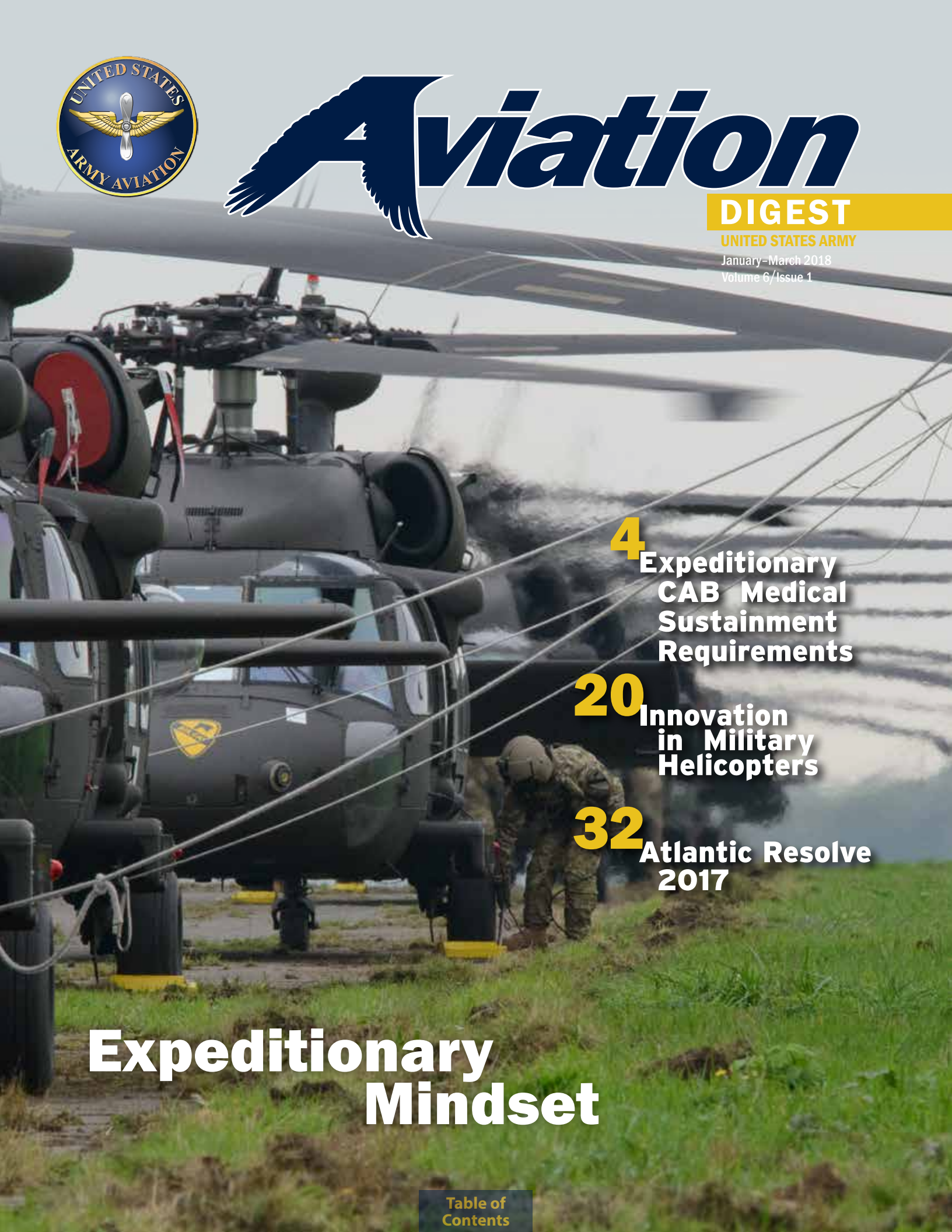

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UNITED STATES ARMY
January–March 2018
Volume 6/Issue 1

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Expeditionary Mindset

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A U.S. Army flight crew member with 1st Air Cavalry Brigade, 1st Cavalry Division removes the parking wedge of a UH-60 Black Hawk prior to departing Chièvres Air Base, Belgium, for Germany, Latvia, Romania, and Poland in support of Operation Atlantic Resolve, Oct. 26, 2017. (U.S. Army photo by Visual Information Specialist Pierre-Etienne Courtejoie)

The Command Corner

If you ask me for a theme that is relevant to our Army today and into the future, one that remains front and center is expeditionary operations. Contrary to what some believe, with few exceptions, Army Aviation is not currently conducting expeditionary operations–and to do so will require a change in mindset. How dramatic of a change is required to embrace and demonstrate expeditionary capability you might ask? To answer this, we should first review Army Field Manual 3-0, which defines expeditionary capability as, "…deploying on short notice to austere locations and being capable of immediately conducting operations" (Department of the Army, 2017). The members of the 10th Combat Aviation Brigade (CAB) recently embraced this mindset shift during their deployment to Europe as a Rotational Aviation Force (RAF), and many of their experiences and lessons learned are captured within the pages of this issue.

