversaries who do not man, train, or equip forces the same (O'Connell, 2017). Our metrics focus on what matters to us, not the enemy.

The American military focuses on equipment and troops; when the enemy may employ civilians and homemade bombs; we develop hierarchical network charts when the enemy operates along tribal and family circles. This a tenet of the American Way of War and the thesis of the seminal report on that war, Bureaucracy Does Its Thing (Weigley, 1977; Komer, 1972). In Vietnam, analog computers would confidently declare a village 35 percent pacified—data that even if somehow accurate, reflected a startling lack of understanding about how local conditions and human actors relate (Burns & Novick, 2017). Now, in Afghanistan, we conduct assessments based on remote-sensing, third-party accounts, and often conjecture, in order to validate assumptions (or desires).

Americans leave school accustomed to physical models largely developed in the late 19th century. Newton gave us simple rules: Force is mass times acceleration; gravity is the attraction between point masses. These rules and models are simple, easy, and wrong; our education presumes a determinism that does not exist. Models work well for mechanical systems because we control the environment, reducing chance and friction. But, with human systems, we don't have this luxury. We may seek to "operationalize big data" (Smith, 2017), but doing so typically requires environments with predictable conditions and well-defined rules—think Moneyball (Lewis, 2003)—not the chaos of combat.



Certainty rarely exists in the real world, particularly against a thinking, adaptive enemy shrouded by the fog of war. The natural world reveals just how quickly simplicity transitions to complex amid real-world friction and imprecision. While a simple spring mass has linear solutions solvable at the high-school level; adding another spring mass to the system creates a much more difficult problem because the interactions between elements are now complex. Likewise, while 16th-century physicists developed ways to predict the motion of two bodies such as the earth and the moon, just adding the sun creates an unsolvable problem. While computers can predict accurate results, interpreting them requires human expertise.

Because American education teaches simplified models of the world, we be-

come frustrated when things "unfold in an irregular, disorderly, unpredictable manner even though some of our best minds try [to make them] more regular, orderly, and predictable" (Boyd, 2017).

The Army is accustomed to specifics regardless of real-world complexity. Plans often lack context (particularly cultural context) and expect precise results (McLean, 2017). But nonlinearity, chaos, and unknowns combine to make clear that "general friction will persist more or less undiminished in future war regardless of technological developments" (Watts, 1996). So while Army planners speak of synchronization and the simultaneity of effects, the environment inevitably makes it difficult to do so. We can synchronize mechanical clocks; people are more difficult. In this context, issues with Army DMCS become clear.

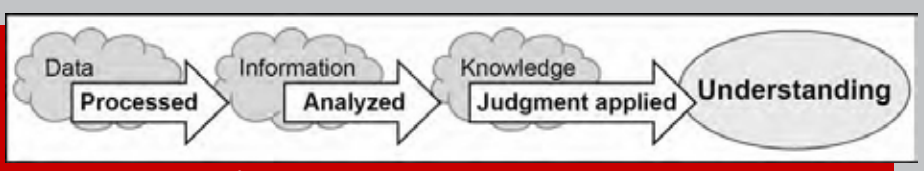
MISSION COMMAND SYSTEMS: OUR COMPUTERS LIE TO US, AND WE LIKE IT

"WE KNOW HOW CRUEL THE TRUTH OFTEN IS, AND WE WONDER WHETHER THE DELUSION IS NOT MORE CONSOLING"—JULES HENRI POINCARÉ, FRENCH MATHEMATICIAN.

Fundamentally, intelligence in war is inductive; we see only bits of the enemy; we see small units or small effects. This forces us to synthesize the enemy's intentions from composite parts and actions, all of which are unclear. But DMCS are deductive: they start from a big picture and work toward smaller details. Digital Mission Command Systems force us to define the broad conditions, and critically, assumptions about the enemy before we even see him. As a result, we frame assumptions implicitly without evidence. This framing restricts our conceptual ability and limits our imagination with regard to the enemy's capacity, intentions, and actions.

"WE WILL REQUIRE KNOWLEDGE OF FOREIGN LANGUAGES, CULTURES, RELIGIOUS BELIEFS, AND ABOVE ALL HISTORY—PRECISELY WHAT TECHNOCRATS IGNORE BECAUSE SUCH KNOWLEDGE CANNOT BE QUANTIFIED AND MEASURED. WHAT MATTERS MOST IN WAR IS WHAT IS IN THE MIND OF ONE'S ADVERSARY" (MURRAY, 1997).

Emerging data drive immediate action, not analysis, because they convey authority. This situation is opposite of what complex situations require, even though Army doctrine proposes a linear progression from data to understanding. This is problematic because this simple methodology assumes that data are precise, accurate, obtainable, and useful. Field Manual (FM) 6-22 Army Leadership (2006) recommends leaders spend time analyzing situations to determine what the real problem is. Leaders should examine a "problem in-depth, from multiple points of view" (DA, 2006), without settling on the first answer that comes to mind. Data may create a picture, but do not generate understanding, just a false sense of knowing. Understanding is more important; developing technology faster than people is dangerous (Miraldi, 2017).



Achieving understanding/awareness as defined by Army doctrine (DA, 2014).

Though the Army has always loved data, it evolved into an obsession in the 1990s after the Gulf War. Emerging technology caused some to believe that we could achieve information dominance—in effect, knowing everything. Military leaders, defense analysts, and even some scholars let hubris get the best of them, believing that technology had rendered "history, culture, and the traditional understanding of war irrelevant;" serious scholars echoed this ahistorical judgement (Murray, 1997). The scholars ignored history and proposed that new technology had created a Revolution in Military Affairs (RMA). According to LTG Herbert Raymond McMaster, "Concepts with catchy titles such as 'Shock and Awe' and 'Rapid, Decisive Operations' promised fast, cheap, and efficient victories in future war" (HR McMaster, 2014). One of the strongest RMA advocates was Vice Chairman of the Joint Chiefs, Admiral William Owens, who proposed systems that would somehow eliminate the fog of war (SourceWatch, 2008; Murray, 1997). Owens echoed the failed technology-driven policies of the McNamara Defense Department that created boondoggles like the F-101 and "Igloo White," to say nothing of the hubris that escalated the war in Vietnam (Bolton, 2015; Correll, 2004; Uziel, 2017). During the RMA peak of the 1990s and 2000s, the Army poured billions of dollars into the Future Combat System, CPOF, and other systems, some of which were canceled, and all of which were or are less than advertised (Drew, 2009).

"COMBAT OPERATIONS ARE ALWAYS A GAMBLE AND WE NEED TO RELY ON THE GAMBLERS, NOT THE DICE"—COL. MIKE PIETRUCHA, 2016.

In reality, these systems play to our biases, declaring "situational awareness" when we only know the positions of our own forces with certainty. No matter their actual effectiveness, these DMCS speak with authority, giving false confidence that "the system we are using is the most efficient" (A. Steadman, 2014). DMCS concepts rely on the presumption that we can "eliminate

the fog of war and obliterate friction with the 'seamless' application of some new technology" (Pietrucha, 2016). As simplifying heuristics failing in the real world, our DMCS predisposes us frustration against the "reality of warfare when it shows up, shrouded in smoke, beset by friction, and showered in uncertainty" (Pietrucha, 2016). This emphasis is wrong; the Army is focusing on unproven or undeveloped technology when it should be focusing on training our "people with dynamic scenarios that will reveal both their knowledge of the processes and their willingness to think beyond the checklist" (Steadman, 2014).

Even if achievable, information dominance was always illusory. Knowing the battlefield does not necessarily translate into success against an active enemy, because merely possessing information "is not actually an indication of superiority over an adversary; information is not so much an end in itself as one means among others" (Pietrucha, 2016). Our systems rarely addressed the pitfalls of too much data. According to Col. Mike Pietrucha, U.S. Air Force strategist, "Machines may help categorize what is possible, which is a long way from determining what is correct. Warfare is not an optimization problem" (Pietrucha, 2016). Additionally, data overloads actually inhibits command by creating more uncertainly or confusion than simpler systems would produce. Our ability to train agile and adaptive leaders, who succeed regardless of technology, is more important than data systems.

While the Army rolled through Iraqi defenses in both 1991 and 2003, technology only exacerbated differences between American and Iraq forces; what won the day was competence (Biddle, 1996). Rapid success cemented the supposed preeminence of American forces, but this was more the exception proving the rule rather than a herald of a new warfare form. Static positions adopted in Iraq afterward cemented an addiction to data. Operating from fixed sites with unlimited bandwidth against an overmatched enemy entrenched a reliance on connectivity that still challenges Army units (Bolton, 2017). Once the enemy adjusted to American systems, rhythms, and limitations our technical superiority didn't count for much as troops found themselves fighting an ambiguous, lethal enemy hiding among the people.

CONCLUSION

"IT'S VERY DIFFICULT TO DISPENSE IGNORANCE IF YOU RETAIN ARROGANCE"—GEN SAM WILSON.

How do we respond to a battlefield where error, incompleteness, entropy, quantum uncertainty, and human fickleness combine with nonlinear, complex systems to create unknowing? To paraphrase former President Ronald Reagan, "it's a simple answer after all" (JohnJ2427, 2007). The answer lies in the principles of Mission Command, particularly "building teams through mutual trust" and "creating shared understanding" (DA, 2012). Mission Command is not a checklist method. It relies on acceptance of an imperfect, unclear world (Caligari, 2017). It requires substantial trust and understanding between echelons—personal, substantive trust. Current systems cannot rep-

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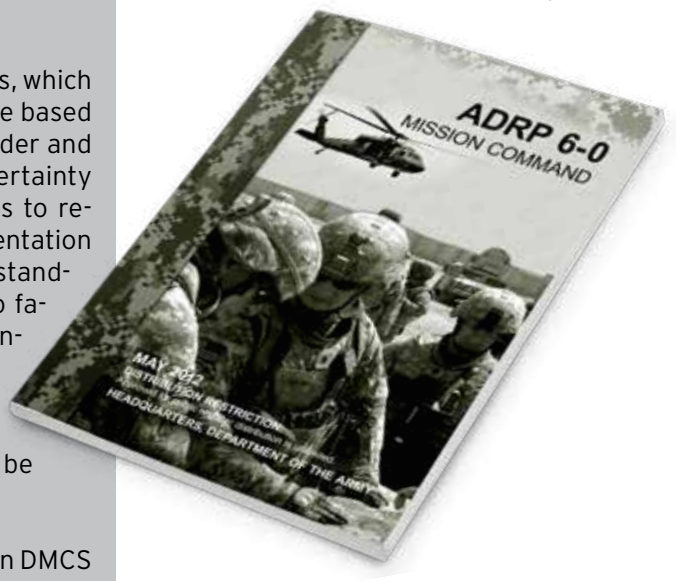
licate this implicit trust—and may often destroy it (Bolton, 2017). Implicit guidance and trust, though harder to develop, can enable unit action much quicker than even the best digital systems.

The Army has forgotten that conflict is chaos. Uncertainly is warfare's prevalent characteristic. The Army must structure systems and relationships to foster implicit guidance and initiative, rather than collect and demand data. Relying on DCMS and rigid paradigms paralyzes leaders when the displayed information doesn't correspond with reality. Like a physics student encountering real-world friction for the first time, we may fail to translate our education to real-world usefulness.

The Army must develop a broader conception of situational awareness, which allows for fog and friction, and room for our understanding to change based on conditions, not preconceptions. Making Soldiers' perception broader and more deliberate will increase the Army's capability to deal with uncertainty and disorder. Situational awareness is understanding that allows us to rematch our perceived understanding with events—a continuous reorientation process (Boyd, 1976). Commanders create and sustain shared understanding through collaboration and dialogue within their organizations to facilitate unity of effort. Therefore, situational awareness is a fluid understanding of the environment, reflecting less the discrete knowns as opposed to deeper facets of the enemy and human terrain. The Army must stop insisting on precision information at the expense of broader understanding. In short, Army training and systems must be comfortable with not knowing and acting without knowledge.

Digital systems can only augment this process, not replace it; too often DCMS hinder command by creating the illusion or expectation of control rather than the reality of chaotic combat (CPT Ty Stephens, personal communication, November 10, 2017). The Army should look to "fix" DMCS by eschewing bloated software for traditional, faster, and cheaper analog methods, only augmented when DMCS provide clear benefits. Unit training must focus on preparing Soldiers for complex environments where they will make choices with imperfect information and only vague instructions (Pietrucha, 2016). Leader training must require officers to build teams and give clearance guidance so subordinates can act without instruction. We much continually "rematch our mental/physical orientation with [the] changing world so that we can continue to thrive and grow in it" (Boyd, 2017). Through broad observations and a continuous reorientation by astute leaders schooled in the principles of Mission Command, we can discern the enemy's intentions and accustom ourselves (and our plans) to his actions, enabling success far beyond the promises of technical solutions.



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ROTATIONAL AVIATION FORCE TRAINING

By CPT Timothy A. Hybart

An Army Attack Aviation Company participating in Atlantic Resolve 2.0 is unable to build mission readiness in its training requirements. All exercises are currently ground-focused and aviation supported but not designed to ensure the aviation company is receiving quality training. Over time this leads to degradation in proficiency for attack aviation due to the operations tempo (OPTEMPO) requirements of having multiple, large-scale exercises planned back-to-back. This high OPTEMPO prevents the aviation company from conducting after action reviews, refining its training plan, and mitigating the identified training deficiencies between exercises. One possible fix for these deficiencies is to train the aviation company in their mission essential tasks (METs) prior to deployment as a rotational force and allow them to focus exclusively on enabling the ground force commander's training during the rotation.

photo by Charles Rosemond

I took command of an AH-64D company in May 2017, after the company had been in Germany for 2 months, as part of Atlantic Resolve 2.0. Two weeks after taking command, our battalion participated in the Combined Resolve VIII (CBR VIII) exercise at the Joint Multinational Readiness Center (JMRC) in Germany. Our battalion commanded the aviation task force, supporting a U.S. armored brigade combat team and two North Atlantic Treaty Organization (NATO) allies throughout the 20-day exercise.

From my point of view, the JMRC training was entirely ground centric. Obviously, it was acknowledged that the aviation unit was present, but the established training goals were fully focused on accomplishing the ground force commander's training requirements. If the supporting aviation unit was able to receive training, then all the better; however, it was not a priority. The flight environment and air defense artillery (ADA) training capability present at JMRC is outstanding, but our ability to fully utilize the capabilities of the resources were hampered by the training goals established from the outset of the exercise.

During the course of the exercise, we supported the ground force scheme of maneuver during primarily day missions. The valuable situational training exercise (STX) portion of the rotation was used to conduct joint terminal attack controller (JTAC) certifications and air assault security while the ground force operated independently. As we entered the force-on-force portion of the exercise, it was obvious an attack aviation company was viewed only as an enabler to the ground force commander's training objectives and not as a maneuver element on the battlefield with its own training objectives. While on the surface this may not seem like a problem, the lack of focus on providing quality training for attack aviation meant nothing was organized to ensure my company was trained and ready to fight an actual decisive action fight after JMRC. My platoon leaders and Air Mission Command-

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AH-64 Apache helicopters with C Company, 1-501st Attack Reconnaissance Battalion, fly along the shoreline at Capu Midia, Romania, on July 17 during an air defense training event titled Tobruq Legacy. Exercise Saber Guardian 17 is a U.S. European Command, U.S. Army Europe-led exercise in the Black Sea Region that builds readiness and improves interoperability among the 20 Allies who participate. (U.S. Army photo by SPC Thomas Scaggs)

ers needed the opportunity to plan and execute reconnaissance and attack operations against a well-prepared enemy force with ADA, but the missions focused on ground tasks or utilizing our company as an aerial quick reaction force (QRF). I am happy to support the ground force as they train, but enabling my company to train attack aviation-specific tasks is crucial to ensuring our company's ability to conduct operations against a complex enemy safely and successfully.

During the course of the exercise (STX and force-on-force), my company was evaluated on just two METs: movement to contact and hasty attack. Of those two, only the hasty attack was conducted under the requisite conditions necessary for us to attain a "T" rating under the Objective T standards of evaluation. We planned multiple iterations of deliberate attacks and zone reconnaissance missions that would have enabled us to train further METs, but the ground force commander's plan changed so frequently that we were not able to execute those missions. If aviation training objectives were incorporated from the start of the exercise planning cycle—not just 2 months in advance—then the overall exercise training plan could be adjusted to allow those tasks to be trained. At JMRC, all of the needed resources were available to enable us to train any essential task on our MET list (METL); however, aviation training was not the focus due to the exercise design.

Fifteen days after the completion of CBR VIII we travelled to Romania in support of Saber Guardian 17; a multinational training exercise conducted across Hungary, Romania, and Bulgaria. We were in very much the same situation regarding training as our JMRC experience. We supported five different sub-exercises over the course of 30 days: One Fire Support Coordination Exercise, one scripted Combined Arms Live Fire Exercise (CALFEX), two multinational river crossings, and a final week-long platoon-level (for the ground commander) CALFEX.

As I looked at the initial training schedule for Saber Guardian 17, it appeared that there would be many opportunities to train my company as we supported these exercises. There were multiple live-fire events; battalion and company-level deep attacks and multiple missions were to be conducted during periods of darkness. In reality, the lack of maneuver space and the extremely scripted nature of all of the exercises negated much of the possible training value for attack aviation. We were able to shoot, which is good training, but the size of the training areas minimized the benefit of using more than two aircraft, and most missions were supportable with only one. As a result, while we were able to go through the full planning cycle for two deliberate attacks, the lack of maneuver space, the range restrictions, and lack of an agreement on acceptable risk (between allied forces) limited the training value to my platoons during execution.

Getica Saber, a sub-exercise of Saber Guardian 17, was billed as a multinational combined arms live-fire exercise. My company was to conduct deliberate attacks in support of a U.S. armored brigade combat team, U.S. field artillery, Romanian armor and field artillery, and Romanian attack aviation (rotary and fixed wing). The reality was that the company spent 3 days conducting scripted dry and live-fire rehearsals in order to participate in a 55-minute live-fire exhibition for visiting dignitaries on the fourth day.

There was no maneuver allowed, and no planning was even necessary on my part as every movement we made onto and away from the range was scripted down to the minute and controlled by U.S. and Romanian JTACs from the viewing stands.