This issue of Aviation Digest focuses heavily on vital "enabler" elements within our CAB formations to include medical, sustainment, and communications. The issue is framed in this manner because the very nature of expeditionary capability is based on the premise that a unit departing home station must be ready to operate immediately upon arrival at their destination with a level of initial self-sufficiency. That means aircrews and leaders need to comprehend that their operations must be paced appropriately and informed by available sustainment capabilities. Enabler functions and military occupational specialties, especially in an expeditionary setting, will directly influence both how and when units can conduct operations. As a result, aviation professionals must consider every aspect of the mission, not simply the piece affected by our particular talents or assets. We must be capable of alert, assembly, deployment, employing aviation formations, sustainment, and mission command in a fluid and complex future battlefield.

I encourage you to take the time to study the entries in this Aviation Digest and expand your knowledge of enablers and how their unique capabilities will be absolutely critical to your success in the future. I'd also ask you to think about what is required at various echelons to ensure that our formations become more expeditionary. Consider how to craft this hard-won wisdom into valuable lessons learned and incorporate into homestation training. Most importantly, work daily to capture and hone the Expeditionary Mindset.

Above the Best!

William K. Gayler
Major General, USA
Commanding

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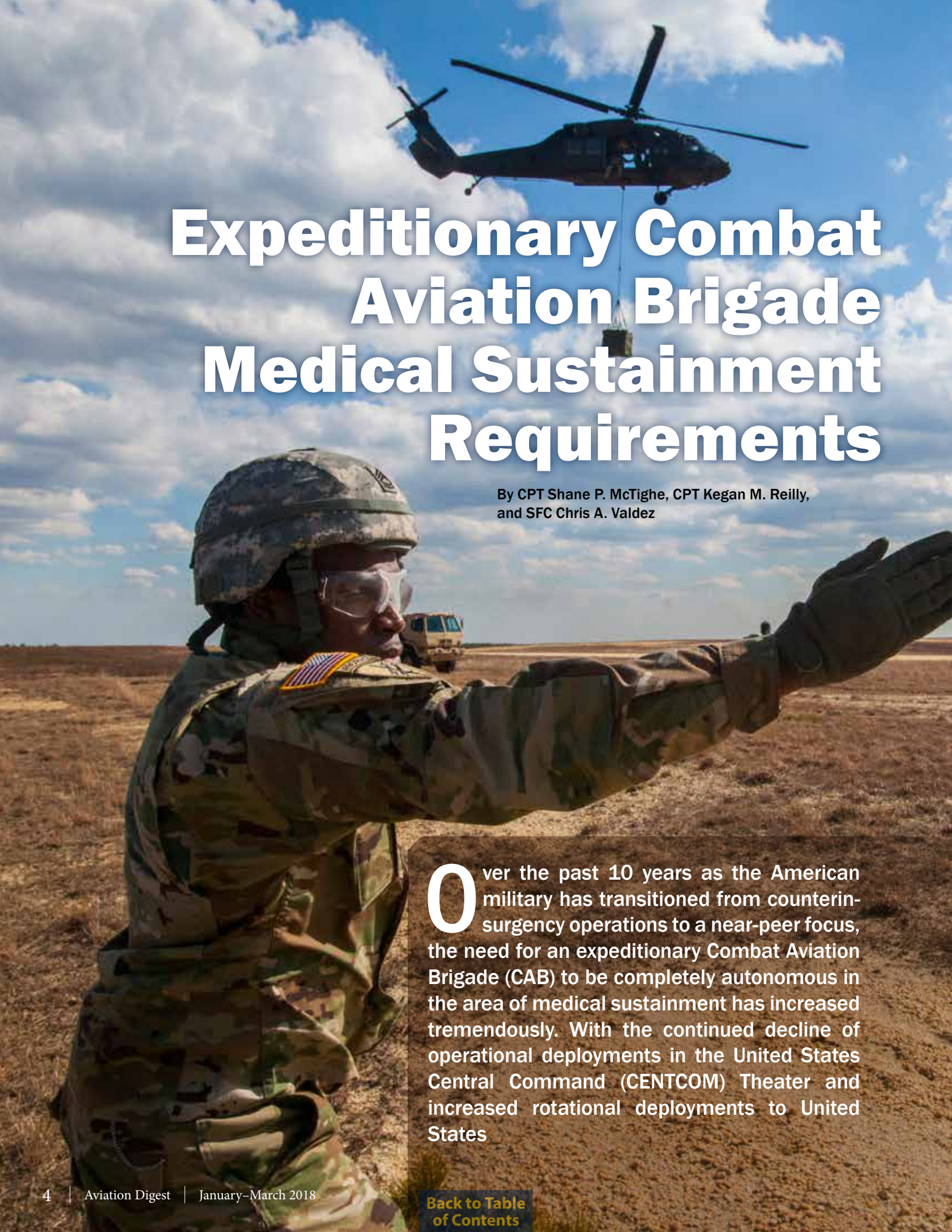

Expeditionary Combat Aviation Brigade Medical Sustainment Requirements

By CPT Shane P. McTighe, CPT Kegan M. Reilly, and SFC Chris A. Valdez

Over the past 10 years as the American military has transitioned from counterinsurgency operations to a near-peer focus, the need for an expeditionary Combat Aviation Brigade (CAB) to be completely autonomous in the area of medical sustainment has increased tremendously. With the continued decline of operational deployments in the United States Central Command (CENTCOM) Theater and increased rotational deployments to United States

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Photo: MSG Mark Olsen

European Command (EUCOM), United States Africa Command (AFRICOM), and United States Pacific Command (PACOM), the Army has transitioned from counterinsurgency (COIN) doctrine back to the open warfare phase line doctrine. In the transition, expectations of the CAB have evolved.

The emphasis on phase line doctrine is displayed in exercises performed at the National Training Center (NTC) and the Joint and Multinational Rotational Center (JMRC), where ground and aviation units alike are expected to fight open territory battles by phase line to prepare for the potential open warfare against a peer threat. This expectation has changed how the CAB needs to be postured to support the fight. During NTC and JMRC, the CAB should expect to occupy its own field or an abandoned airfield 30 to 100 miles behind the first phase line. This expectation demands that the CAB have medical sustainment that is self-sufficient instead of relying on a Combat Sustainment Support Battalion (CSSB) and other maneuver units as suggested in previous doctrine guidelines. To aid this transition in fighting and aviation support adequately, the CAB Modified Table of Organization and Equipment (MTOE) will have to change in the area of medical sustainment with increased manning, rolling stock, and medical equipment to meet mission requirements successfully and sufficiently.

Personnel

Current CAB battalion medical staffing by MTOE is not sufficient to provide adequate medical support without ancillary supplementation. Current medical manning for the Attack Reconnaissance Battalion (ARB), the Assault Helicopter Battalion (AHB), and the Attack Reconnaissance Squadron (ARS) is one Flight Surgeon, one Aeromedical Physician Assistant (APA), one 30-level 68W,* and two 10-level 68Ws.* The ARB, AHB, and ARS have 400 Soldiers, on average. By comparison, a Field Artillery (FA) battalion has 400 Soldiers, on average, with medical staffing consisting of 1 PA, 1 medical officer, and 20 68Ws.*

**Note: 68W = Army Health Care Specialist/Combat Medic*

An FA battalion medical MTOE calls for 20 medics while the ARB, AHB, and ARS call for three. An FA battalion has the same number of Soldiers in the ARB, AHB, and ARS, yet the FA battalion has almost seven times the number of medics than the CAB battalions. The FA battalion's MTOE is a result of their expectation to be self-sustaining and expeditionary. Given similar demands, the MTOE for the CAB is understaffed.

Training performed in Acute Cardiac Life Support (ACLS), Advanced Trauma Life Support (ATLS), and Tactical Combat Medical Care (TCMC) typically consists of 5–6 person teams with roles assigned to each individual. Teams may be smaller; however, this requires individuals to focus on multiple roles at one time, potentially decreasing quality of care given to each area due to split priorities. With the current CAB staffing of five medical personnel, there are enough Soldiers to provide the optimal number needed for one trauma team in support of one patient. Without outside support from another fully staffed Role I medical care facility, this MTOE makes the CAB susceptible to suboptimal care delivered, due to a deficiency in personnel during a Mass Casualty (MASCAL) scenario with anything more than one patient. Having five personnel with limited medical materials also limits the ability of the unit to run split operations, which would be likely to occur in the near-peer operation environment.

U.S. Soldiers with the 1st Air Cavalry Brigade from Fort Hood, Texas conduct a helicopter static display at Storck Barracks, Illesheim Army Airfield in Bavaria, Germany, Dec. 13, 2017. The 1st Air Cavalry Brigade was on a 9-month rotation in support of Atlantic Resolve. (U.S. Army photo by Charles Rosemond)

An example of this occurred during Atlantic Resolve. Atlantic Resolve is an operation the United States Army Europe Web page describes as a "demonstration of continued U.S. commitment to collective security through a series of actions designed to reassure North

Polish medics carry an injured Soldier on a litter as part of a simulated mass casualty evacuation drill during Exercise Anakonda 2016 (AN16) at Miroslawiec Air Base, Poland, June 11, 2016. AN-16 a Polish-led, multinational training event running from June 7-17, involves approximately 31,000 participants from more than 20 nations and is a premier training event for U.S. Army Europe. (Photo by SGT Hector Rene Membreno-Canales)

Atlantic Treaty Organization (NATO) allies and partners of America's dedication to enduring peace and stability in the region in light of the Russian intervention in Ukraine" (Department of the Army Europe, n.d.). During this operation, it was common for the ARB to have Soldiers spread throughout Poland, Latvia, Germany, and Romania. Based off mission requirements, the 1-501 ARB was tasked with the command and control element of Poland while maintaining a majority of the battalion in Germany. Based on the personnel allotted from the ARB medical sustainment MTOE, split operations were unsupportable internally, and the unit was forced to seek external medical support from other units co-located in Poland. This emphasized the ARB's inability to be medically self-sufficient and forced a redistribution of medical assets from already scarce medical resources in the area, causing further burden on surrounding units.