My job as the company commander was to ensure my company trained and maintained proficiency in attack and reconnaissance operations. Specifically, my job was to ensure the ability to execute those

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operations at night against an advanced enemy threat. My company was unable to achieve this level of training readiness while supporting the current regimen of exercises (as currently designed) established for aviation units in the European Command (EUCOM) Theater supporting Atlantic Resolve 2.0. From the start of the planning cycle, the training focus for these exercises must incorporate the needs of the aviation unit, as well as the ground force. We will build and maintain more combat power, using the same resources, if both the ground and aviation maneuver units are able to accomplish their training goals during these exercises.

There are multiple courses of action (COA) that could fix the litany of issues I have identified. If the exercise design side of the problem is going to be resolved, I believe it will require an individual of sufficient rank to attend the initial planning conferences. I am not sure if that means a Major, a Lieutenant Colonel, or higher; however, it must be someone with enough pull to guarantee that aviation training needs are given proper voice and enough backing to make them a required slice of the training plan. A challenge with this COA is that this integration must happen at the initial planning conference for each exercise. These planning conferences are held approximately 1 year prior to the exercise execution, which is prior to the rotational aviation force being in theater. This schedule does not enable the training audience to have a voice for their proposed training objectives. Instead, it requires the rotational unit currently on ground to lay the groundwork for another unit's exercises, while still executing the current slate. This is not feasible if the goal is quality training for both the ground and aviation forces.

An additional challenge is the current OPTEMPO. During the first 115 days in command, my company spent at total of 55 days in the field (JMRC and Romania) and a total of 79 days with at least part of the company split away to support training exercises—often in other countries. Of the 36 days that we were consolidated at home station (Germany), 16 of the 36 days were immediately prior to CBR VIII at JMRC, 15 of the 36 days were in between CBR VIII and Saber Guardian 17, and the remaining days were in between our return from Romania and the start of aerial gunnery. For training purposes, this OPTEMPO is not sustainable because there was insufficient time to conduct full company recovery operations between exercises. Those 36 days of consolidation were not adequate to focus on training the company, because our maintainers and crew chiefs were doing their best to repair the aircraft for the next round of exercises. Our ground vehicles and field equipment rarely received the full attention they required for parts and repairs. There was simply no extra time.

Due to the exercise focus and our OPTEMPO while supporting Atlantic Resolve 2.0, the company returned to home station fully trained in only a few collective tasks and individual aviator skills. We gained or maintained proficiency in only three of six company METs (deployment operations, hasty attacks, movement to contact), while on average over the last 4 months, the pilots in my company have only been able to fly a night mission once every 45 days. While this does technically meet the regulatory requirements of maintaining currency in the aircraft, it barely enables the pilots to maintain proficiency in basic flight tasks, let alone plan and execute deliberate attacks in our most complex mission profile. This struggle to maintain proficiency makes it more difficult not just to progress junior pilots and enable them to gain valuable flight experience, but it makes every complex night mission we are given that much more dangerous.

Operational tempo drives a company's training plan. If my company is slated for multiple, large-scale exercises supporting various U.S. and NATO forces, I am going to build a training plan based on what I think, or am told, we will be able to accomplish during those exercises. If there is no recovery time between exercises, then there is no room for me to adjust my training plan and attempt to make up training tasks prior to departure for the next exercise. This creates a situation where a company that is unable to accomplish training goals during one exercise becomes less proficient in all tasks because there is no time

Photo by SPC Thomas Scaggs

afterward to reinforce the training that does get accomplished. I am not asking for a lot of extra white space on the calendar, but each unit needs planned recovery time in order to recover from training, sufficiently prepare for the next exercise, and establish what the goals of the training need to be in order to create the most well-trained and mission-ready unit possible.

In order to maintain a well-trained aviation fighting force moving forward, we need to re-evaluate the way we are incorporating aviation assets into the overall training plan. Objective T (the Army's system to better measure a unit's readiness to deploy) is very specific regarding what is required for a unit to obtain each proficiency rating. If this is going to remain the standard for evaluation moving forward, we must ensure that every unit participating in an exercise is given the opportunity to execute their tasks appropriately. The resources are available, and the current slate of exercises could be very effective at producing an extremely proficient and well-trained aviation company. However, I believe for this to happen, there must be a joint focus from the beginning that is geared toward both the ground and aviation commanders being able to accomplish their training objectives.

A solution for both the current exercise design and the OPTEMPO issues would be to treat the incoming rotational aviation force only as a training enabler for the EUCOM Theater. If the rotational aviation force is complete with required METL training prior to departing for Europe, similar to the requirements for units departing on combat deployments, this would allow the rotational unit to focus solely on ensuring the ground force is receiving the best possible training to achieve the ground force commander's intent. Each exercise could be designed to focus entirely on training the ground objectives (no change to the current situation both in the Contiguous U.S. and in EUCOM). Additionally, any training that aviation assets receive while facilitating the exercises would be a bonus. The OPTEMPO could remain high (equipment recovery being the sole concern) as there would be little need to make up training between exercises. The sole objective for the rotational aviation force would be to travel the EUCOM Theater as needed to facilitate training for U.S. and Allied ground forces.

Whether through changes in exercise design or an overall shift in the training goals of the rotational aviation forces in Europe, the situation necessitates a change. As it currently stands, it is extremely difficult for an attack aviation company supporting a mission (e.g., Atlantic Resolve 2.0) to meet its training needs through exercise participation alone, and there is little open space on the calendar to plan anything further.

CPT Timothy A. Hybart is currently serving as the commander of Alpha Company, 1-501 ARB. CPT Hybart deployed once during Operation Enduring Freedom as an OH-58D platoon leader and deployed to Europe in support of Operation Atlantic Resolve as a company commander. He is an AH-64D aviator with 8 years of service.

Photo by SPC Thomas Scaggs

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SIGNAL SPEED OF ASSEMBLY

GETTING A COMBAT AVIATION BRIGADE INTO THE FIGHT

By CPT Matthew A. Schmiedicke

On the 2nd of February 2017, the 10th Combat Aviation Brigade (CAB) Torch party arrived in Nuremburg Airport, Germany. We were the first Soldiers on the ground to set conditions for a 9-month rotation in support of Atlantic Resolve 2.0. The core concept of establishing our footprint in Europe was "Speed of Assembly." It meant moving units quickly to their area of operation and efficiently building mission command and logistical support nodes.

The initial push into country relied heavily on automations—or in everyday jargon, getting people internet access. An interesting question was fielded to us in the mad scramble to bring the task force online.

"Why can't we just plug our Army laptops in and have them work?"

I thought of several clever responses, none of them helpful. Keeping the flippant remarks to myself, I delved deeper into the problem.

For the first 14 days on the ground in Europe, we relied on the accepted solution of reimaging laptops from the Fort Drum (New York) image to the European image. This process wipes away the existing operating system and user data. We stopped reimaging after I received guidance from the U.S. Army Europe G6 about an alternate method. Following a set of configuration changes, we would make the Fort Drum laptops work on the European network and keep user data intact. The first laptop took me 4 hours to complete manually.

Our success in the endeavor came up at a meeting a few days later.

"So," the Brigade S3, said. "I've heard you are making our Fort Drum computers work on the network here in Europe without reimaging. You need to be able to explain that."

"No problem, sir," I said, my face deadpan. "It's a simple 57-step process."

Laughter sounded throughout the room from the rest of the staff, while the Brigade S3 rolled his eyes and moved onto the next slide.

Photo by SGT Victor Everhart

Granted, the 57-step process was nowhere near as simple as I made it out to be, but with a script built by the European System Center Configuration Manager team, the process turned from 57 steps to 30, then to 20, and finally 10. The last version of the script converted a computer to work on the European network in 30 minutes.

The question lingered on, though. Why couldn't we just take our computers from the States and have them work anywhere in the world, as long as they plugged into an Army network? This wasn't a problem unique to the CAB—every mobilized unit in the Army faced similar hurdles.

A conversation with the U.S. Army network enterprise technology command (NETCOM) enlightened us to the difficulties of trying to get computer systems to work across domains. Each network enterprise center implemented different policies and installed different programs. Investigating the script showed there was a laundry list of changes that needed to be made to the computer requiring removal of unauthorized software, changes to the registry, time zone, system center configuration manager SCCM client, and McAfee™ antivirus software. The easier solution was to always reimage to the region's standard instead of nitpicking through the settings to get one computer to work.

Ultimately, NETCOM decided to take a two-pronged approach to a solution. One, they continued to develop the script that converted laptops regardless of the originating location. As a result, a laptop in Fort Drum, New York, or a laptop from Fort Hood, Texas, could be converted to work in Europe. The second solution utilized a tunneling protocol to establish a connection between the European domain and the North American domain. With the tunnel established, computers could be reimaged and joined to the European domain to provide an automations head start before a rotational unit arrived in Europe.

For the first 3 months in Germany, most of our problems focused primarily on the strategic network. A new set of problems awaited us as we made the 1300 mile journey from Illesheim, Germany, to Novo Selo Training Area, Bulgaria for Saber Guardian 17—a multinational training exercises including 30,000 Service Members from 15 nations. Vehicle communication capabilities became the focal point overnight. Not all vehicles were equipped with radios and even less were equipped with over-the-horizon communications.

A CAB had never self-deployed over such a vast distance with all of their equipment. Each convoy required host nation radio frequencies, internal communication frequencies and over-the-horizon communications. Getting functional joint capabilities releases (JCRs) into each movement required detailed planning and reallocation of JCR systems based on the needs of 10 separate convoys. For a brigade modification table of organization and equipment (MTOE) of more than 200 vehicles, there were only 30 JCRs allocated to brigade headquarters and the aviation support battalion—the units with the largest ground footprint. The mission planning process highlighted the underlying problem of authorized JCRs vs. actual requirements on the ground. By careful allocation, each convoy possessed at least two working JCRs to synchronize efforts during the complex mission.

Once we arrived in Bulgaria, we immediately established a tactical assembly area. Between putting up sleep tents, digging defensive positions, and setting up the command post, the concept of speed of assembly proved difficult to keep at the forefront. Our brigade Com-

Photo by CPL Austin A. Lewis

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Warfighter Information Network-Tactical (WIN-T) equipment is pictured in preparation for the Army's Network Integration Evaluation 12.1 in November 2011. Second from left is a WIN-T Increment 2 Tactical Communications Node (TCN). (Photo by: Claire Schwerin, U.S. Army)

mander, arrived when the main shell of the command post (CP) was constructed.

He walked into the largest dome of the CP and whistled. "How long did it take you guys to put this up?"

"Well, sir..." We looked at one another. "About 4 days."

We all knew the timeframe was excessively long. The mission command nodes of the CP did not fare much better.

Requiring significant manpower and effort to put into operation, the Warfighter information network-tactical (WIN-T) equipment was also badly outdated. For the last 10 years, while brigade combat teams received upgrades such as the tactical communications node (TCN), the CAB continued to use the older WIN-T configuration. Time was not the only consideration with the WIN-T configuration. The size and footprint required for all the equipment also presented problems. Requests came from the command group to find alternate equipment to the WINT-T configuration that kept the same capabilities but had a faster setup time and smaller footprint.

The S6 team put their heads together and developed an in-house solution using an expandable van, a modular tent, and our current set of WIN-T equipment. During our final brigade-level exercise in Germany, we tested the "command post-lite" with great success. With a 2-hour setup time, it addressed many of the issues we faced at Saber Guardian 17.

We also researched the possibility of an outside solution. Fortunately, this exact scenario had arisen during Joint Readiness Training Center rotation 16-01, and the research on my part was complete. Unfortunately, like most things in the Army, the new solution cost money, and the purchase was never approved.

I handed over indepth specifications on the ground antenna transmitter and receiver (GATR) system. The GATR seemed the ideal satellite communications solution due to its lightweight and quick setup time.

The GATR system only required two cases for transport and could fit in the back of a Black Hawk helicopter. Two Soldiers could establish connectivity on it within 30 minutes and it supported a wide range modems and configuration—speed of assembly indeed.

The Army already had programs in place to field the BCTs and heavy BCTs with the GATR system, but the CABs were not included. Our current fielded equipment did not support the rapid deployment posture required by Atlantic Resolve 2.0. Significant geographical distances separated command from forward elements. An imperative that arose during continuous aviation operations was the ability to quickly and effectively establish communications via voice and data anywhere in the world. Mobility, flexibility, and modularity for mission command were required, but lacking. The CAB faced varied missions and competing lines of effort throughout Europe—we needed the right communication solutions to meet those demands.

Coming from the Infantry, I'll be the first to admit: I never fully appreciated the planning, coordination, and maintenance that went into running a CAB. We asked for helicopters and they appeared. Ignoring the ground requirements of the CAB is easy, because they "fly helicopters." Accounting for the mechanics, logisticians, signalers, human resources personnel, and vehicles that power the CAB to the furthest reaches of the battlefield requires reliable and varied communication systems. Atlantic Resolve 2.0 revealed the communication challenges that face the CAB as the Army moves into the 21st century. How we address them is up to us.

CPT Matthew Schmiedicke currently serves as the Automations Officer for the 10th CAB. He enlisted in the Army in 2005 as a 25B (Information System Specialist), commissioned as an Infantry officer in 2008, and branch transferred to 53A (now 26B—Information Systems Engineer) in 2014.

FIGHTING PLATOONS

A Necessity When Combating a Near-Peer Threat

By CPT Trevor Roberts

As the threat shifts from asymmetrical warfare to combating near-peer adversaries, so changes the operating environment in which the Army finds itself fighting. With the shift away from the Afghanistan and Iraq wars, coupled with the emergence of new near-peer adversaries, we find that tactics, techniques, and procedures are changing, as are the aviation requirements requested from the ground force Commanders.

The common combatants encountered in the Afghanistan and Iraq wars were, on average, typically less skilled and lacked access to advanced warfighting technologies that larger near-peer adversaries possessed. Additionally, these same combatants struggled to amass combat power and effects and were frequently less organized than the larger near-peer adversaries were. Therefore, aviation elements were able to operate in small teams with near unlimited freedom of maneuver. Additionally, ground force Commanders rarely needed to amass combat power with any formation larger than a team/platoon-sized element. Ultimately, this enabled the company to centrally operate and plan operations, allowing the Commander to effectively direct efforts.

As the adversarial focus shifts, aviation will no longer enjoy near unlimited air superiority, and the ground force will demand flexibility in the form of decentralized execution at the platoon level, with the capability to execute large-scale air assaults to aid the ground force in amassing combat power and increasing the depth of the battlefield. This new demand for flexibility/capability will require company Commanders to fight platoons. I believe the Army should consider changing the way companies are staffed, equipped, and trained to meet this new requirement. These changes will enable Commanders to fight platoons, ultimately enabling the ground force with greater flexibility to execute diverse mission sets over a large area of operations (AO).

Adequate staffing is the first consideration. Currently, platoons are ill staffed to fight and win in the decisive action fight, namely at the aviation mission survivability officer (AMSO) position. While supporting Atlantic Resolve 2.0 in Europe (2017), I consistently found my company divided into platoons supporting two different operations without an AMSO. The AMSO would assist my platoon leaders with current tactics to defeat threat systems in the AO. Platoons, not just companies, require a dedicated AMSO who can shape aviation plans to help defeat the current threat. They can ensure the best flight routes are developed and utilized with regard to the current threat in the AO and can teach tactics necessary to defeat enemy air defense artillery (ADA) systems encountered during the mission. If both platoons are decisively engaged, the current configuration will not allow for the company AMSO to be in both places. This leaves one platoon with limited to no assistance.

Vital equipping is the second consideration. Platoons lack the essential equipment required to mission command effectively during split company operations in austere environments. Blue Force Tracking

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(BFT)/Joint Capabilities Release (JCR) systems are necessary for platoons operating in austere environments without command oversight because they allow a method for communicating with higher headquarters, as well as aircraft tracking and information sharing between other units. These systems, essentially small computers that display icons and statuses, allow leaders to communicate with all other elements across the battlefield via a text message function. Leaders can then respond and identify friendly locations and compositions of other units. Another added feature of the system is the ability for leaders to locate their formations during operations and communicate with those elements when they are beyond frequency modulation (FM) communication, facilitating battle tracking and mission changes. The current Army modified table of organization and equipment (MTOE) for aviation companies does not list BFT/JCRs as a required item when it absolutely should be. Additionally, the current MTOE does not allow the same companies to have a satellite radio, which is also a necessity to maintain over-the-horizon communication with higher headquarters. At a minimum, one of these mission command systems should be on the MTOE at the platoon level to enable mission command during split company operations.

Sufficient training is the third consideration. Aviation companies lack the training required to operate as platoons in an austere environment. Current training for aviation units center around combat training center (CTC) rotations that can be focused on either a counterinsurgency (COIN) or decisive action (DA) fight. The current DA rotations only focus on the company level, where companies rarely execute split-based operations away from the parent headquarters. I propose a multifaceted solution to adjust this shortcoming.

The first solution is to adjust the way CTC rotations are framed to include split base operations for both company and platoon.

The second solution is to embed observer/controller-trainers (OC-T) to evaluate how platoon leaders are performing when conducting split base operations.

The last and most important solution is for the organic unit Commanders to create realistic training that will develop platoon leaders who effectively lead their formations while utilizing Commander's intent.

Company Commanders must understand mission command, which includes clearly articulating their intent to platoon leaders. This understanding of Commander's intent will enable and empower platoon leaders to make decisions, lead their formations, and only reach back when absolutely necessary. However, the only way to build this skill is to require platoon leaders to operate independently of the company Commander. This will force the platoon leaders to make decisions, exercise initiative inside the Commander's intent, and develop positive habit-transfer in a safe, controlled environment. I believe the Army should build training with these objectives in mind: allow Commanders to build trust in their junior leaders, and allow junior leaders to make decisions in a controlled atmosphere. Building trust and allowing Commanders to shape the decisions of platoon leaders in training will allow for a smooth transition to what these leaders can expect in a near-peer fight.

In conclusion, since the Army's operating environment has shifted to defeating a near-peer threat, it has become increasingly more important to update the way we staff, equip, and train platoons. The previously proposed considerations, while not completely all-inclusive, are a necessary starting point. By updating the way we fight platoons, especially in Army Aviation, we can provide a more flexible and lethal product to assist the ground force Commanders in accomplishing their assigned missions.