We propose an MTOE change of medical personnel for the ARB, AHB, and the ARS to one Flight Surgeon, one APA, one 30-level 68W,* two 20-level 68Ws,* and eight 10-level 68Ws.* In a field setting, this would allow for two complete trauma teams who could support split operations and increase MASCAL capabilities. In garrison, this MTOE would allow a section to rotate between clinical support operations and battalion support operations. This would also support the patient-centered home model in which each provider should be postured to have two medics in the clinic to support four total screening and exam rooms.

**Note: 68W = Army Health Care Specialist/Combat Medic*

Rolling Stock and Equipment

The current medical sustainment MTOE for the ARB, AHB, and the ARS has no rolling stock assigned for patient evacuation or transport and no inherent living or working facilities. This decreases the medical section's ability to mitigate further combat and environmental risks to patients who have sustained life-threatening injuries. The MTOE-authorized listing for the ARB, AHB, and ARS is one TCMC set, one flight surgeon set, one Nuclear, Biological, and Chemical (NBC) set, and one NBC decontamination set. Since the MTOE has no rolling stock and no assigned living or work space, the medical section does not have the ability to expeditiously transport the assigned medical equipment or to house and treat personnel in support of Role I medical operations in an austere environment.

At JMRC and NTC, our medical unit was forced to acquire non-MTOE tents and vehicles to sustain our ability to properly treat and evacuate critical medical patients during MASCAL exercises. Without designated medical evacuation platforms, we would not be able to support patient movement from casualty collection points to the Role I or from the Role I medical care facility to ambulance exchange points and he-

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licopter landing zones. Since the ARB medical MTOE does not have an area sheltered from environmental hazards for patient care, it is forced to take from other sections, ultimately degrading those sections' capabilities.

To provide expeditionary medical support for an aviation battalion and based on lessons learned from the NTC, JRMC, Atlantic Resolve, and multiple battalion-level field training exercises (FTX), the authors recommend increased rolling stock and equipment. The recommended listing of rolling stock and equipment that will maximize medical treatment and evacuation efficiency with minimal negative impact to the battalion's medical readiness is as follows: two Field Litter Ambulances (FLA), one M1097 cargo High Mobility Multipurpose Wheeled Vehicle, one M1101 trailer, one power plant 4UPT (engine control unit [ECU]), and three tactical area-frame tents (A-frame). Each FLA will be assigned to the individual medical trauma teams for evaluation and treatment of patients on the battlefield. The M1097 and M1101 trailers will be used as the medical command and control vehicle to transport all medical equipment. The ECU and tent will be used to provide power generation for the life-sustaining medical equipment, shelter from environmental hazards, and environmental controls such as the heating and cooling of critical hypo or hyperthermic patients. These additions will allow for increased capabilities when centralizing the medical operations or allow for medical support during the likely split operations.

Soldiers from the 404th Civil Affairs Battalion (Airborne), United States Army Reserve, watch as a 1-150th Assault Helicopter Battalion, New Jersey Army National Guard, Black Hawk helicopter successfully sling loading cargo during joint training at Coyle Drop Zone, Joint Base McGuire-Dix-Lakehurst, New Jersey, Feb. 29, 2016. (U.S. Air National Guard photo by MSG Mark C. Olsen/Released)

In conclusion, by increasing personnel, rolling stock, and equipment within the medical sections of the ARB, AHB, and the ARS, the medical component of the CAB can and will become a self-sustaining expeditionary force multiplier that can rapidly respond to worldwide conflicts in support of near-peer operations.

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References

Department of the Army Europe. (n.d.). Retrieved from http://www.eur.army.mil/AtlanticResolve/

MAXIMIZING TRAINING

Post-CTC Rotation

by CSM Jason Huff, CSM James Etheridge, and CSM Michael Arceneaux

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To be successful during a Combat Training Center (CTC) rotation, leaders need to be proactive before, during, and after their unit's rotation.

Photo by LTC Josh Severs

My two previous *Aviation Digest* articles, "Pre-CTC Rotation Tips for Aviation Senior NCOs," (July–September 2017) and "Senior NCO CTC Mid-Rotation Success," (October–December 2017) focused on the employment and the importance of the Senior Noncommissioned officer (NCO) pre-CTC rotation and mid-rotation. With help from Command Sergeant Major (CSM) Jason Huff (Eagle 40, National Training Center), and CSM Michael Arceneaux (A9, Joint Readiness Training Center [JRTC]), we complete the final article in this series focused on what units can do post-CTC to gain and maintain success from lessons learned during a CTC rotation.

There are plenty of tasks that need to be completed after a (CTC) rotation. Leaders and staff officers are exhausted, and Soldiers are ready to go home. The most important thing to do post-CTC rotation is to maximize the received training and lessons learned during a rotation. The Army is supposed to be a learning organization. To be a learning organization, units must have a post-CTC training plan to capitalize on lessons learned. Leaders know their units best, and they should develop a plan to gain and maintain success after a CTC rotation.

The senior enlisted Aviation trainers from the Joint Multinational Training Center (JMRC) and the National Training Center (NTC), and JRTC believe there are five tasks a unit should complete post-rotation to gain and maintain success post-CTC rotation. The tasks are: 1) recover equipment and property, 2) update your unit's tactical standard operating procedures (TACSOPs), 3) conduct Officer professional development (OPD/NCOPD) from take-home packages provided by the observer, controller, and trainers (OC/Ts), 4) develop a unit training plan that validates the updated TACSOP, and 5) continue team building.

Recovery

Aviation Task Forces (AVN TFs) deploying to a CTC rotation in today's Army will operate in an austere environment. The desert environment in California or the rugged terrain in Germany will significantly impact the maintenance and service life of an AVN TF's equipment. If an organization failed to properly recover their property from a previous training event, the likelihood of critical equipment failure at the next training event increases. As set forth in *Field Manual 7-0*, "Leaders use recovery to ensure the resources and personnel return to standard. The recovery process is training" (Department of the Army [DA], 2016a, p. H-21, sec. H-92). Placing emphasis on proper recovery techniques is critical to the unit's readiness before and after a CTC rotation; therefore, those techniques should be planned and executed deliberately.

A proven Tactic, Technique, and Procedure (TTP) observed at the NTC requires subordinate units to develop a detailed list of required items needing repair or to replace items in order to return equipment to Army maintenance (10/20) standards. Before redeployment is authorized, leaders provide a backbrief detailing the status of discrepancies and provide all applicable shortage annexes and document numbers.

TACSOP Revision

In addition to equipment, AVN TFs often find shortfalls in their TACSOPs. Often, TACSOPs fail to provide a clear procedural "series of detailed steps–or subordinate tasks–" (DA, 2011, p. 2-1, sec. 2-1), in carrying out those steps to achieve a desired result. Validating a TACSOP while at a CTC is important; however, capturing required changes, additions, or deletions from the SOP is critical. Utilizing detailed CTC after action reviews (AARs) provided in take-home packets provide the necessary basis to revising the TACSOP.

The TACSOP revision should not be delegated to an individual but rather, portioned out based on Warfighting functions (WFFs), the subordinate unit's functional areas, and then organized into specific working groups. The TACSOP updates must be aligned with higher Headquarters SOPs to ensure the AVN TF is properly nested with the Combat Aviation Brigade (CAB). The mission essential task list (METL), combined Army training strategy (CATS), training and evaluation outline (TEOs), and the Commander's guidance provide

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Photo by Eagle Team

the direction and resources necessary to refine a complete TACSOP. In particular, the Commander's guidance is the cornerstone of the document because it directs the operational environment the unit must be prepared to operate within. This sets the foundation for the execution of the mission command philosophy. Units should allocate time on their training calendar and make the TACSOP revision a command-directed training event. Units should reference *Army Training Publication (ATP) 3-90.90* for additional information in referencing SOP development, as well as instruction for the use of the "milWiki" database portal (or "milSuite") for SOP examples and collaboration.

Officer and NCO Professional Development

At the completion of a CTC rotation, units are provided with a take-home package consisting of the mid-rotation AAR, final AAR, completed TEOs, exercise summaries (EXSUMs), and senior enlisted EXSUMs. Take-home packages are built for battalion-level and company-level leadership. Unfortunately, not every Soldier gets to attend the AARs due to competing requirements, but units can use the provided AARs to conduct an internal AAR back at home stations. Battalion leaders (Commander and CSM) typically don't attend each company AAR at the completion of a CTC rotation. Battalion level leaders can review the company-level AAR to find areas for improvement or areas that need sustainment. Leaders at all levels can evaluate the TEOs to find areas that need improvement. Additionally, leaders are provided with EXSUMs that go into detailed observations about the unit's CTC rotation. These details focus on areas to sustain and areas in which to improve. Senior enlisted EXSUMS focus on the employment of the NCOs in an AVN TF, from command post operations, force protection, flight company operations, aviation maintenance, casualty evacuation/medical evacuation, and forward arming and refueling point operations.