CPT Trevor Roberts enlisted in the Army in 2003 as a 15Y Apache Armament and Avionics technician. He was awarded a green to gold 4-year scholarship and graduated Summa Cum Laude from the University of Colorado, Colorado Springs. He was commissioned as a 2LT in Army Aviation in 2010. He holds a B.S. in International Business from UCCS. Trevor is a graduate of the Basic Officer Leadership Course, Aviation Officer Basic Course, the Rotary Wing Aviator Course, the Aviation Captains Career Course, and the Aviation Maintenance Officer Leaders Course.

CPT Roberts' previous assignments include experience as a UH-60M maintenance platoon leader and executive officer with D/2-158 AHB, 16th Combat Aviation Brigade, at Fort Lewis, Washington, and as a flight platoon leader with B/2-158 AHB, where he deployed to Afghanistan in support of OEF in 2014. Upon redeployment, he served as a Battalion Operations Officer for the 46th ASB. After the Captains Career course, he served as the Assistant Operations Officer for 2-10 AHB, 10th CABrigade at Fort Drum, New York. His last assignment was company Commander for A/2-10 AHB.

CPT Roberts' awards and decorations include the Air Medal, Army Commendation Medal with Oak Leaf Cluster, Army Achievement Medal with two Oak Leaf Clusters, Good Conduct Medal, National Defense Service Medal, Afghanistan Campaign Medal, Global War on Terror Service Medal, Korean Defense Service Medal, Army Service Ribbon, Overseas Service Ribbon (2nd Award), NATO Medal, Army Aviator Badge, and the Army Parachutist Badge.

Photos by PFC Nicholas Vidro

THE EXPEDITIONARY FORWARD SUPPORT MEDICAL PLATOON

BY 1LT CLAYTON P. BROOM

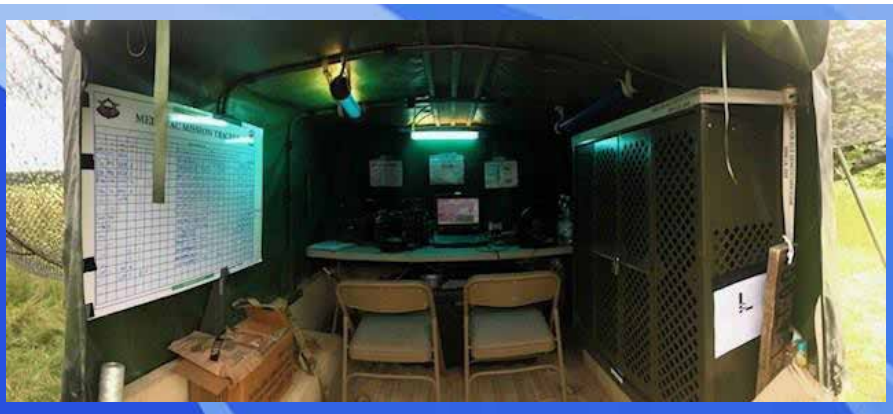
Imagine a future battlefield, one where large scale Forward Operating Bases are simply targets to be wiped out. Units cannot congregate in one area to plan or establish a footprint in a foreign country. The only gear and personnel a unit can rely on are its organic assets. The enemy locates your Area of Operations (AO) and begins a lethal preemptive strike to annihilate Medical Evacuation (MEDEVAC) and Aviation assets to diminish your combat power. However, you and your Forward Support Medical Platoon (FSMP) have prepared for this inevitable assault. All necessary equipment vital to your mission is thrown into your mobile command post set up in the back of your High Mobility Multipurpose Wheeled Vehicle (HMMWV) trailer while your aircrews sprint to the aircraft, their adrenaline rushing to get the aircraft away from the bombardment of mortars and bullets. Because of the expeditionary nature of your forces, you survive the volatile encounter with the enemy force, and MEDEVAC coverage can resume across the battlefield. This is the mindset we want to have from the moment forward. War is changing and we must change with it.

There were many lessons learned within the ranks of the 10th Combat Aviation Brigade (CAB) throughout Atlantic Resolve 2.0 in Europe this past year. Some of the lessons learned are for the best and others have been quite revealing. However, one of the most important lessons that C/3-10 General Support Aviation Battalion Mountain DUSTOFF learned came during Operation Phoenix Fury 17 at the Grafenwoehr training area (GTA) in Bavaria. With a small complement of personnel and limited equipment, we discovered a new way to bring MEDEVAC support to the renewed conventional warfare era. An Expeditionary Command Post (CP) was created to help us provide support on-the-go to our ground forces and North Atlantic Treaty Organization (NATO) allies.

The Mountain DUSTOFF Commander, and our operations officer (OPSO), CPT Price, established the intent for an expeditionary command post prior to Saber Strike 17 in the Baltic Region and Phoenix Fury 17 in Grafenwoehr. The Officer in Charge (OIC) for Phoenix Fury and I began the planning process so we had ample time to prepare our equipment and conduct trial runs prior to leaving for the field. The DUSTOFF Commander and OPSO's vision for this CP was that the FSMP attached to an Aviation Battalion (or other specified unit) could pack up and move at a moment's notice in the event that enemy forces compromised the main CP and AO. The idea was brilliant, and we were all excited to try out the new plan. If this worked out, the plan would be incorporated into the new Charlie Company standard operating procedure (SOP) for future missions and deployments.

Preparation for the new CP began almost immediately. The determining factor that would decide its possibility was if a 5K generator would successfully fit into the back of an up-armored HMMWV. Thankfully, it fit by a matter of inches. Yet another positive sign on our journey to the field. Due to the dimensions and weight of our 5000-watt generator we found that a 3K generator would be ideal in size and weight. However, the purpose of this CP was to use only our organic company assets, which meant no borrowing from other companies. Already off to a good start with an expeditionary mindset instilled in our preparations, we pressed on and continued making plans for the movement to GTA.

As Phoenix Fury neared, we packed up the trailer the CP would be set up in with all the essentials. There



AN EXPEDITIONARY COMMAND POST (CP) WAS CREATED TO HELP US PROVIDE SUPPORT ON-THE-GO TO OUR GROUND FORCES AND NORTH ATLANTIC TREATY ORGANIZATION (NATO) ALLIES.

Charlie Company Command Post at Grafenwoehr training area. Photo by SFC Bishop.

were no luxuries aside from the necessary coffee pots for the duty crews. I, along with three other Soldiers in the Company, drove the HMMWV to GTA with the convoy, and thankfully had no issues. Due to the minimal amount of required equipment we ended up bringing, it only took about four personnel to set up the Company AO. Two of the Company Soldiers had communication links up before any of the other companies did, and the other had the general purpose medium tent up in less than 3 hours with only three people helping him. This put Charlie Company way ahead of the power curve with the expeditionary mindset. We were learning how important it was to keep it simple and basic. We camouflaged the vehicle in the woods by parking it under a tree and threw camouflage netting across the sleep tent and trailer. We had the workings of a great CP that could be easily collapsed in a short time. Our observer coach (OC) and battalion leadership were quite happy with what we were able to set up for the exercise. Our OC even sent pictures of the CP itself through his chain of command at the Joint Multinational Readiness Center (JMRC) where doctrine is written for future training operations. Charlie Company challenged conventional operational thinking while setting the standard for the rest of the battalion and the brigade. I was incredibly proud of the hard work our Soldiers put into making this a reality.

For the majority of this article, I have discussed having an expeditionary mindset and how important it is. Not only does the Army as an organization need to change, but we, as dedicated Aeromedical Evacuation assets, need to change on a fundamental level. This includes MEDEVAC doctrine, company configuration, aircraft configuration, and changes to the Modified Table of Organization and Equipment (MTOE). The reality is simple. We will at some point face a threat that is more organized and well-equipped than the forces we have fought for the last 17 years.

Every year, the MEDEVAC Proponency Division (MEPD) pushed out updates to the DUSTOFF units across the Army about what the future battlefield will look like. Most recently the research has been done to see what patient evacuation would be in a "Multi-Domain Battle" with an enemy that is comparable to our own. Examples included the Russian Federation, People's Republic of China, and the Democratic People's Republic of Korea (DPRK). Split-Based Operations would still mirror the way it is laid out in Chapter 7 of Army Techniques Publication [ATP] 3-04.1, "Aviation Tactical Employment" as shown in Figure 1 (Department of the Army [DA], 2016).

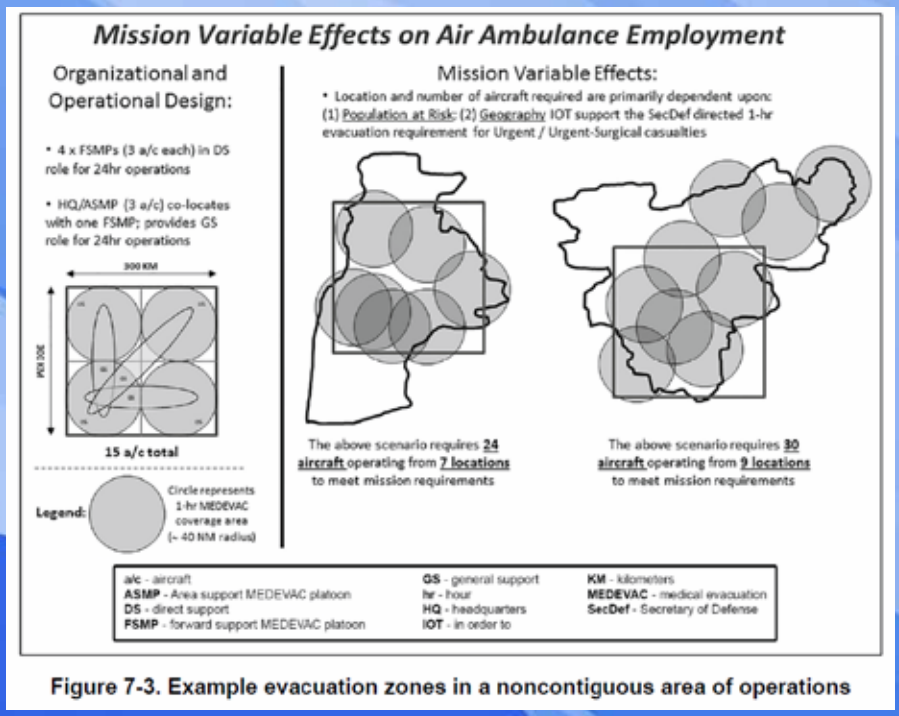


Figure 1. Taken from Figure 7-3, ATP 3-04.1 (DA, 2016).

The Area Support Medical Platoon (ASMP) would still maintain its overall control over the FSMPs that it pushes out and maintains fully equipped HH-60M Black Hawk helicopters for possible chemical, biological, radiological, and nuclear (CBRN) events and behind the lines medical emergencies. Fully equipped HH-60Ms would be what Air Ambulance companies are provided via the current MTOE. Litter pans, suction, OBOGs (oxygen capability), and external hoist would all remain equipped with the three ASMP aircraft (Figure 2). The FSMPs pushed out to the different engagement zones would be equipped with the proposed mobile CPs and completely slicked out HH-60Ms. No litter pans, just the necessary plug-ins for the ZOLLs (defibrillators) and other medical equipment our 68WF2s would require for a hop from Point of Injury (POI) to the nearest Role 1 or 2 Medical Treatment Facility. Mass casualty events (MASCAL) would be easier to handle with a lighter aircraft and the engine capabilities of a UH-60M aircraft equipped with a T-701D engine (and in the future, the new T-900 engines currently in development). Movement from AO to AO would also be easier with the slicked out aircraft, smaller generators for our FSMPs, and the mobile CP units.

Many of the changes that are proposed here and by MEPD will require some changes to the current MTOE. The biggest items to be changed would be taking away the 5K generators assigned to each FSMP and providing them with a smaller and more mobile 3K generator. The only part of the company that would need a 5K would be the ASMP, which should not be jumping on a regular basis. The largest item change would be changing the 15 HH-60M to 3 HH-

FULLY EQUIPPED HH-60MS WOULD BE WHAT AIR AMBULANCE COMPANIES ARE PROVIDED VIA THE CURRENT MTOE.

Figure 2. Interior of an HH-60M Black Hawk with its litter pans raised (Photo credit: Jason Paur/ Wired.com).

60Ms and 12 UH-60M aircraft. Cabin work space is key, especially when managing patient care. The ports available in the HH; however, offer the ability to use our own calibrated medical equipment. A combination of the UH's cabin space and the HH's ports would greatly increase our battlefield effectiveness. Medics will have more room to treat patients, and the lighter nature of the aircraft will reduce response time to a POI on the battlefield. Smaller changes to the MTOE would be the addition of one-man tents and DRASH® tents. These easier to set up tents would make movement between AOs and scatter plans much more effective and reduce the amount of field losses to crews being unable to break down the AO in time before being overrun.

Aside from the much-needed MTOE changes, Aeromedical Evacuation has to change due to the evolution of modern warfare. Space and cyber-warfare create new and dangerous threats for aircraft, especially helicopters. The MEDEVAC Proponency Division has determined that there will be significantly more technological threats to the MEDEVAC mission in the coming years. It can be deduced from the Army Medical Department (AMEDD) that they project many problems for Aeromedical Evacuation in the near future. The presence of true Air Defense Artillery (ADA) threats alone show the need to adjust our tactics and tactical flight mission planning. We must be ready to meet them head on and evolve with the battlefields that we see today.

The bottom line is that casualties are going to increase. Aeromedical Evacuation is not going to always be the most practical means of saving a patient's life. Ground MEDEVAC and CASEVAC (Casualty Evacuation) on the unit level is imperative to having a successful system in place. Individual units of all branches need to have their own CASEVAC plans ready to be integrated with Aviation assets in the field. The situations we should expect in the future will revolve more around CBRN and large distances between Role I, II, and III facilities in theater. Once again, we see the need to be expeditionary, flexible, and most importantly, mobile on the battlefield.

Mountain DUSTOFF learned much from the experience of creating a new type of CP. Not only are we better equipped for a more conventional war, we learned that we could operate just as effectively with a smaller operation and less equipment. When the time comes for DUSTOFF units to go to the National Training Center, Joint Readiness Training Center, or even deploy to a combat zone, this idea could be utilized to better prepare themselves and make smaller targets for enemy forces. With the mobile CP being such a success, it found its way into our new Company SOP which will one day be a part of the 10th Combat Aviation Brigade's Tactical SOP. The goal is that this mobile CP will eventually be the standard for all Air Ambulance companies throughout the U. S. Army and assist the AMEDD in creating new ways to save lives on the battlefield.

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Reference:

Department of the Army. (2016). Aviation tactical employment (Army Techniques Publication 3-04.1, pp. 7-6, Chapter 7) Washington, DC: Headquarters, Department of the Army.

Enhancing Warfighter Focus:

AVIATION BRANCH'S IN-STRIDE SHIFT TO LSCO

By COL Joseph Degliuomini and CW4 Leonard Momeny

The past 17 years of counterinsurgency operations in Iraq and Afghanistan, combined with the challenges of force reduction brought on by the Aviation Restructuring Initiative (ARI), has left an indelible mark on the Aviation Branch. The collective effect has resulted in a current operating picture for Army Aviation that is quite telling. Regardless of Aviation's reduced structure, we today find a smaller force meeting an insatiable demand for even more. The current estimates of commitment have approximately 84% of our total assets and personnel committed, in support of or preparing for major exercises, all across the globe. In addition to these challenges, the Branch is also facing effects of increased demand for civilian pilots, an enticing career prospect for many Department of Defense aviators, as it promises a slower tempo and no deployments.

The problem set for Army Aviation is considerable, but it pales in comparison to the new requirements implied by the guidance received via our National Defense Strategy that was further refined by Army Senior Leaders. The new effort in refocusing the Army, and the rest of the Department of Defense for that matter, is toward embracing a ***fight tonight*** readiness posture against a potential peer threat. The idea of a fight tonight posture against a peer threat is one that views an engagement where our collective efforts begin from a challenged position of disadvantage, all the while dealing with contested environments in all domains. The challenge is best summed up in the all-encompassing term, large-scale combat operations (LSCO). Our leaders are suggesting we maintain our efforts within our current problem set, all the while attempting to conduct a successful pivot toward LSCO. That brings the discussion to the question of how? How is the Branch going to maintain current operations and still pivot successfully toward a new future modality of warfare? We as a Branch can make this shift in focus by ensuring that it is doctrinally driven.

The command group at the U.S. Army Aviation Center of Excellence (USAACE) has recognized the challenges our Branch is facing, and is making every effort to take necessary action. One of the ways is to off-burden units from expending intellectual capital on nuanced differences that serve to distract from our ability to master our warfighting craft. This effort is centered around finding efficiencies within foundational activities across standardization, maintenance, and training that will enhance the Branch's ability to train and focus on warfighting. The desired end state of this effort is that the Branch increases in its ability to train and focus on warfighting tasks.

photo by 1LT Benjamin Haulenbeek;

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Leaders are driving forward to not only remove unnecessary requirements, but also use the opportunity to optimize training time, improve interoperability, and codify and share best practices across the force. This conceptual effort has been named the ***Aviation Warfighting Initiative***, or AWI, and is looking holistically at what can be done to efficiently pivot toward LSCO. The suggested main effort to accomplish this pivot in stride is to initiate a standardization of the common planning, practices, and activities across the entire Aviation Enterprise. This is basically an initiative to collect only the finest intellectual capital with respect to aviation mission execution; refine said information, standardize it, and finally synchronize it across all compos in the Branch. The effort is being spearheaded by the introduction of the ***Army Aviation Handbook*** and other such publications, thereby providing a common language and operating picture that all could draw from the LSCO environment.

Understanding the Future Environment:

The potential environment of LSCO cannot be underestimated, as it will be a breeding ground for conflict and confusion (Department of the Army, 2017). Standardization would help eliminate some of that potential confusion. Additionally, the reality of LSCO demands aviation learn to speak with a single voice regarding mission planning and execution, across all components to the ground forces we support or integrate with. Ground force commanders locked in battle against a potential peer threat deserve consistency in their operations. Also, think of the added benefit common operating procedures provide organizations when being augmented by external units. When everyone starts with the same guiding publication, everyone thinks the same, and everyone operates the same. In this instance, the potential augmenting unit is not contributing to confusion, but rather, cohesion. This is a potential tactical efficiency and organizational gain that the Branch cannot ignore.