Aviation Task Forces should continuously assess the performance of their organization in training, but place specific emphasis on AARs and EXSUMs developed by CTCs to develop training plans that "correct deficiencies in observed task execution" (DA, 2016b, p. 3-7, sec. 3-30). The products provided to units after their CTC rotation need to be pulled out prior to the next training event. Use the take-home package for extensive OPD/NCOPDs. Have your junior officers and NCOs review the take-home packages and develop platoon and company level OPD/NCOPDs. Too often, we find units receive their take-home package and never open it to gain insight from the lessons learned.

Development of a Unit Training Plan

Capturing the performance of the unit during a CTC rotation is critical to the development of a training plan that address shortfalls to the unit's performance. During a training event, units must plan, prepare, execute, and assess their actions in every training event. These external evaluations provide subjective feedback necessary to develop subsequent unit training plans (UTPs). In developing the UTP, the AVN TF should apply the military decision-making process (MDMP) to ensure the training plan will address the Command training guidance (CTG), the unit's METL, and the individual and

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Photo by LTC Reynolds

collective tasks necessary to accomplish the unit's assigned mission.

Instrumental to the development of the UTP is the CTG. This is particularly important because the guidance will identify particular METs to train for "specific operational environments" (DA, 2016c, p. E-2, sec. E-8), to provide specific capabilities, and to address shortfalls identified in the AARs from the CTC. The UTP provides the necessary context to develop the training events that will prepare the unit to meet the required missions.

Based on the UTP, AVN units should then deliberately develop home-station training events that provide the "practice of conducting individual and collective tasks to enable tactical and technical proficiency" (DA, 2016d, p. A-1, sec. A-1). These training events should enable leaders to "train one level down and evaluate two levels down" (DA, 2016e, p. A-2, sec. A-4), in a realistic training environment similar to the operational environment that the unit may be asked to operate within. As set out in Training Circular No. 7-101 (2011), the events should be planned for by executing initial planning, identifying the tasks that need to be developed, identifying the operational environment, and developing orders and plans (p. 2-1, table 2-1). These training events should be protected and resourced. Commanders protect and recourse the training plans during the annual or quarterly training brief provided to their higher command.

Train to Win!

A CTC rotation will be challenging and dynamic. For some leaders, it will be mind-boggling. The key is to be a learning organization open to constructive criticism. Take the lessoned learned, update your TACSOPs, develop a sustainable UTP, train your future leaders on the take-home packages provided, ensure you recover your equipment so you are ready for the next fight, and continue to build the team. These are only tips and not the final answer for success; be creative and adaptive but most importantly, be an engaged leader, and your unit will be successful at a CTC rotation or in a real-world combat deployment.

CSM Jason Huff would like to acknowledge MAJ Eric Megerdoomian, National Training Center, Aviation S3 Trainer, Fort Irwin, California, for his assistance in writing this article.

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References

Department of the Army. (2011). *Army tactical standard operating procedures* (Army Techniques Publication 3-90.90, p. 2-1, sec. 2-1). Washington, DC: Department of the Army. Retrieved from http://armypubs.army.mil/epubs/DR_pubs/DR_a/pdf/web/atp3_90x90.pdf

Department of the Army. (2011). *Exercise design* (Training Circular No. 7-101, p. 2-1, table 2-1). Washington, DC: Department of the Army. Retrieved from http://www.apd.army.mil/epubs/DR_pubs/DR_a/pdf/web/tc7_101.pdf

Department of the Army. (2012). *Mission command* (Army Doctrine Reference Publication 6-0). Fort Leavenworth, KS: U.S. Army Combined Arms Center. Retrieved from http://www.apd.army.mil/ProductMaps/PubForm/ADRP.aspx

Department of the Army. (2016). *Enhancing realistic training. Delivering training capabilities for operations in a complex world* (U. S. Army Combined Arms Center White Paper). Washington, DC: Department of the Army. Retrieved from http://usacac.army.mil/sites/default/files/documents/cact/ERT%20White%20Paper%20-%20Signed%20(26%20JAN%202016).pdf

Department of the Army. (2016a). *Train to win in a complex world* (Field Manual 7-0, p.). Washington, DC: Department of the Army. Retrieved from http://usacac.army.mil/sites/default/files/publications/FM%207-0%20TRAIN%20TO%20WIN%20IN%20A%20COMPLEX%20WORLD%2005OCT16.pdf

Department of the Army. (2016b). *Train to win in a complex world* (Field Manual 7-0, p. 3-7). Washington, DC: Department of the Army. Retrieved from http://usacac.army.mil/sites/default/files/publications/FM%207-0%20TRAIN%20TO%20WIN%20IN%20A%20COMPLEX%20WORLD%2005OCT16.pdf

Department of the Army. (2016c). *Train to win in a complex world* (Field Manual 7-0, p. E-2). Washington, DC: Department of the Army. Retrieved from http://usacac.army.mil/sites/default/files/publications/FM%207-0%20TRAIN%20TO%20WIN%20IN%20A%20COMPLEX%20WORLD%2005OCT16.pdf

Department of the Army. (2016d). *Train to win in a complex world* (Field Manual 7-0, p. A-1). Washington, DC: Department of the Army. Retrieved from http://usacac.army.mil/sites/default/files/publications/FM%207-0%20TRAIN%20TO%20WIN%20IN%20A%20COMPLEX%20WORLD%2005OCT16.pdf

Department of the Army. (2016e). *Train to win in a complex world* (Field Manual 7-0, p. A-2). Washington, DC: Department of the Army. Retrieved from http://usacac.army.mil/sites/default/files/publications/FM%207-0%20TRAIN%20TO%20WIN%20IN%20A%20COMPLEX%20WORLD%2005OCT16.pdf

Photo by LTC Josh Severs

ARMY AVIATION
and the AVIATION SAFETY OFFICER

By CW3 Emilio Natalio

Photo by CPT Briana McFarland

THE ROLE OF AN AVIATION SAFETY OFFICER (ASO) IN ARMY AVIATION SHOULD BE REDEFINED FOR CLARITY AND GREATER UNDERSTANDING OF RESPONSIBILITIES.

The ASO fills a vital role in each echelon of Army Aviation, and as such, the ASO position has the potential to be a game-changer in every unit. The ASO's initial training should include a block on fundamentals of instruction and increased involvement in rated and non-rated crew member (RCM/NRCM) training. The ASO position should shift from performing an occupational safety manager role to performing in an ASO-focused role.

The responsibility to ensure the completion of required training set forth as per Army Regulation 385-10 (Department of the Army [DA], 2017) falls on the ASO. In most units, the ASO will instruct the safety program training. These safety classes are conducted in a small group, platoon/company level, or battalion level during a safety stand-down day. Is the ASO equipped to instruct a course that is mandated by an Army Regulation (AR) or per 29 Code of Federal Regulations (CFR) 1960 (U.S. Department of Labor, 1996)? Instructor pilots (IP) and Aviation Mission Survivability Officers (AMSO) each receive a block of instruction on fundamentals of instruction (FOI) during their specific track training. Aviation Safety Officers are expected to instruct classes without this foundation. Therefore, I believe it is vital to incorporate FOI into the ASO Course (ASOC). Without this foundation, the result is a battalion safety stand-down day with an ASO reading a PowerPoint presentation to a formation.

The ASO's involvement in the progression and annual training of RCM/NRCM is nonexistent. Aircrew coordination training (ACT) is a requirement for every aviator. Each aviator usually completes this training annually within their

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APART window. Per Army Training Circular (TC) 3-04.11, "An analysis of accidents revealed that a significant percentage from one or more aircrew coordination errors committed during and even before the flight" (DA, 2016a). The TC authorizes the standardization personnel (SP/IP/IE/FI/IO/SO) to conduct the training as ACT instructors (DA, 2016b, section 6-34, p. 6-5). The aviation accident subject matter expert (SME) in any unit is the ASO. Why would you not tap into the one resource who is the SME in the prevention of accidents? The ASO should be able to instruct RCM/NRCM ACT. One of the ASO's many responsibilities is to prevent accidents. The ASO should be considered as more than just a pilot-in-command or as just a "primary trainer." The ASO is the SME on accident prevention, flight or ground. Exclusion of the ASO in this training is a disservice not only to the ASO, but also to the aircrews.

Additionally, the duties of the ASO are not clearly stated. A search for the words ASO in AR 385-10 (DA, 2017) will give you two results. Chapter 1 glosses over appointing and rating the ASO. The glossary is the second location. Army Regulation 95-1 (DA, 2014a) gives a few more results but still not a clear concise description of responsibilities. Army Regulation 95-1 (DA, 2014a) does define a responsibility of an ASO to monitor all aviation activities for the Commander to ensure proper use of protective clothing and aviation life support equipment (ALSE). Without the regulatory guidance, the ASO's responsibilities appear to Commanders and peers to fall solely into occupational safety manager function. Are all ASOs also qualified ALSE technicians?

For the execution of an operation (training or combat), the Army uses the Department of Defense (DoD) Form 2977 (DoD, 2014) to document the risk management (RM) steps (DA, 2014b). This deliberate risk assessment worksheet (RAW) allows the officer-in-charge (OIC) identify the risks systematically and logically. The ASOs are the link between the preparer and the Commander. The OIC should prepare the form, and the ASO should review the form prior to the Commander review. The ASO is essentially the "mission briefing officer" (DA, 2014a). The ASO should never prepare the form unless they are integrated into every facet of the operation. The reality is that the ASO is assigned to complete the DD Form 2977 (DoD, 2014). Using this logic, the ASO should complete every aviation RAW for every flight.