Project Insight, Background, and History:

Many of you currently reading this have seen, or at least heard about, the ***Army Aviation Handbook***. Around October 2017, the Directorate of Training and Doctrine (DOTD) was asked by USAACE to develop a Combat Aviation Brigade (CAB)-level universal tactical standard operating procedure (TACSOP). The reasoning was to standardize practices across aviation to create individual and organizational gains and efficiencies. If this endeavor were successful, it was reasoned that it would result in an improved ability of our Aviation Branch, as a whole, to better train and fight in support of the ground force commander. After much deliberation, it was determined a universal TACSOP would be too aggressive, a first step in force-wide standardization. Aviation senior leadership suggested smaller, yet more focused steps toward standardization and do so via a "battle book." This would eventually evolve into what you see today, an ***Army Aviation Handbook***. Think of it as our own version of the ***Ranger Handbook***. Not necessarily regulation or a field manual, but instead a pocket reference intended to enhance the learning, instruction, and mentorship of our officers, specifically in a tactical environment. The intent and purpose remain similar to the battle book, but initial scope of the project has been scaled appropriately to match a first effort.

The handbook is intended to standardize the most common tasks we as a Branch engage in with the hope that efficiencies can be gained. What efficiencies, you ask? How many of us across aviation are working to rewrite our units' SOP? Part of the purpose behind the handbook is to move aviation into a position where units no longer have to worry about drafting, staffing, and refining their own SOP and instead, focus on training. Imagine the benefit of starting with an SOP in flight school and then arriving to your first unit, ready to fall under the same SOP. That same officer will be able to PCS in 3–4 years and not have to violate primacy regarding tactical operations and aircraft contingencies and instead, fall under the same SOP at his next duty station.

As a peer group, we have to admit our Branch seems to engage in SOP revision constantly. Can you imagine how many man-hours could be reclaimed for standardization personnel if they no longer had to constantly draft, revise, and if lucky, republish the SOP? How many more hours could be applied toward unit progression, individual training, and eventually collective training? If we are honest, we do not care much for tasks that detract us from our aviation duties. Additionally, there are many commanders who wrestle with the fact that a Multifunctional Aviation Task Force composed of elements from different CABs, perhaps even units from different compositions, e.g., Guard and Reserve, struggle to communicate and efficiently operate when first brought together. It is an interesting thought when you realize we all fly Army aircraft, we all attend the same schools, and we all are partners in the same fight.

Codifying and standardizing best practices across the field brings many benefits. It will improve the ability of all within the enterprise to transition toward LSCO, while keeping up with current operational requirements. It will reduce the administrative burden involved in the generation of SOPs, thereby freeing instructors to devote more time toward individual training. Finally, it will enable commanders to focus more on warfighting, hopefully going deeper with their unit's members with respect toward their wartime mission.

What is in the handbook?

Standardization always feels constrictive in nature, dictatorial, at least at first, but it is important to remember that is not the handbook's intent. Instead, this is to be a marked change in Army Aviation when field units are able to focus on what matters, not burdened by the administrative requirements of generating publications. With that being said, it is also important to remember this is not a standalone SOP.

So, what is in the handbook? Much of the handbook is assisting aviators and leaders with common planning criteria, briefing format, and other considerations. There are multiple data cards for different airframes encompassing the following topics: mission preparation, briefings/rehearsals/after-action reviews, mission execution, mission contingencies, etc. What was standardized? If it's in the publication, it is now the way USAACE prefers the task be executed. Items many of you were probably looking for in the handbook include a standardized communications check, formations, formation changes, lost commo, inadvertent instrument meteorological conditions, and the like. As stated earlier, this is a first step and as such, can easily be considered incomplete in the minds of some. Still, there may be many who feel the handbook oversteps its bounds. Moving forward, it is important to strike a balance between these two perspectives.

Closing Comments:

The ***Army Aviation Handbook*** is the first step in a larger effort to standardize the force. It is not an effort to overreach or subvert the efforts of individual units. Instead, we are offering it and other future references that capture best-practices and aggregate years of experience into implementable and viable procedures and solutions. All in an effort to allow you—the warfighters—more time to focus on what really matters, training your units. Still, the field has a huge role to play in this endeavor. This standardization effort will fail or succeed at one point, the CAB. If the ***Army Aviation Handbook*** needs revision, or fails in some respect, DOTD needs to know so a change can be made. If someone in your formation has an idea they would like to implement, send it to DOTD. This handbook needs your input, and with an initial 6-month assessment window, followed by immediate rapid revision and publication, it is necessary you put the document through its paces and submit your changes.

Again, the ***Army Aviation Handbook*** is only the first effort in a larger move to standardize the force. Other forthcoming products include: Planning SOP (P-SOP), Aviation SOP (Standardization or S-SOP), and a Maintenance SOP (M-SOP). There is great value in standardized procedures and doctrinal philosophies. Soon, CAB officers will not have to worry about as much office-related work as they once had and be free to do more planning, training, and flying. In closing, all of us at USAACE and DOTD who are working on this and other projects do so with only the best of intentions. We sincerely hope the handbook helps you and your Soldiers execute your assigned missions. We look forward to working with you to make it the best product possible.

Reference:

Department of the Army. (2017). *Operations* (Field Manual 3-0). Washington, DC: Headquarters, Department of the Army.

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photo by CPT Brian Harris

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S(trategic)L(eadership) = E(mpathy)2 + S(uperior)C(ommunication) + E(motional)I(ntelligence)

AN EQUATION FOR STRATEGIC LEADERS IN THE DEFENSE ACQUISITION SYSTEM

By COL Gregory S. Fortier

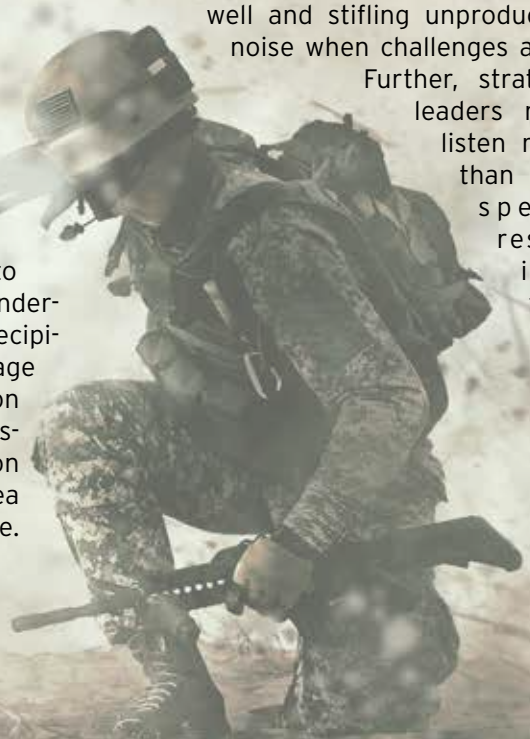
On June 30, 1992, my West Point "new cadet" classmates and I listened intently to an instructional message stating that strategic thought was subordinate to the tactical and operational levels of our future profession, regardless of rank and responsibility. The seasoned Colonel added, "strategic thought was occasionally needed, but accomplishing the Army's mission required masterful integration of tactics into future joint force operations." Intentional or not, this Vietnam veteran imprinted a theory that took me 12 permanent station moves, 75 months of Command, 2 combat tours, and 5,727 work hours in the Pentagon to disprove. Indeed, strategic thought must be conceived and understood at all ranks in the tactical and operational arenas; however, "leading strategically" is an entirely different art form requiring three core personality traits and a graduate level comprehension of their interdependencies.

Understanding the "systems engineering" depiction requires one to first acknowledge the nuance and complexity of the strategic setting. Each of the three individual circles (**Superior Communication, Emotional Intelligence, and Empathy**) and their intersections represent key leadership traits and domains where strategic leaders amplify their effectiveness through accurate environmental classification (Figure). The diagram assumes impeccable integrity with flawless ethical conduct and is optimally employed in the time constrained strategic leader domain.

SUPERIOR COMMUNICATION

Fundamentally, communication is the process of transferring information from a sender to a receiver. While simple in context, the art of conversing effectively requires the dispatcher to broadcast in a clear and understandable way while the recipient interprets the message accurately. Communication is largely dependent on message content, information flow and the impact the idea has on its intended audience.

Transmission is only half of the process and does not represent a completed communication cycle. Today, strategic leaders rapidly interact verbally, non-verbally, and in written form through email, text messages and social media. Understanding that some of these communication techniques are naturally devoid of emotion and sometimes easily misinterpreted is important. As the means evolve over time, the method information flows in an organization is crucial to the way personnel understand their relationship and seek accountability within their team. Effective communicators build Steven Covey's "next level trust" (Covey, 2006), inspiring creativity when things are going well and stifling unproductive noise when challenges arise. Further, strategic leaders must listen more than they speak, resisting the



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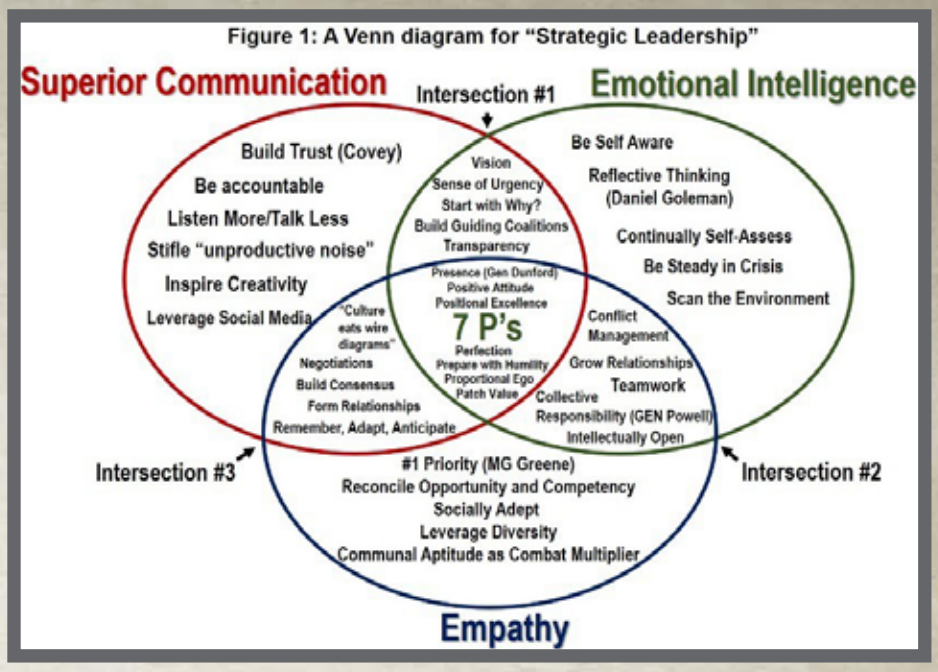


THE DIAGRAM ASSUMES IMPECCABLE INTEGRITY WITH FLAWLESS ETHICAL CONDUCT AND IS OPTIMALLY EMPLOYED IN THE TIME CONSTRAINED STRATEGIC LEADER DOMAIN.

urge to continually transmit their message. Amplifying both verbal, non-verbal and written communication maximizes value and effectively defines success in an emotionally intelligent fashion.

EMOTIONAL INTELLIGENCE

While analytical and technical skill are required traits for most senior leaders, emotional intelligence distinguishes outstanding performers from the status quo. In his book Emotional Intelligence, psychologist Daniel Goleman concludes that truly effective leaders are distinguished by high degrees of emotional intelligence and that the absence of this trait stifles leaders' progress by degrading incisive minds (Goleman, 1995). Goleman asserts that emotionally intelligent communicators routinely perform accurate self-assessments while continuing to improve the critical soft skills required in the strategic environment. Furthermore, emotional intelligence enables self-awareness and facilitates understanding of individual strengths, weaknesses and environmental scans through reflective thinking. Once grasped, leaders can better comprehend the indirect efforts of decision making to reduce risk and shape their teams. Emotionally intelligent leaders are socially adept, steady in crisis, transparent, and most importantly, empathetic to all they serve.

EMPATHY

Although empathy represents one of three intersecting circles, it is both superior to and ingrained in the other two traits. During a 2010 officer evaluation report (OER) counseling session with then BG Harry Greene, I asked him to identify the most important skills for a strategic leader. Without hesitation, he responded, "empathy first, then the rest." He stated that all things begin with understanding and that leaders who express sincere compassion reap multiple benefits. A Soldier who exudes genuine care for the well-being of their subordinates, seniors and peers alike is a Soldier who always accomplishes his assigned tasks while safeguarding the institution. When this authentic concern is internalized, empathy cannot be feigned. Leaders who embrace empathy are naturally more willing to negotiate and compromise so that critical business can be accomplished. Empathetic senior leaders seek to reconcile opportunity and competency, while leveraging diversity within any team. Effectively employing communal aptitude as a combat multiplier displays empathy to a workforce, coalition partner or foe.

INTERSECTION #1:

SUPERIOR COMMUNICATION + EMOTIONAL INTELLIGENCE = POWER!

Emotionally intelligent, superior communicators represent exponentially powerful change agents. Most civilian and military leaders communicate in three steps, beginning with a description of "what" they do or what they need a subordinate to accomplish. That message is often followed by instructions on "how" to accomplish tasks. The purpose, or the "why," is usually communicated last because it is time consuming and often an afterthought.

One cannot dispute the importance of reminding teammates "what" they do; however, "why they exist" stands most critical in mobilizing impeccable teams to accomplish the "what" in a unified fashion. Statements that detail the "what" and the "how" without driving the message of "why" are incomplete. Rather than communicating in the order of "what-how-why," the most effective leaders reverse the order, instead starting with "why." Leaders that begin with "why" display a level of transparency that fosters immense trust while solidifying the organizational vision. By the same token, leading with "why" refines internal

and external messages, thereby enhancing leader effectiveness. Whether you are leading Soldiers into combat or guiding your child to perform chores, "people do not buy what you do, people buy why you do it" (Sinek, 2009). In the ever-evolving complex world, communicating in reverse order increases speed, sustains acceleration, magnifies organizational value, and generates power to remove barriers.

Strategic leaders operating successfully in "Intersection #1" build the guiding coalitions necessary to implement real change.

INTERSECTION #2:
EXTRACTING EMPATHY AND OVERLAYING IT WITH EMOTIONAL INTELLIGENCE

Empathetic, emotionally intelligent leaders place themselves in the shoes of others. They resist the urge to "point a finger," instead choosing to "retract a thumb" and take collective responsibility for success and/or failure. General (Ret) Colin Powell offers that emotional intelligence is a prerequisite for leaders to effectively manage conflict and inspire positive culture to overcome the inevitable challenge of organizational inefficiency (Powell, 2016). In his article, "On Strategic Leadership," General (Ret) Richard Myers references the term "intellectual openness," stressing its importance when leaders confront ambiguous and complex problems (Myers & Pierce, 2009). Displaying empathetic emotional intelligence, or "E2I," to a workforce facilitates communication of espoused values such as strategies, goals, and philosophies while simultaneously defining underlying assumptions that account for unconscious beliefs. Organizational perceptions, thoughts, and feelings depict the ultimate source of values and must be understood before culture changes are realized (Schein, 2010). Superior leaders are emotionally intelligent, inspiring empathetic communication to forge an unbreakable workforce.

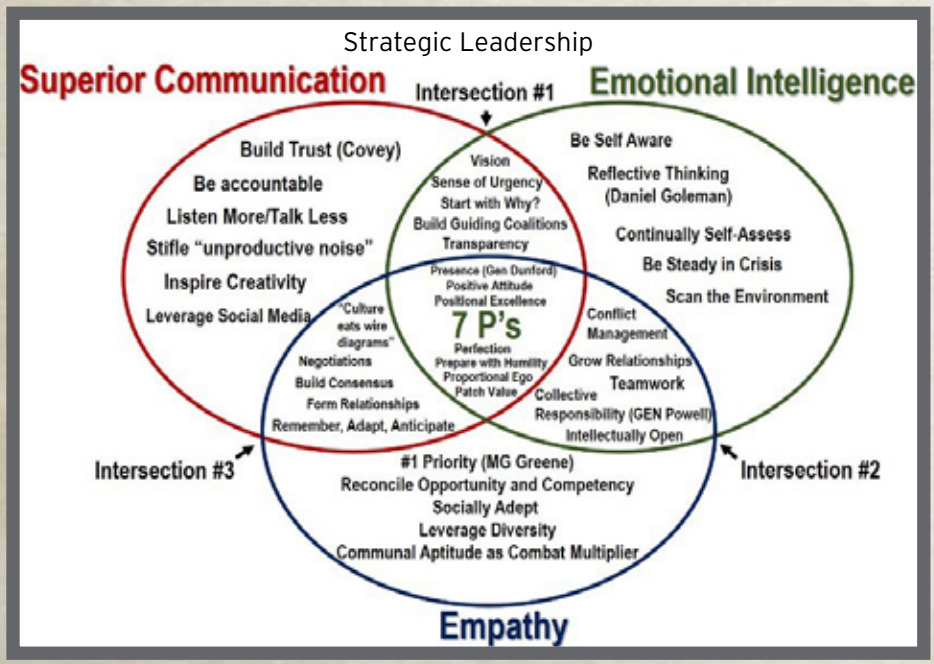
INTERSECTION #3:
WHEN COMMUNICATION INTERSECTS WITH EMPATHY

While the power to align and change teams outlined in "Intersection #1" focuses primarily on the internal aspects of an organization, "Intersection #3" addresses shaping a favorable external environment. Empathetic external communication builds relationships required for leaders of large organizations. Leveraging associations builds consensus and enables negotiations to flow easier when accomplishing day-to-day activities. Consensus is a powerful tool within the Defense Acquisition System, and those that communicate effectively and place themselves in the positions of others can masterfully transition complex discussions and hard line stances into action. Before communicating externally, strategic leaders must remember the past, adapt to the present and anticipate the future. Studying the history of organizations to understand the richness of different traditions and positions facilitates success.

Internally, "Intersection #3" is also essential in the everyday leadership of key teammates serving at the lowest levels of the wire diagram because culture eats organizational charts for lunch. Leaders foster an anticipatory aspect of the future when they successfully define their vision with the intersection of superior communication and emotional intelligence. Every team has a past and a present, and it is critical that strategic leaders look with pride in both directions.

"THE 7-Ps IN THE CENTER"

Paralleling Simon Sinek's idea of communicating inside-out, the Venn diagram (see Figure) is best understood by starting at the union of the three circles. As seen in the Figure, the "7-Ps" represent the origin from which strategic leaders understand commonality among all three key



THE "7-PS" REPRESENT THE ORIGIN FROM WHICH STRATEGIC LEADERS UNDERSTAND COMMONALITY AMONG ALL THREE KEY TRAITS.

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traits. Although all seven are important, the most effective strategic leaders begin by exuding ***presence*** and ***positive attitude***. General Dunford states that "virtual presence is actual absence" and that leaders must be physically present to affect their teams (Dunford, 2016). That presence, coupled with a positive attitude, serves as a contagious combat multiplier to manage conflict. Leaders with the "positivity" chromosome create a workforce that replaces the "no, because" culture with a "yes, if" attitude.

Once those two components are mastered, leaders must internalize the idea that "we are all ***perfect*** until we realize that we are not." Even high-performing leaders can recount a humbling moment in their career where they did not achieve perfect results–a time where they swallowed their pride and placed their ego aside in the interest of learning and mission success. With that said, ego remains an important component in leading others. Coach Mike Krzyzewski, the all-time winningest coach in men's college basketball history, encourages the presence of hubris, stating that ego and humility exist as mutually inclusive traits (Krzyzewski & Spatola, 2009). However, superior leaders convert their individual confidence in metered proportions within the confines of the organization and individual duty description. Perfection and ***proportional ego*** aside, both the leader and the led must continually strive for self-improvement, understanding that excellence is not a resting position (i.e., "***positional excellence***"). These are the groups that desire transformation from "a team of experts" to "an expert team." Associations with individuals who value their organizational ***patch*** (logo) more than themselves are teams that inevitably choose to refrain from gossip and the negative connotations associated with it, instead generating an impenetrable wave of productive noise essential to conquer any challenge. Lastly, leaders, at any rank, must continue to ***prepare*** with humility. No matter the time, place, duty description or mission, humble preparation always leads to confident execution.

CONCLUSION

On the lonely "preparatory" days in command, I sometimes find myself thinking about that West Point Colonel's message. While I believe he understood strategic leadership, I am convinced that his "Vietnam era imprinting" devalued the importance of soft skills within senior officers. As problem sets and solution processes change, next generation strategic leaders must open their aperture toward a new way of leading. Now more than ever, the "three circles" presented in the Figure represent prerequisites for strategic leaders to operate effectively in a much more expansive leadership space. The 21st Century strategic leader who infuses superior communication, empathy, and emotional intelligence into pre-existing tactical competence and operational acumen will lead the next generation of America's sons and daughters with distinction.

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Photo by SPC Thomas Scaggs

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ARMY AVIATION
EXPEDITIONARY OPERATIONS
IN AN AUSTERE ENVIRONMENT
"WHAT IS THE SWEET SPOT?"

By CSM James Etheridge and LTC Daryl S. von Hagel

How do we define Expeditionary Operations for Army Aviation? How do we train, equip, and man our formations to perform Expeditionary Aviation Operations (EAO) to combat a near-peer threat? Why is it important? Conducting Combat Arms Maneuver (CAM) in a near-peer environment is complex and challenging. Achieving the "Sweet Spot" to maximize survivability, lethality, and extended reach of a Multifunctional Aviation Task Force (MFATF) is essential for providing combat power to the maneuver commander.

Recommendations from the Holistic Aviation Assessment Task Force (HAATF) Operational Planning Team (OPT) provided the following recommendations for defining EAO. Aviation operations that require rapid deployment of a task-organized force via land, air, and/or sea into austere and/or immature theaters with the requisite mobility, lethality, protection, sustainment, and mission command capability to operate as part of the Joint, Interagency, Intergovernmental, and Multinational (JIIM) team to conduct Unified land Operations (ULO) (Department of the Army [DA], 2017). The supporting elements from the HAATF review of EAO include; mission sets, duration, unit of employment, speed, frequency, and extent of split operations.

> THERE IS NO INSTANCE OF A NATION BENEFITTING FROM PROLONGED WARFARE.
>
> – SUN TZU

MISSION SETS: Full range of decisive action operations from humanitarian assistance and disaster relief (HA/DR) in a permissive environment to combat operations against a near-peer/peer threat.

DURATION: Units must be prepared to operate with limited external resupply and sustainment for up to 14 days at a rate of 65 flight hours per month per airframe (32.5 flight hours per airframe during this 14 day period).

UNIT OF EMPLOYMENT: Lowest echelon company/troop(+), ideal task organization is battalion task force with attack, heavy lift, lift, and medical evacuation (MEDEVAC) capability up to a combat aviation brigade (CAB).

SPEED: 72-96 hours prepared to load, 24-72 hours full operational capability (FOC) upon arrival in joint operations area (JOA). Combat Arms Maneuver may require initial operational capability (IOC) under 8 hours based on threat and friendly force disposition.

FREQUENCY: Movement during operations–HA/DR = every 48-96 hours; regionally aligned force (RAF) = every 24-72 hours; flexible DETERRENCE operations (FDO) = 12-48 hours; CAM = 4-12 hours (2-3 movements/day dictated by threat/mission).

EXTENT OF SPLIT OPERATIONS: All operations are mission and unit employment dependent.

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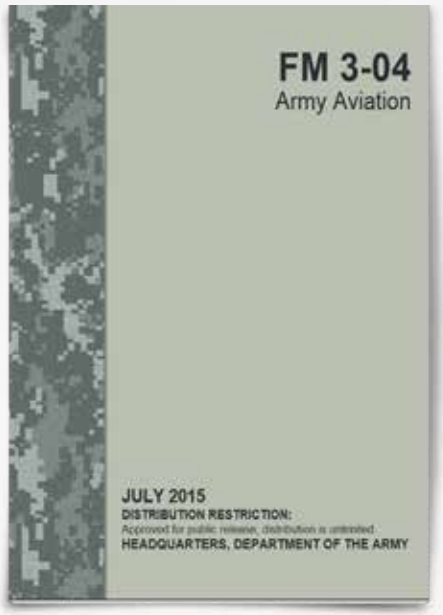

Field Manual (FM) 3-04 (DA, 2015) defines the purpose of an Expeditionary Combat Aviation Brigade (ECAB) and MFATFs to air assault maneuver forces; position personnel, supplies and equipment; evacuate casualties and conduct Personnel Recovery; and enable mission command in support of the combined arms team. When task organized with reconnaissance and surveillance assets, MFATFs also provide accurate and timely information collection; provide reaction time and maneuver space; and destroy, defeat, disrupt, or delay enemy forces. Within this construct, MFATFs must remain scalable and tailorable to meet both U.S. and Multinational ground commander mission requirements. As witnessed at the Joint Multinational Readiness Center (JMRC), often times this translates to jumping into a Tactical Assembly Area (TAA), establishing a Command Post, and operating from an austere environment alongside your task-organized, partnered units due to communication challenges and tempo of the fight. MFATF have proven they are more accessible and responsive to the Brigade Combat Team when operating from a forward TAA vs. an airfield 60–100 kilometers to the rear.

During calendar year 2017, every MFATF that came to JMRC for a Combat Training Center rotation has conducted Aviation Operations under austere conditions in a highly contested, near-peer environment. Resulting from our many years of counterinsurgency, Army Aviation lost the fundamental skills for operating in an immature theater under austere conditions. This is evidenced by Soldiers being unfamiliar with their equipment, not understanding priorities of work, unable to effectively perform fundamentals of security, and not comprehending the capabilities of the near-peer threat. Army Aviation has become complacent, and JMRC is committed to reversing this trend. We believe there is a "Sweet Spot" for units conducting EAO equaling MFATF Expeditionary Capability that commanders must refine through training. Leaders must decide the size of the MFATF, experience of the MFATF, sustainment requirements, and survivability measures. Each of these variables must be prioritized by the commander based off mission, enemy, terrain and weather, troops, time available, and civil considerations (METT-TC).

What is the "Sweet Spot?" It is the right size organization with the necessary amount of experience who can conduct multiple missions. It can efficiently conduct split-based operations, has the ability to protect itself, and can sustain operations with limited resupply for up to 14 days. Additionally, Survivability Operations (SO) are imperative in today's near-peer environment. Our adversaries utilize space-based systems, unmanned aerial systems (UAS), and electronic warfare (EW) to pinpoint, exploit, and target electromagnetic signatures on the battlefield. The reduction of electromagnetic signature is a necessary consideration when operating in the near-peer environment. Lessons learned from the Ukraine (Karber, 2016) suggest that we must place a renewed emphasis on camouflage, concealment, and deception. We must also train with degraded communications and operate analog due to the lethality of massed, ranged fires when artillery and Multiple Launch Rocket Systems strikes cause 85 percent of casualties.

According to ATP 3-37.34 (DA, 2013); survivability is a quality or capability of military forces that permits them to avoid or withstand hostile actions or environmental conditions while retaining the ability to fulfill their primary mission. There are three general threats to survivability; hostile actions, non-hostile activities, and environmental conditions. These categories are described in ADRP 3-37 (DA, 2012). When fighting in a near-peer environment, the hostile threats will be from regular and irregular forces, and hostile actions usually involve employment of weapons as well as the use of sensors to increase effectiveness.

Factors that affect survivability are;

Photo by MSG Dearlove

mobility, situational understanding, and terrain and weather. With Mobility, units must have the ability to reposition their TAA with short notice. This becomes more difficult with smaller and less experienced units. Leaders must anticipate enemy threat and mission requirements to project and plan for possible repositioning of their units. Environmental conditions, such as the civilian population, must also be considered. A unit's ability to reposition increases its overall survivability. The most successful units are able to reposition without disrupting their ongoing missions.

Secondly, Situational Understanding is the product of applying analysis and judgment to relevant information to determine the relationships among the operational and mission variables to facilitate decision making (ADP 6-0, DA, 2012). Finally, terrain and weather leaders need to use natural and man-made terrain to their advantage. Terrain can enhance survivability, and protection from weather can enhance survivability. Protection from weather is essential during the first few hours of quartering party operations. Erecting tents with heat sources is a great tip for keeping your Soldiers protected from unforgiving weather.

Other considerations when planning for survivability are the use of cover, fighting positions, protective positions, camouflage and concealment, protection of critical assets (helicopters, Command Posts, forward arming and refueling points [FARPs], etc.), special environments (jungle, mountainous areas, deserts, cold regions), and entry control points. Army Technique Publication 3-37.34 (DA, 2013) is an excellent source of information for leaders when planning SO. Units that plan for SO are more agile and adaptive, which leads to building trust with our maneuver units.

"GREAT RESULTS CAN BE ACHIEVED WITH SMALL FORCES."

–SUN TZU

The size of the MFATF is dependent on the environment and ground commander's requirements. Size is not only the amount of aircraft in the TF, but the amount of personnel that you need to effectively conduct operations. Is your MFATF going to conduct jump FARP operations? How many ground vehicles are required? Does every Soldier have a seat in a vehicle or helicopter? How big is the staff? Can the staff conduct

Photo by LTC Severs

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Mission Command for simultaneous operations? Utilizing what Mission Command systems? Are you going to have organic or external Force Protection?

The smaller the MFATF, the more experience the TF is going to need. During a recent rotation at JMRC we believed the MFATF had the correct size to be effective in the near-peer environment. Prior to the rotation, we were optimistic that they would have the ability to conduct simultaneous operations and be extremely lethal. The unit had a goal to conduct multiple jumps during the Combat Training Center rotation while conducting simultaneous combat missions; however, the unit didn't come with the most experienced personnel, which hindered operations. When commanders decide to reduce the size of the MFATF to provide flexibility to the maneuver units, they must have experienced personnel who can do more than one job. We found that smaller MFATFs with limited experience have difficulty conducting simultaneous missions. The staff didn't have the ability to conduct future and current operations at the same time; FARP personnel didn't have the experience to conduct jump FARPs; and logisticians didn't have the experience to forecast logistics to sustain the force. The lack of experience in a MFATF exponentially increases when working with a Multinational Brigade Headquarters. If the same size organization had experienced personnel with the proper amount of motivation, we believe they could have successfully conducted simultaneous operations. The bottom line is that "experience matters" at all levels—the smaller the unit the more experienced personnel must be to achieve success.

Why is this important? As General Holmes and General Perkins (Ret.) describe, "Recent advancements by peer adversaries across the globe, including exquisite ISR capabilities, ubiquitous long-range fires, and sophisticated integrated defenses, drive a requirement for the Services to adopt a new framework to achieve a continuing advantage in a contested, degraded, and operationally limited environment" (Holmes & Perkins, 2018).

At JMRC, we have found MFATF success stems from mastering the fundamentals; operating from a properly established, well-concealed TAA; understanding near-peer capabilities and tailoring the MFATF's personnel and equipment to meet the challenges of operating in the JIIM environment; and changing the mindset from counterinsurgency to decisive action. Based off the recommendations from the HAATF, U.S. Army Training and Doctrine Command will update the definition and implement changes for Expeditionary Operations in Army Aviation (FM 3-04, DA, 2015). Acknowledging changes to FM 3-04 and lessons learned from Combined Training Centers, Aviation commanders can structure training events to find the "Sweet Spot" for EAO. The ability to find the "Sweet Spot" for EAO provides flexibility, survivability, and lethality in near-peer environments.

Photo by SFC Collins

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Demonstrating Conventional Readiness in a Globalized World

By 1LT Adam Weaver

ESTABLISHING PURPOSE FOR A TRAINING ROTATION

Soon after arriving to Wheeler Sack Army Airfield in the spring of 2016, it became very apparent that the 10th Combat Aviation Brigade (CAB) had a deployment on the horizon. An increased operational tempo, followed by numerous validation exercises, was enough for even a green Second Lieutenant to realize the unit was going to depart Fort Drum, New York and engage in combat operations. The 10th CAB mission overseas, however, was vastly different than what many Soldiers throughout the unit expected—we were going to mobilize and establish operations under European Command for 9 months in order to provide stability throughout the continent while exercising traditional, "old Army" competencies under the title Atlantic Resolve (AR) 2.0. The nature of a rotation opposed to a combat deployment is abstract and in many ways politically, not tactically driven. This presented

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10th CAB leadership with a highly unique challenge in terms of providing a sense of purpose and direction in order to successfully engage a unit for 9 months overseas without measurable benchmarks of success; throughout AR 2.0, battles would not be fought and cities would not be secured. Therefore, it was highly critical that U. S. Army Europe (USARER) and specifically, 10th CAB, provide underlying intent and ultimately a purpose to rationalize the recourses, energy, and Soldiers' time spent "in country" and away from their families. In short, why would a CAB from Fort Drum, New York deploy to some of the most obscure corners of Europe in the first place?

A POLITICAL PURPOSE FOR TACTICAL OPERATIONS

Upon receipt of the AR 2.0 assignment, it was critical that brigade leadership deliberately manage information operations in order to instill a sense of purpose throughout the unit for a mission that centered on political, not tactical objectives. Meticulous communication that emphasized rotational training and a real world purpose in Europe provided Soldiers throughout the brigade with a sense of direction that would sustain, or at the very least, initiate movement toward future deployment operations. These deliberate communication efforts provided the general basis for the rotation. The 10th CAB mission statement and general purpose for AR 2.0 mirrored that of USARER; demonstrate capability in order to facilitate deterrence while integrating of the "Five Pillars of a Strong Europe" at the foundation of every tactical exercise. Throughout pre-deployment operations, two fundamental characteristics of AR 2.0 became clear, U.S. European Command (EUCOM) would provide the unit with a highly dynamic training environment that would force the organization to empower junior leaders while operating with regionally allocated forces. Additionally, 10th CAB would operate alongside Army Reserve, National Guard, and allied North Atlantic Treaty Organization (NATO) partners to sustain a dynamic presence throughout the continent. In short, the unit was going to improve conventional competencies and increase joint readiness. A dynamic training environment, however, is not significant enough in its own right to rationalize a 9-month rotation on foreign soil. The second and most crucial purpose for AR 2.0 was deterrence via the demonstration of capability. In essence, to shape the geopolitical climate throughout Europe by military means in order to protect American interests in a seemingly peaceful, yet highly volatile and complex part of the world. Due to the abstract nature of deterrence as a military objective, it is highly challenging to measure its success. Effective deterrence is much more than merely the absence of conflict and can be found resonating in the social, political, and economic spheres throughout an area of operations. For many junior leaders throughout the brigade, deterrence could be something simple like making a positive impact on Bulgarian villagers during convoy operations, or the relationships formed with Romanian cafeteria workers who continually adopted American culture through interaction with a professional Army unit. Unity among NATO allies and combat readiness are highly effective methods of deterrence in a complex world where U.S. enemies are growing in terms of influence and power. Ultimately, the 10th CAB mission to first develop the unit but most importantly, deter enemies of the U.S. and shape the geopolitical climate of Europe, was achieved at a time of increased global vulnerabilities. Future European rotations will continue to pay dividends to an Army that is rapidly adapting to combat conventional, near-pear threats.

E/2-10 Forward support company "Regulator forward arming and refueling point" during Saber Guardian 17 in Plovdiv, Bulgaria. Photo credits: 1LT Adam D. Weaver

CAPABILITY EQUALS DETERRENCE

According to USARER Commander, Lieutenant General Ben Hodges "... deterrence is all about having the capability to compel, defeat, to force the enemy to change their mind or reconsider what they're thinking about doing" (Vergun, 2017). Deterrence has recently become a fundamental priority for U.S. international relations as the current geopolitical climate rapidly shifts to a Cold War, multipolar system characterized by emerging international superpowers, notably near-peer countries competing for global power (Clark, 1997). This geopolitical climate, coupled with increasing technological systems in a globalized world have fundamentally shifted the face of potential military engagements for the U.S. military, which over the past 2 decades has been primarily resourced and trained to execute counterinsurgency operations against a nonconventional foe. Therefore, the U.S. military must strategically project force in order to protect foreign interests, bolster global relations, and exercise conventional tactics in a politically, socially, and economically contested front. In an effort to actualize this warfighting model, while simultaneously deterring legitimate threats, American military leaders have es-

tablished USARER as the premier training environment for rotational forces due to its uniquely dynamic atmosphere, potential for increased harmonization with NATO allies and the real world, and strategic opportunity to deter foreign aggression through military capability.

URBAN AND TECHNOLOGICAL VULNERABILITIES IN EUROPE

Due to the heterogeneous political composition of Europe's vast urban centers increasingly reliance on technology, security through deterrence has surfaced as an increasingly vital function of NATO states.

Aircraft landing at the Bezmer forward arming and refueling point pick- up zone while crews prepare to receive the ground force and bulk Class III from the forward support company. Photo credits: 1LT Adam D. Weaver

In recent years, emerging nations have established economic, political, and military legitimacy, demonstrating the capability to threaten NATO security through conventional force. Additionally, the continual modernization of European urban centers has led to increased vulnerabilities as networked technological infrastructures are rapidly sustaining every aspect of modern life and can be directly attacked from remote locations throughout the globe (Graham, 2005; Graham & Marvin, 2009). Therefore, it is critical that U.S. forces establish a dynamic presence throughout the European continent to primarily deter near-peer aggression in terms of direct military action and urban warfare through the cyber medium. The concept of establishing security and social stability throughout the European continent via peaceful projections of joint capability presents the U.S. military with a highly dynamic training environment that challenges rotational units on strategic, operational, and tactical levels.

CONVENTIONAL ENEMIES AND OLD COMPETENCIES

In an effort to effectively prepare the force for a near-peer conflict, retrain leadership, and enculturate the force as a whole, the U.S. Army has increased European rotational deployments focused on conventional tactics reminiscent of the Cold War era. The looming possibility of conventional warfare implies green suitors must prioritize and retrain Soldier competencies that have been lost in recent military history. Army units, including aviation brigades, must demonstrate competency without the privately contracted support so readily available in places like Iraq or Afghanistan. As American security threats begin to shift from isolated nonconventional extremists to modernized nation states, Army units require a real world training environment that challenges collective and individual readiness in terms of conventional warfare (Simmonds, 1993). U.S. Army Europe and the European continent itself present the U.S. military with a dynamic atmosphere that provide rotational forces with complex operational constraints, forcing rotational units to empower junior leaders and exercise mission command in an expansive territory. Atlantic Resolve 2.0 has exemplified this training model as the 10th CAB has challenged military perceptions of aviation capability. Throughout the 9-month rotation, the 10th CAB seamlessly conducted air and ground operations from area of operations North in the Baltic region to AR South in locations including Turkey and Romania while headquartered in Illesheim, Germany. Along with an impressive list of joint aviation operations with NATO allies, the unit conducted a 1,300 mile ground assault convoy through five countries, forcing brigade leadership nodes to effectively resource communications systems, maintain a fully mission-capable ground fleet, and empower junior leaders to operate outside of the traditional confines of controlled ranges throughout numerous, international locations.

JOINT CAPABILITY AND UNIFIED READINESS:

Due to the physical proximity of NATO countries throughout Europe, USARER operations reinforce joint capability as participating nations are provided the opportunity to engage in complex training exercises together improving political, economic, and military relations while demonstrating capability on an international stage. Collective training is the cornerstone of deterrence. It is accomplished through periodic and highly energized multinational exercises supporting tactical readiness in conjunction with a robust information operations-projecting presence and enforcing military capability in a contested space. Throughout AR 2.0, the 10th CAB was afforded numerous NATO training opportunities allowing the unit to exercise conventional warfighting functions at an astounding scale

E/2-10 Forward support company conducting ground movement through Romania in conjunction with air movements. Photo credits: 1LT Adam D. Weaver

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E/2-10 Distribution Platoon Soldiers refuel a Greek AH-64 during a 38 ship, joint air assault in Bezmer, Bulgaria. Photo credits: 1LT Adam D. Weaver

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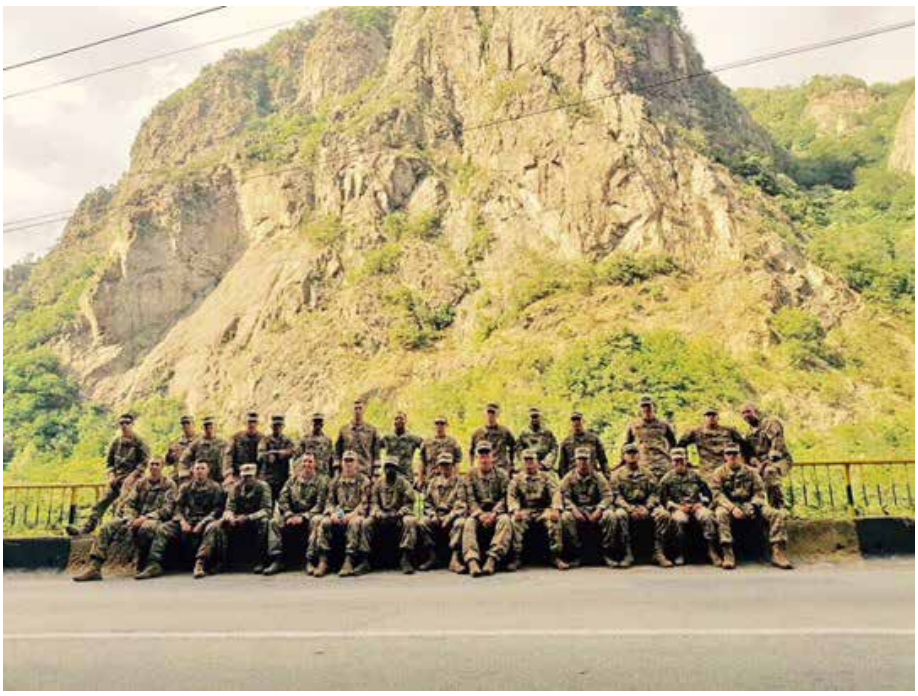
throughout Europe. For example, Saber Guardian 17, arguably the culminating operation of the 9-month rotation, provided the 10th CAB with a highly dynamic training event that culminated with an extensive 34-ship Air Assault, including U.S. and Greek aviation assets.

DETERRENCE: WHERE TACTICS MEET FACEBOOK

Although these accomplishments have been invaluable training experiences at the tactical level, we must answer the "so what" that provides the fundamental purpose for the allocation of U.S. resources in terms of manning equipment on the European front. In essence, the political purpose establishing the strategic meaning behind military training that serves to answer why a CAB mobilized from Fort Drum and established an operational footprint in Europe. Ultimately, NATO military operations actively reinforce deterrence via capability alongside highly driven information operations that serve to document broad-scale training exercises through media outlets in an ever technologically based society to disseminate a message of unity and strength. In turn, these training events shape international perceptions of U.S. military presence, preventing near-peer aggression throughout politically and socially contested locations in Europe where anti-NATO sentiment is present.

U.S. Army rotational deployments in Europe present rotational Army units with a highly dynamic training environment that serves to strengthen the force. This strengthening is accomplished by challenging mission command nodes and empowering junior leaders over an expansive territory while reinforcing joint NATO capability via robust military operations. These operations are thoroughly documented and actively disseminated, ultimately deterring near-peer aggression. U.S. Army Europe has been referred to as the premier leadership lab of the U.S. Army that serves to sharpen conventional proficiencies in a military force needing an operational overhaul following a generation of combat centered on counter-insurgency.

The training experience offered by AR 2.0 has not only been invaluable for units such as the 10th CAB, it has also served to push the boundaries of conventional capability while projecting international legitimacy, setting the conditions for effective deterrence via peaceful operations.



E/2-10 Forward support company takes advantage of a traffic stop in Brasov, Romania during a 1,300-mile convoy from Illesheim, Germany to Plovdiv, Bulgaria. Photo credits: 1LT Adam D. Weaver

Operating in Global Positioning System-denied Environments

By SFC Tyler Hervey

Approximately 12,550 miles away is a constellation of American satellites known as Navstar. It consists of 24 total satellites, each orbiting Earth every 11 hours and 58 minutes. These satellites beam data down to us on earth, which are then received by devices such as your phone, civilian and military navigation units, and many other systems within our infrastructure dependent on accurate timing. There are however Chinese, Indian, European, and Russian equivalent systems, although Chinese and Indian systems lie in geosynchronous orbit above their own countries, which means they are not global systems such as Russia's Global Navigation Satellite System (GLONASS). Accurate real-time positioning data give us the confidence to operate vehicles, ships, and aircraft in areas that we are physically unfamiliar with and has led to a complete dependency on positioning, navigation, and timing (PNT) satellites. It is this very dependency on global positioning systems (GPS) that has created an opportunity for the enemy to simply flick the off-switch and leave the entire American military in the blind. The time has come to liberate ourselves from the signal by both training and technological re-design.

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So how does GPS work? Global positioning system receivers use a process called trilateration to determine its position on the earth's surface by timing signals from at least three satellites in the Navstar constellation. If the GPS receiver is only able to acquire signal from three satellites, you will still get your position, but it will be far less accurate. A GPS receiver needs four satellites to work out your position in 3-dimensions. Once the GPS device has attained distances for at least three satellites, it can complete the trilateration calculations. These systems use the microwave portion of the electromagnetic spectrum to transmit position and timing information at 186,000 miles per second. Global positioning system is an asset for tactical operations but also comes with a variety of weaknesses.

GLOBAL POSITIONING SYSTEM CAN BE DEGRADED/LOST BY:

1. **METALS AND ELECTRONICS**. Metals can reflect and absorb GPS signals. Avoid operating tactical GPS receivers in areas filled with such items, if possible.

2. **MULTIPATHING**. Multipathing can occur when a GPS receiver lies between taller objects such as buildings, mountains, trees, or other structures. Signals from the satellite are reflected off of various points before it reaches the receiver, resulting in degraded accuracy in timing and position. If signal is degraded by multipathing, move to an area with optimal loss of signal (LOS) with satellites.

3. **THE SUN**. Solar weather plays a significant role in satellite performance and signal degradation of all types. Space events such as solar flares, coronal mass ejections (CMEs), geomagnetic storms, and solar radio bursts can have major detrimental effects on satellites in earth's orbit. These space weather events can knock out GPS through natural means. As part of the planning process, check space weather prior to operations. A reliable resource for space weather can be found at https://soho.nascom.nasa.gov/spaceweather/ (Solar and Heliospheric Observatory, 2018).

4. **EARTH WEATHER**. As the radio signal bounces between the earth and its satellites, inclement weather such as heavy rain could cause signal reduction. Be sure to check weather prior to all operations.

5. **JAMMING AND SPOOFING**. Terrorists, petty criminals, and even hostile enemy nation states can overpower, (jamming), manipulate, (spoofing) and sow deception through the GPS signal, to include encrypted navigation devices. Global positioning system satellites are equipped with extremely accurate atomic clocks; however, they are all susceptible to jamming and even far more insidious techniques such as GPS spoofing. A GPS spoofing attack deceives GPS receivers by broadcasting erroneous GPS signals, designed to resemble a set of normal GPS signals, or by re-broadcasting authentic signals taken elsewhere or at different times. "Jamming just causes the receiver to die, spoofing causes the receiver to lie," says consultant David Last, former president of the UK's Royal Institute of Navigation (Hambling, 2017). Global positioning system spoofing can be used to trick and re-direct ships, aircraft, and ground maneuver forces into ideal areas of ambush by the enemy. Air-, land-, and sea-related navigation devices should always be encrypted prior to mission start as it assists with jamming and spoofing defense.

6. **CYBERATTACKS**. With GPS and a myriad of communication satellites being directly intertwined with the cyber realm, non-state actors and powerful peer competitors seek to disrupt these systems as they control everything from banking systems to power grids.

7. **KINETICS**. Of all the terrifying potential scenarios, kinetics is by far the foulest. On January 11, 2007, China successfully demonstrated an anti-satellite missile on one of their own weather satellites by a kinetic kill vehicle traveling with a speed of 5 miles per second and was launched with a multistage solid-fuel missile from Xichang Satellite Launch Center. The resulting debris also poses a threat to nearby satellites to this day, adding more risk to satellite constellations. Russia is also quite capable of deploying anti-satellite missiles. With the slightest effort of powerful state actors, the entire Navstar constellation could be wiped out, leaving the United States in total chaos. Banking systems, power grinds, navigation systems, communications, internet, poof gone.

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HYPOTHETICAL, FICTIONAL VIGNETTE

It's December 2024, and Sergeant Major Hervey stands atop a small hill on Osan Air Base, South Korea. He's the CSM of the 2nd Combat Aviation Brigade and looks on from a distance as Unmanned Aircraft Systems (UAS) maintainers run diagnostics on the latest UAS model purchased by the U.S. Army. Hervey unwraps a cigar, reminiscing of his days as a Platoon Sergeant in Afghanistan, smoking fine cigars with his Noncommissioned Officers on the flight line at dusk. "Things were so simple back in the COIN days," he thought. War has come and with it all the familiar sirens, audible broadcasts, and tremors from missile strikes in the distance. It was nearly time for one of his UAS platoons to deploy their system. A young-looking Major with impeccable hair hurriedly approached the Sergeant Major from behind, "Sergeant Major Hervey!" the Major shrieked. "Sir, any GOOD news?" Hervey replied with a grin, still clutching the unlit cigar in his mouth. "The satellites, Sar' Major... they're all gone. All of them."

Hervey felt a chill creep down his spine, but they had been preparing for this very scenario for several years. Hervey looked into the Major's eyes and nodded, biting deeper into his cigar, and he made his way down the hill to talk to the young platoon leader and platoon sergeant in charge of the new UAS platoon. Sergeant Major shook hands with the young Lieutenant, "Is she ready?" The old Sergeant Major smiled. The lieutenant seemed concerned but committal in his response, "We're as ready as we'll ever be, Sergeant Major" the Lieutenant replied. Hervey walked into the operations center where the Brigade Commander was on teleconference. The United States had made many preparations since the days of counter-insurgency and adopted new systems that didn't rely on satellites for communications or GPS. This system used rapidly emplaced balloon to re-transmit signal. The communications balloons were nearly undetectable and able to navigate and re-position themselves at the discretion of the decision makers.

Sergeant Major Hervey didn't want to interrupt the Commander, so he departed to watch his favorite UAS platoon complete their pre-flight inspections and spool up for take-off. This UAS was new, quiet, deadly, energy efficient, and boasted one advantage in particular that its competitors to the North were not ready for. This UAS has no need for GPS or any type of space-based PNT system. It was semi-intelligent in that, the sensor (camera) on-board could terrain associate its environment against its own maps within the computer. It has maps downloaded for the entire planet and knows its position and altitude simply by looking around. The smart UAS transmits data back to the control station instantaneously by means of quantum-entanglement communicators that are un-hackable. This system was totally liberated from satellites and it was absolutely deadly. The UAS was capable of discriminating targets and in-depth decision making. Once close to enemy targets, the belly of the UAS opened, releasing a massive swarm of low slow small UAS (LSS UAS) to conducts short-range attacks on surface-to-air systems. The LSS UAS acted like undetectable kamikazes, flying low beneath radar until reaching their targets and detonating.

By 2026, the allied forces were victorious, and the war had ended. Some historians directly attribute the win to the prioritization of U.S. joint military efforts to prepare for operations in denied environments. Sergeant Major Hervey is old now, retired and working in his garden, aching and seemingly slower than he was only 2 years before in Osan. Everything had changed back in America since her satellites were destroyed. Americans were rebuilding and reestablishing line-based communications. There was too much debris in earth's orbit to use satellites for another 100 years. But America still had her people, her gardens, and her freedom from oppression.

END VIGNETTE

So, will the next large-scale war involve ground-to-space missiles or air-to-space missiles? Probably. In fact, any powerful state actors would be wise to do so. Kinetic weapons are inexpensive and the technology has been widely researched. It's equally as wise to radically reorient the way we train our Soldiers, Marines, Airmen, Sailors, and allies to fight. As it pertains to GPS and communications, this means getting back to training military personnel to use compasses, maps, sextants, etc. The focus on mending training, doctrine, leadership, and technological capabilities gaps should be forefront in the mind of every leader across the force. A new space race has begun with a more terrifying array of weapons sitting in clean rooms across the world at this very moment. Advancements in general physics, quantum computing, etc., are changing the game of war. Much of the battlefield of the future will be held on the electromagnetic spectrum. Leaders across the joint force owe it to the future of their country to actively change the culture and train for that worst-case scenario. Train as if there is no GPS and limited to no communication. We must liberate ourselves and our equipment from the signal. By failing to prepare, you are preparing to fail.

SFC Hervey serves as the UAS SME in the Directorate of Training and Doctrine. He is a trained Army Space Enabler and a student pilot.

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photo by SFC Andrew McClure

LARGE-SCALE COMBAT OPERATIONS AND THE ARGUMENT

FOR THE FUTURE AVIATION SUPPORT RELATIONSHIPS

By CW4 Leonard Momeny

I. THE CHANGING FACE OF WAR:

The face of combat has changed yet again. Today, the nation's biggest concern is not terrorism, as we've obviously developed robust strategies and approaches to deal with the challenges associated with asymmetric warfare through over 15 years of constant engagement. Instead, at least according to the 2018 National Defense Strategy, "inter-state strategic competition… is now the primary concern in U.S. national security" (Department of Defense [DoD, 2018, p. 2). The National Defense Strategy goes on to note that, "…every domain is contested–air, land, sea, space, and cyberspace," and that domain contention occurs as, "Long-term strategic competitions with China and Russia" (DoD, 2018, p. 3-4). We know those same countries to be military peers, potential adversaries that could provide comparable efforts on the field of battle, essentially a blow-for-blow heavyweight opponent. As stated earlier, the face of combat has changed.

So, this is not the first instance that the U.S. has declared a change to threat. There have been numerous periods of significant change throughout warfare, and yet things just feel different this time. Large-scale combat operations against a peer threat is something that the world has not been witness to in quite some time. This fact alone begs the question, just what can we expect out of large-scale combat operations? Field Manual (FM) 3-0, Operations, provides some level of expectation for large-scale combat operations against a peer threat stating the following, the operations are "…intense, lethal, and brutal… Their conditions include complexity, chaos, fear, violence, fatigue, and uncertainty" (Department of Army [DA], 2017, p. 1-2). The last time the U.S. Army was truly engaged in large-scale combat operations was Korea and World War II, and because of this the implications are far reaching.

The potential issues as a result of the recent evolution in combat are far reaching, ranging from topics like placement of aviation assets within the division area of operations, to likely reconstitution of aviation units in the event of the worst. There are simply no experiences or lessons learned within the last 15 years of combat experience that could be considered potentially relevant to our future fight. That means we as a branch have to begin to reimagine how we fight, better understand why we cannot continue to fight the same way, and come to the realization that we cannot continue to support the ground force in a manner similar to our past experiences. It is the opinion of the author that a general support relationship

to the Ground Force Commander is the only possible future solution with respect to successful integration of aviation forces in large-scale combat operation against a near peer/peer threat.

II. DOES HISTORY HAVE ANYTHING TO SAY?

The study of any other situation would require argument and analysis from the perspective of recent history. Typically, evolutionary steps are scenarios where a building block approach is relevant, with the new version being based predominantly on the old and showcasing only a smattering of new changes. In a sense, incremental change is normal in everything we see and do, but every now and again a significant change takes hold. As we will see, there has been no engagement in the last 50 years that truly embraces the tenets of large-scale combat operations. That means that everything we know about conducting combat operations is up for revision.

CURRENT EXPERIENCES: GLOBAL WAR ON TERROR

The last 15 plus years have been dramatic. There have been children born in our country that have never known a day when an American Soldier has not been deployed to a combat environment. That fact alone serves to emphasize a great period of combat experience within the annals of the United States Army, however, we have to ask ourselves about the type of fighting we were undertaking...does it translate to our potential large-scale combat future? What were our large-scale operations during Afghanistan and Iraq, and what level of complexity was experienced during battle?

There were of course moments, such as the invasion of Iraq, where large-scale combat operation-like moments occurred, but for the most part we were unchallenged. Think about it, immediate air superiority in Iraq, formations of tanks racing toward Baghdad, unchallenged rotary-wing flight, and so on. Shortly after the invasion, there is a picture of the President declaring victory from the deck of a Navy ship. Then things changed, and the environment took on an Afghanistan-like setting, with American forces in the center of an asymmetric fight. Asymmetric fights have no frontline, and instead the enemy is all around you. Strategists and leaders realized this and so we evolved as a fighting force... slowly abandoning everything we knew about the old fight. We cannot forget the lessons that we learned, however, we cannot use the majority of our previous combat experiences to determine how we will fight in this coming future.

30 YEARS AGO: DESERT STORM

So, let's take the discussion back just a little further. What about the lessons of Desert Storm? Again, the situation is Iraq, and General Norman Schwarzkopf is commanding a mighty Army across the desert. Baghdad was enveloped in an American charge. Air superiority was huge, and unlike during the opening salvos of the Global War on Terror, our Air Force pilots did experience air-to-air combat, being forced to splash enemy MIGs and other assets. Even still, they did not last long...with air superiority came the charge. However, unlike in the Global War on Terror, we did not stay long, as Hussein eventually complied with American requirements, and so we withdrew our forces. Again, no continued chaos, limited complexity, limited if any fatigue, and while the scale of our forces was significant, this example fails to meet the environment of large-scale combat operations as described by FM 3-0.

70 YEARS AGO: WORLD WAR II

World War II is the only reasonable source for relevant lessons on large-scale combat operations. To determine this, you simply have to review the definition/explanation of large-scale combat operations within the pages of FM 3-0. For example, fatigue does not begin to capture the challenge of the fight in World War II, where battles could rage on for days. Complexity of operations is an understatement, as units had to invade various countries, covering continents in order to reach the main objective of Germany...years after the fight began. That's right—years. Americans did not simply roll over their enemy, and in fact, there were moments in battle that American forces and her allies were defeated, turned back, something many would simply not consider possible today. During World War II we were experts at tactical patience, and when necessary, violence of action, arraying our forces against an enemy peer with great care. During World War II, we knew how to deal with loss, retooling and regenerating entire battalions and brigades. World War II and the lessons held within the pages of its history is the necessary Rosetta Stone for studying large-scale combat operations.

III. HOW DOES ALL THIS APPLY AND WHERE TO START?

THE THREAT IS REAL

Simply put, there are many who do not want to consider either China or Russia as a possible enemy. For many it does not make sense, as China represents one of our nation's largest trading partners, and we still man a joint effort with Russia to maintain continuous operation of the International Space Station. However, rising tensions within the Indo-Pacific region and Europe have given our nation's leaders pause to reconsider. Again, when we revisit the National Defense Strategy we see the following, that "it is increasingly clear that China and Russia want to shape a world consistent with their authoritarian model-gaining veto authority over other nations' economic, diplomatic, and security decisions" (DoD, 2018, p. 2). As a nation and as a military, the consensus is thus, we must prepare for a potential fight against peer level threats. As George Washington said, "To be prepared for war is one of the most effectual means of preserving peace" (State of the Union Address, 1790).

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IMPLICATIONS

What does all of this mean to Aviation? Sadly, we just don't know at this moment, and many are striving to figure out the answer. Field Manual 3-0, released by the Combined Arms Center (CAC) in October 2017, is the U.S. Army's first deliberate step to embrace the new reality of future warfare. As far as we know everything changes, from our doctrine to our institutional training.

That is not to say that we flush the lessons of asymmetric warfare, but instead it implies we expand upon our understanding of operations and how we, the aviation branch, best integrate in the future fight. As a branch, as expert technicians, officers, and non-commissioned officers, we must begin to reimagine our enemy. The real work starts with every member of the aviation enterprise all working together in concert to grow as a profession. What does that mean? It means that units can no longer conduct collective training, at any level, without leveraging realistic threat considerations that would potentially mirror our potential peer-level adversaries. If you happen to be responsible for such training and do not understand the associated order of battle, visit your Aviation Mission Survivability Officers and unit S-2 Intelligence Officers, they will help. Another implication is the necessity to adapt to the expeditionary mindset, also outlined and frequently discussed in FM 3-0. That means living and operating with what we need, not necessarily what we want, tactically emplacing and camouflaging our forces, and staying agile. This will take training. Finally, what does it look like for an organization to undergo reorganization, reconstitution, or regeneration? During training, Combat Aviation Brigades (CABs) should be focusing on those considerations every time they engage in a collective event. Then, and here is the most critical piece, you must write about your experiences and share them with the branch.

Though it would seem there is much work to be done with respect to determining our way forward in the future fight, we would venture to say one thing for sure, our support role in large-scale combat operations. Aviation cannot, nor should it be expected to maintain a direct support role within large-scale combat operations. General support is the only way forward. If nothing else, the previous discussion has made a tremendous effort to demonstrate a chaotic future battlefield. Aviation assets cannot be as close to the Forward Line of Own Troops (FLOT) as it would simply be too vulnerable to attack. Could you imagine if the United States Army were to lose an entire CAB? It would be impossible to quickly reconstitute, reorganize, or regenerate a force of that size and cost. Where were aviation assets in WWII? They were well outside of artillery range, and that alone starts the conversation regarding aviation employment. Also, bottom line up front, the CAB commander understands the 3-dimensional fight and layers of the Joint fight, while ground force commanders typically are more comfortable with and better understand the challenges of the 2-dimensional fight.

Additionally, ground force commanders have been so used to wielding a huge spectrum of support assets with regard to their piece of the operational environment. Given the vulnerability of aviation within the hostile environment of the future battlefield, and the increased complexity of these future operations, it does not seem advantageous to attach a CAB to one single ground force effort. Finally, the CAB commander's role with regard to the utilization of his forces has to change. The CAB commander cannot play second fiddle, no disrespect intended, on the topic of aviation employment. In a resource-constrained, highly complex environment, where general support rules the day, the CAB commander represents the senior aviator of the force, and the only advocate that fully understands the intricacies of aviation forces. Our new model for the CAB commander will be more indicative of Doolittle than anything seen today.

IV. CONCLUSION

The threat is real, and we need not concern ourselves with near-peer threats, as history shows we quickly deal with such threats, e.g., Grenada, Panama, Iraq, and Afghanistan. Instead, we must turn our attention to the peer threat and ready our forces for large-scale combat operations. To do this, we must first become students of history, students of our profession, and actively participate in the evolution of our doctrinal practices. Finally, we have to realize that this future fight is not similar to any previous engagement, our role as a direct support asset must be reconsidered, and the maneuver force must embrace the reality of the environmentally dictated general support role.

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A UH-60 Black Hawk flies overhead during an Iraqi Forward Area Controller Course qualification in Besmayah, Iraq, March 8, 2018. The 5-day event marked the first time IFACs exercised calling in airstrikes on the range and their first time calling in live fire from Coalition aircraft. The Combined Joint Task Force-Operation Inherent Resolve, in conjunction with the Coalition Aviation Advisory and Training Team, coordinated the exercise, March 4-8, to certify newly trained IFACs and demonstrate progress made since their training started in December 2017. (U.S. Air Force photo by SSgt Sean Martin)

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The Three Musketeers of the Army Air Forces: From Hitler's Fortress Europa to Hiroshima and Nagasaki

by Robert O. Harder, Published by Naval Institute Press 2015, Maryland, 288 pages

A book review by Russell Nemec

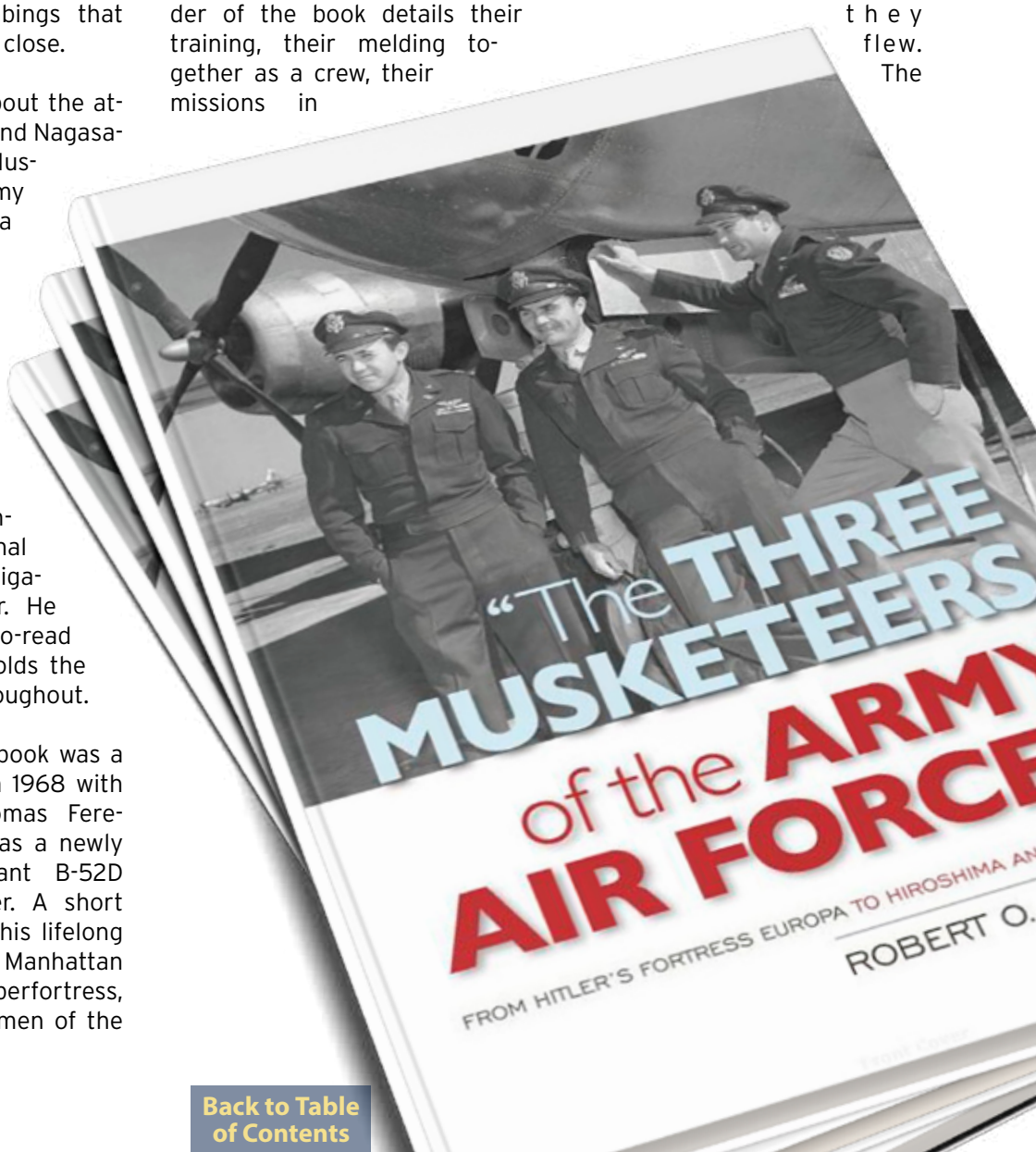
An Army recruitment ad in a 1942 Life magazine issue dubbed a bomber pilot, bombardier, and navigator "the three musketeers of the Army Air Forces." Pilot Paul Tibbets, bombardier Tom Ferebee, and navigator Ted "Dutch" Van Kirk could have been the poster boys for that ad. They first flew together as a B-17 Flying Fortress crew on the very first American missions against Hitler's Europe and would become famous flying together on the B-29 Superfortress ***Enola Gay*** in the atomic bombings that brought the war to a close.

I have read much about the attacks on Hiroshima and Nagasaki, but "The Three Musketeers of the Army Air Forces" was a new take on the subject for me. Author Robert O. Harder brings a fresh perspective to the story through engaging writing and technical accuracy, based on indepth research, interviews, and personal experience as a navigator and bombardier. He has a clear, easy-to-read writing style that holds the reader's interest throughout.

The genesis of this book was a chance encounter in 1968 with (then Colonel) Thomas Ferebee when Harder was a newly rated first lieutenant B-52D navigator-bombardier. A short conversation led to his lifelong fascination with the Manhattan Project, the B-29 Superfortress, Hiroshima, and the men of the ***Enola Gay***. Following his time in the Air Force, and after retiring from the business world, Harder decided to indulge this fascination, writing a book focused on the personal lives and relationship of the "three musketeers" so integral to the raids.

The first three chapters provide quick biographical sketches of each of the three main subjects, showing their early lives and how they separately arrived at a love for flying and a calling to serve their country. The remainder of the book details their training, their melding together as a crew, their missions in Europe and Africa, their separation to different assignments, and their eventual reunion for the historic Hiroshima mission.

Major Paul Tibbets piloted the lead plane on the first American bombing mission of the war. Ferebee and Van Kirk were supposed to fly with him, but a last-minute mixup left them on the ground. On the second American raid, all three flew together in the lead plane, setting a pattern that would endure for nearly all the combat missions they flew. The



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book relates well the fear, excitement, bravado, peril, and professionalism surrounding bombing missions of World War II. There are also many humorous elements. One memorable episode involved a colonel riding along on a mission who panicked during a fighter attack and had to be knocked unconscious by Major Tibbets in order to not jeopardize the safety of the aircraft.

Along with multiple bombing raids, Tibbets, Ferebee, and Van Kirk were involved in several Top Secret missions ferrying high-ranking personnel, including General Dwight Eisenhower, the Supreme Allied Commander. Their success in these assignments probably contributed to the selection of Tibbets to lead the 509th Composite Group in a Top Secret program to deliver the world's first atomic bombs.

The author devotes several chapters to the setting up of the 509th, the development of the B-29 to carry the bombs, the training of the crews, the logistics of moving men and planes to Tinian Island in the Marianas, the constant demands on Colonel Tibbets as the head of the organization, and the security concerns surrounding such a massive undertaking.

The personal costs of this Top Secret program are also discussed. Marriages crumble; careers are sabotaged; professional resentments develop. After the war, the crew, especially Tibbets, was condemned for delivering such a horrific weapon. However, they maintain, and the author agrees, that it was necessary to shorten the conflict and avoid an even greater loss of life.

Harder backs up his narrative with copious notes and an extensive bibliography. He points out several mistakes about the atomic missions that have crept into the accepted narrative over previous decades and describes what really happened. A detailed appendix titled "The Near-Catastrophic Nagasaki Mission" was fascinating reading. I was not previously aware of just how close to failure the second atomic bomb raid had come. The fact that it was a "success" is almost miraculous. The author pulls no punches in assigning responsibility for this mission, which nearly resulted in the jettisoning of the plutonium bomb into the Pacific Ocean and the loss of the entire B-29 crew.

Near the end of the book, Dutch Van Kirk tells of a chance meeting that he, Tibbets, and Ferebee had with General Eisenhower a few months after the war ended. "[He] made a comment I always appreciated. He said, 'You guys started it, and you guys ended it.'" (p. 161)

I can think of no better epitaph for these three men. Their service encompassed the entirety of the American bombing effort during World War II. "The Three Musketeers of the Army Air Forces" is a well-written, fascinating account of that experience. I highly recommend it to anyone interested in World War II aviation.

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You have a seat aboard one of the Army's CH-47 Chinook helicopters that flew the Atlantic as the airmission commander of Operation Northern Leap recounts the historic flight

Operation Northern Leap

the Flight

Captain (P) Stephen H. Gilbertson
Airmission Commander
Operation Northern Leap 1979
Fort Carson, CO

ON THE MORNING of 6 August 1979, 24 crewmembers from units all over the United States and one Canadian officer listened to Brigadier General Grail C. Brookshire, ADC (OT), 4th Infantry Division (M) wish them the best of luck in the historic flight, Operation Northern Leap, on which they were about to embark. He thanked them for the effort each had put forth.

Next, as the airmission commander, I talked to everyone briefly. I asked them to *think safety* and "slow down." It wasn't 30 minutes from that point before all four CH-47C Chinooks were airborne en route to Davenport, IA. Believe me there was a lot of suspense on everyone's part. Some I'm sure were nervous, some uncertain, but all were grateful to be off and on the way.

Davenport brought no problems. This first leg initially was computed to be the longest of the entire flight but as it turned out Iceland to Scotland was the longest; I'll explain later. The press greeted the arriving flight at Davenport as they did on every stop except Goose, Labrador and Narssarssuaq, Greenland.

The press at each location generally asked the same questions. How long can the CH-47C remain airborne? How fast can it fly? How do you feel about this mission? Do you think you will have any maintenance problems that will preclude completion of this mission? They took a lot of pictures and talked to all of the crewmembers, especially if they were from that town or state. Talking to the press was a time-consuming task, but always a pleasant one. It was interesting for me to read the following day what I said. A couple of times I was surprised.

The next morning (7 August) the flight was airborne and at 1003 hours local crossed the first waypoint. The weather forecast was to be VMC the entire route with a few scattered rain showers. No problem, but in Ohio we had to fly around some rain showers. By 1400 hours the greeting crew was standing by at the New Cumberland Army Depot. Shortly after 1430 the last aircraft was on the ground. All four executed VMC ILS approaches for practice. At NCAD the crews were conscientiously performing an extra thorough postflight inspection. We had flown 11 hours by then and had some max gross weight flying. This was the last stop we could plan to receive any major support until we reached Germany. This meant NCAD was

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GLOSSARY

ADC	assistant division commander	MOC	maintenance operational check
ALSE	aviation life support equipment	MSL	mean sea level
AMC	airmission commander	NATO	North Atlantic Treaty Organization
ASR	area surveillance radar	NCAD	New Cumberland Army Depot
CENTAG	Central Army Group	NM	nautical miles
HF	high frequency	NDB	nondirectional beacon
IFR	instrument flight rules	OT	operations and training
ILS	instrument landing system	VFR	visual flight rules
IMC	instrument meteorological conditions	VIP	very important person
MAC	Military Airlift Command	VMC	visual meteorological conditions

our get-well stop and release point for the self-deployment concept. We spent 2 days at NCAD performing necessary maintenance and getting ready for the long over the water leap.

Late on the morning of 9 August we were in flight toward Loring AFB, ME. The flight had added a new member to its rank—a C-130 (MAC 41667) transport airplane commanded by Captain Scott Bietry. The C-130, carrying spare parts and additional maintenance people, would be with us all of the way to Germany. It was fully loaded with spare parts, but we fortunately did not have to use even one major end item during the entire trip.

We closed into Loring a couple of hours before dark that day. There was just enough daylight left to perform a thorough postflight inspection and complete the daily test reports.

Preparation The American Flag is placed on the aft pylon

The lobster at the club was delicious. I think most of the crewmembers enjoyed it.

Due to our later than usual arrival, our flight was not scheduled to depart Loring until 1300 hours the next day. But on runup one aircraft broke a hydraulic return line which caused a 1-hour delay. Meanwhile a low pressure system was moving in, making it necessary to leave Loring or face the possibility of being stranded for several days. We had plenty of daylight to make the rather short flight to Goose, Labrador. All the flights for the entire route were planned day/VMC which was a test restriction even though all the aircraft were IMC equipped.

We did get off ahead of the weather and en route I noticed that the scenery was breathtaking. Some wilderness still remains in that part of the world. As I gazed at the magnificent countryside passing beneath the CH-47, I thought about how easily a person could just get lost for a lifetime in that area.

Rather brisk weather greeted us at Goose and we had to break out some of the cold weather ALSE we carried on the trip. Routine inspections were due on two aircraft, so we planned to stand-down for maintenance the following day at Goose.

That night we were guests at the Canadian Officers Club. Captain Ludwig Piron, Canadian liaison officer, had arranged to have Atlantic Char served. It was a delicious meal matched only by the fine hospitality shown to us by the Canadians.

We spent the 11th on the flight line. The pilots were busy preflighting while the maintenance folks were pulling the inspections and MOC's required. It seemed everyone was extra attentive to their duties. The next day we would embark on the first major over the water leg. The terms we had been talking about for the previous 4 months were about to become realities. Critical points were computed and recomputed. Points of safe return were compared among the crew.

The aircraft commander of the Air Force C-130 Duck Butt aircraft that would support us was at our flight briefing that evening. The Duck Butt was to orbit about 100 NM off the coast of Canada until our flight of four CH-47s and the C-130 with spare parts was reasonably assured landing at Greenland. The C-130 Duck Butt aircraft commander told the crews of his responsibility in the event of an emergency with our flight—that is, making an unscheduled landing while en route. Really, there was little a C-130 could do to aid in the rescue of one of our aircraft. The flight was totally self-sufficient. Three of the Chinooks had emergency personnel retreivals systems. A boom was installed in the main cabin door with a winch cable running through the boom to allow rescue out to the side. All aircraft had Canadian life rafts that would accommodate 10 and all crewmembers had quick down antiexposure suits. If one of our aircraft would have landed in the ocean the crews were equipped to survive for several days. Most important was the flight's total capability to rescue its own. If an aircraft would have landed I don't know of any circumstances under which the crew could not have been rescued.

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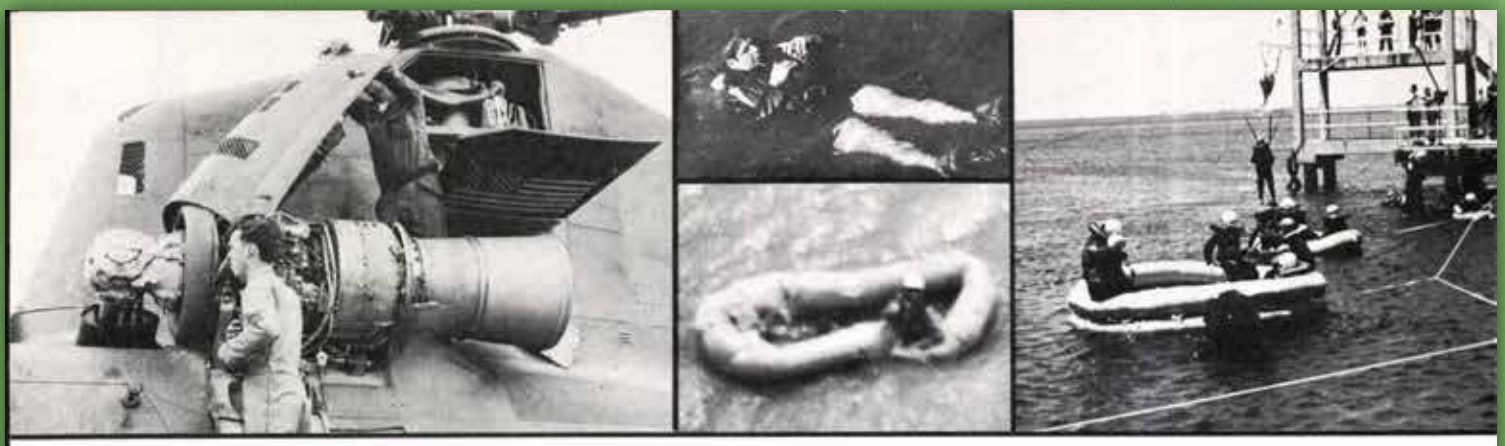

Training Left: SFC Thad Harris and SP4 Kent Perry. Center Top: Retrieval training at Trinidad Reservoir. Center Bottom: CPT (P) Steve Gilbertson, airmission commander, training with survival equipment at Pensacola. Right: Crewmembers training with survival equipment at Pensacola

All of the pilots had questions at the flight briefing that evening. Everyone wanted to be sure all bases were covered. We had talked about the flight for 4 months and now it was finally here. The weather was forecast to be VMC the entire route. I established an 0800 hours takeoff and filed the flight plan that evening.

First thing in the morning we received a thorough updated weather briefing. The low pressure area forecasted for Loring had in fact materialized and was moving our way. Once again we would have to depart or plan to be weathered in. Each aircraft was issued a weather packet which includes all appropriate weather maps, winds aloft chart, and sea state chart, and took off.

Shortly after 0900 hours we were seeing the first of clear blue water and literally hundreds of icebergs. About 200 miles off the coast of Canada the weather started to change from what had been forecast. The very thin scattered conditions about 3,000 feet started becoming scattered. Then, about 400 miles from Goose the clouds began to thicken and become broken to overcast. The flight was level at 5,000 feet and the overcast was well below us. A check with Greenland radio on HF confirmed Narssarssuaq, Greenland was VFR. That relieved a lot of our tensions.

Soon after receiving the VFR report on the airfield at Narssarssuaq, the C-130 executed the NDB approach off the western coast of Greenland. The approach took the C-130 out over the ocean on a heading of 185 degrees and minimum descent altitude of 1,500 MSL. The C-130 leveled at 1,500 and did not break out. What next? Would our flight experience the same problems?

The C-130 executed the missed approach and headed for Sondestrom, its alternate. After receiving this report we had to recompute our fuel status to ensure that all four aircraft had enough to make it to Sondestrom. About 30 minutes off the coast of Greenland the overcast began to break up and soon we could see the coast of Greenland. Now, if for some reason the flight could not break out on the NDB approach, or the cloud breaking procedure for Narssarssuaq, we could land on the coast and wait the weather out.

When we arrived over the Simiutaq beacon the weather had almost cleared. Each aircraft made a 180-degree turn over the beacon and descended VFR. When all aircraft were below the scattered cloud layer, another 180-degree turn was made—*and there was the Fjord.* We were about to fly the 50 prettiest miles ever flown in Army aviation. We had all read articles on "the flight up the Fjord" but simply could not believe the beauty. The Fjord is narrow, I doubt if a C-130 could execute a 180-degree turn inside it. The rocks ledges go straight up on both sides. The Fjord is filled with icebergs. Someone in our flight mentioned landing on one and being photographed, but it was only a nice thought and no one was serious about attempting to land on one.

The wrecked ship, just as we had read, was right where it should be. It was a "landmark" in the water to guide aircraft up the correct Fjord to the airport. As we continued to fly formation up the Fjord the fishing boats came out to greet us. Along the shore you could see people coming to look at who was creating all the noise. Finally we rounded the last bend and there was Narssarssuaq airport. The tower cleared us for a low approach and a left downwind entry. The "whole town"—about 50 people were out to greet us. Everyone was inquisitive about the CH-47s and we conducted several guided tours through the aircraft. The people were very polite.

We landed in the early afternoon, so the crewmembers went immediately to their postflight tasks. An early morning departure was planned.

The accommodations in Narssarssuaq were quite pleasant, especially for such a remote place. No complaints were heard from the crewmembers.

As at Goose, I filed the flight plan the evening before and scheduled the weather brief for 0700 hours. All of the aircraft commanders were present for this brief and we heard the most thorough weather briefing ever given to Army aviators. But as it happened, not at all accurate.

The flight was airborne at 0900 hours on 13 August. Shortly after takeoff we had to cross 8,500-foot mountains and the icecap. We had

little difficulty with the climb but the aircraft had little torque left to spare.

Crossing the icecap was a first for everyone on the mission. The icecap is bound on either side by rugged mountains. Once above it, the icecap appears to be a smooth landing area. There is no telling how hard the crust is or how deep the snow is but from 9,500 feet it looks like a satisfactory landing area.

Soon the long awaited and talked about icecap crossing was over, but soon to be done again. About 50 miles off the coast of Eastern Greenland we started to run into a low ceiling and rain showers with poor visibility. With the forecast we had received I thought it was just a small cell and that we could fly around it. We proceeded on a heading of 120 degrees to avoid the cell, which naturally took us off course. After flying about 100 miles, we were still off course and could not find a break in the weather.

A check up to 10,000 feet was made, but there was still no relief from weather. About 150 miles out over the ocean I directed the flight to turn back to Greenland. Meanwhile the weather forecaster, after receiving a satellite picture, knew we would return. He told us that there was a *large* low pressure cell located right on our flight route between Greenland and Iceland. We had been flying along the edge of it—and it was solid all the way up toward Iceland.

We used the weather day for maintenance. The maximum gross weight flying we had been doing wears bearings much faster than normal. One Chinook had to have several pitch change links changed. The next day found us still down—for both maintenance and weather.

We enjoyed the 2 days in Greenland, and some of the crew worked in a swim in the iceberg-filled Fjord. Naturally, they were testing their survival suits in the 40-degree Fahrenheit water.

On the 15th we were off and flying again. Everyone aboard the CH-47s had become a "professional" at crossing the icecap now.

The weather into Keflavik, Iceland was generally good. There were scattered rain showers, some overcast, but pretty good visibility. Another C-130 Duck Butt, this one out of Keflavik, met us about halfway and flew a hundred or so miles with us. This crew did not pick an orbit point, but joined the flight to make four CH-47Cs and two C-130s.

The flight and landing at Keflavik was uneventful. Navy operations there parked the aircraft on the hot cargo pad about 2 miles from base operations. It was cold and well after dark before the last crewmember finished on the flight line. By the time all the flight planning was completed, and everyone fed, it was 1 o'clock the next morning—and we were scheduled to depart that afternoon. But as it turned out the oil samples were not analyzed and the weather was doubtful. We postponed departure until the 17th when we did get off early heading for Lossimouth, Scotland. The weather forecast en route was fair with several rain showers and a few thunderstorms possible. The forecast for our destination was VFR, but with intermittent conditions of 400 overcast and a half-mile visibility with rain showers.

En Route **Upper Left: At Harrisburg. Lower Left: CW3 Larsen at Goose Bay. Upper Right: Passing sunken ship as approaching Greenland. Center Right: Refueling in Greenland. Lower Right: Departing Iceland**

En route weather again was not as forecast, but at least this time it was much better. The weather was virtually clear to Prestwick, Scotland. About an hour and a half out from Lossimouth we checked their current conditions and forecast. They were down with 400 overcast and a half-mile visibility, so we opted for our alternate at Prestwick. This flight was the longest leg of Operation Northern Leap.

At Prestwick we refueled the main tanks and were off again for Mildenhall, England where we were to spend the weekend. We arrived at Mildenhall right at dark. It had been a long day and everyone was looking forward to enjoying the first real rest and relaxation of the flight.

For all practical purposes the self-deployment concept was complete. After crossing the Atlantic Ocean

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the Last Leg Above: At Mildenhall, England CW3 Walter Fox at base operation. Below: Landing at Heidelberg

Congratulations General Frederic J. Kroesen (left), Commander in Chief, USAREUR/Seventh Army and Commander CENTAG-NATO, shakes hands with Captain (P) Steve Gilbertson, Operation Northern Leap Airmission Commander, during welcoming ceremonies last August at Heidelberg, Germany. Each of the U.S. crewmembers of Operation Northern Leap was awarded the Air Medal

the short flight across the English Channel was nothing. All of the aircraft had held up well. Everyone, I think, was surprised and well satisfied with the CH-47C and the minimum maintenance we had to perform en route.

We all enjoyed the weekend, and Monday rolled around too fast. We filed IFR into Heidelberg, Germany and took off so that we could arrive there at 1400 hours. One aircraft had an engine chip light while taxiing out. This caused only a short delay and we soon were on our way—flying the final leg of Operation Northern Leap. All aircraft were given an ASR approach into Heidelberg and soon the band was playing and we were being welcomed to Germany. It was a memorable day—20 August 1979.

General Frederic J. Kroesen, who is Commander In Chief USAREUR/Seventh Army and Commander, CENTAG-NATO, awarded the Air Medal to the U.S. crewmembers. This was the first time, we understand, that the Air Medal had been awarded during peacetime. We spent about 2 hours at Heidelberg talking with VIPs, the press and interested people. Then we cranked the aircraft and flew to Mannheim, Germany. It was the final part of the mission that these aircraft would be flown by our crews.

Everyone was happy to have the mission successfully completed. All had a feeling they had accomplished something as a group and they felt a lot of self-satisfaction as individuals.

Frequently I am asked what I would change if I was to fly the route again. The most important change would be to schedule all over the water takeoffs around the receipt of the satellite picture. *Wait until the satellite picture is in. Review it and then make the weather decision. No one knows or can forecast what the Atlantic holds for weather at our altitudes. Not one forecast received for any of the three overwater legs was accurate.*

The next change I would make is to *fly longer legs and plan the following day to stand-down.*

During the flight we maintained crew integrity by keeping the same people with the same aircraft for the entire trip. The only exception to this was the three evaluators who switched aircraft after each leg.

The flight flew formation the entire route. It was not a close formation, but we kept all aircraft in sight.

I look back on the mission, and I am pleased. I think it was a true success. Operation Northern Leap proved self-deployability. The CH-47C/D is a self-deployable aircraft.

The future holds more self-deployment missions. I can visualize a medium lift helicopter company that may be scheduled for Europe to fly at least a portion of its assigned aircraft overseas. I believe CH-47C/Ds also will lead the way along the southern route to Europe. I foresee the CH-47C/D accompanying other self-deployable helicopters—the UH-60 Black Hawk and the AH-64 advanced attack helicopter.

Self-deployment, now a reality, is here to stay!

LETTERS to the EDITOR

Dear Editor,

I read COL Ault's criticism of Aviation officer development with interest. Put more than two Aviation lieutenants or captains together in a room and you're certain to hear many of the same complaints. The desire for more time at the company level, more time in the cockpit, and more tactical experience is almost universal. The consequences of too little time and experience are obvious. So it's exciting to see a senior leader address this as a systemic issue, but his proposed solution is unclear.

In particular, I think his diatribe against Master's degree programs misses the mark. Relatively few officers get to attend such a program: the statistics I've seen are maybe 20%. For those officers who do attend school, it's almost never in lieu of two more years of tactical Aviation experience, and certainly not two more years in the cockpit. Officers compete to attend school because they know the alternative, for the 80% who don't, is likely one of "a host of branch immaterial assignments throughout the Army" as COL Ault states. Many years in assignments like those (whether actually coded branch immaterial or just treated that way in practice), not two years of graduate school, are what produce the hypothetical underdeveloped battalion commander.

The real problems are bloated staffs and mission CREEP. Every echelon, starting at the battalion level, demands an ever-growing staff of officers to manage an ever-growing list of reports and projects that neither develop tactical competency nor seem to contribute much to the Army's real purpose. So, we need more and more officers in total, but the number of flying assignments at the company level is fixed or shrinking, resulting in less time per officer at that level. At least full-time graduate school opportunities can help to retain good officers (something that distance learning with Army University, as COL Ault suggests, will never do), while unfulfilling staff assignments just drive officers out of the Army completely.

I propose the following:

Return Aviation units to something like the pre-1983 "H Series" MTOE in which company commanders hold the rank of major, captains serve as platoon leaders, and lieutenants can focus primarily on attaining PC, Flight Lead, and AMC. Stop assigning Aviators to S1, S2 (unless you have a 15C on-hand), and S4 positions; give those assignments to the AG, MI, and LG branches to reduce the ratio of staff Aviators to pilots in the line companies. At the same time, reduce annual accessions by whatever portion ultimately goes towards filling all the branch immaterial, non-tactical assignments currently held by Aviation captains and junior majors. I assume that vacant flying positions at the battalion level would take precedence over higher echelon staff positions that could be filled by non-Aviators, and assignment policies would adjust accordingly.

For a wonderfully detailed and still very relevant analysis of this topic, by the way, I recommend the CGSC Master's thesis submitted by Robert Quackenbush in 2000.

Tim Walsh
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USASD - Georgetown University

Aviation Digest thanks CPT Walsh for his letter to the editor. Aviation Digest is always eager to hear the thoughts and opinions of our readers, as well as their recommendations. We truly appreciate our readers taking the time to share viewpoints, comments, concerns, and kudos with Aviation Digest.

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