In a general support Aviation battalion, the safety officer is a CH-47- or UH-60-rated aviator. Supporting Operation Enduring Freedom 12–13, Task Force (TF) Shadow's ASO was an OH-58 aviator. The Eagle Assault TF was comprised of UH-60, AH-64, and HH-60 aircraft during the 2015 deployment to Jalalabad, Afghanistan. The ASO was a UH-60 aviator. The safety officer is expected to provide safety recommendations to the Commander. How is the ASO supposed to provide this information without first-hand knowledge of the aircraft? The ASO would be able to advise the Commander more accurately if the ASO participated in an orientation flight (an orientation flight with access to the flight controls). Army Regulation 95-1 (DA, 2014a) reserves this privilege to the battalion Commander and the battalion standardization pilot. The knowledge gained from an orientation flight would allow the ASOs to customize/improve the crew endurance program. Additionally, incorporating the master gunner course into the ASOC would allow the ASO to be fully integrated into the unit's gunnery program.

The ASO is more than an occupational safety manager. Their duties include ground safety but their responsibilities should encompass much more. The foundation of the ASO needs to begin during the ASOC and build through experience. The addition of FOI will improve the quality of instruction. Instruction from the ASO during ACT is paramount in the prevention of future accidents. Army Regulation 95-1 (DA, 2014a), TC 3-04.11 (DA, 2016a), and AR 385-10 (DA, 2017) should be amended to define the roles and responsibilities of an ASO. With the employment of the above-mentioned changes, the Commander's safety program would drastically improve.

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References:

Department of the Army. (2014a). *Flight regulations* (Army Regulation 95-1). Washington, DC: Headquarters, Department of the Army.

Department of the Army. (2014b). *Risk management* (Army Training Publication 5-19). Washington DC: Headquarters, Department of the Army.

Department of the Army. (2016a). *Commander's aviation training and standardization program* (Training Circular 3-04.11). Washington, DC: Headquarters, Department of the Army.

Department of the Army. (2016b). *Commander's aviation training and standardization program* (Training Circular 3-04.11, section 6-34, p. 6-5). Washington, DC: Headquarters, Department of the Army.

Department of the Army. (2017). *The Army safety program* (Army Regulation 385-10). Washington, DC: Headquarters, Department of the Army.

U.S. Department of Defense. (2014). *Deliberate risk assessment worksheet* (DD Form 2977). Washington, DC: Headquarters, Department of Defense.

U.S. Department of Labor. (1996). *Basic program elements for federal employee occupational safety and health programs and related matters* (29 Code of Federal Regulations, Part 1960). Washington, DC: Headquarters, Occupational Safety and Health Administration.

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COMMUNICATIONS NEEDS IN AVIATION SUPPORT BATTALIONS

Challenges Faced and Lessons Learned from Atlantic Resolve 2.0

by CPT Matthew Bronk

The recent rotation of the 10th Combat Aviation Brigade (CAB) in support of Atlantic Resolve addressed a set of unique challenges and lessons learned that prevented effectiveness of Signal Soldiers in Aviation Support Battalions (ASBs). In my experience serving as both a Signal Platoon Leader and Battalion S6 for the 277th ASB, the training and equipment challenges of Signal Soldiers within the Army are partly because of unique challenges the Signal Corps face.

Challenges with the rapid advancement of technology, gaps in institutional knowledge, and limited cyber training resources affect the readiness of Soldiers to face a near-peer mobile fight in the United States European Command (EUCOM).

> *The technological speed of advance in the commercial sector on information technologies is far more rapid than anything the government acquisitions system is capable of handling. So by the time we even come up with the requirements and start doing prototyping, experiments, and testing these systems are already out of date.* (Defense Video Imagery Distribution System [DVIDS], 2017)–Gen. Mark Milley, Army Chief of Staff

The Army Chief of Staff's comments during a congressional testimony (DVIDS, 2017), echoes my personal experience that rapid advances in technology outpace the Army's current speed of development and acquisition of equipment. During EUCOM training exercises, Soldiers prepare for a near-peer mobile fight; however, the 277th ASB continued to operate with a generation-late, static Warfighter Information Network-Tactical (WIN-T) telecommunications system to provide voice and data capabilities to the Battalion Tactical Operations Center (TOC). The Warfighter Information Network-Tactical system was developed in a more permissive environment like Afghanistan, without significant vulnerabilities taken into consideration when defining Warfighter requirements. The operational environment in EUCOM includes peer adversaries, such as Russia, who can block or spoof parts of the spectrum. As a result, these WIN-T systems are out-of-date and do not meet EUCOM defensive cyber-threat theater requirements.

During training exercises, such as Saber Guardian 17, the 277th ASB faced multiple occasions of connectivity outages due to adverse weather conditions. Absorption of radio frequency (RF) signal due to atmospheric rain, known as "rain fade," is a well-known vulnerability of Ka-band satellite terminals, a primary component of the WIN-T system. For a CAB to sustain initiative and provide lethal fire support in what could be a dynamic decisive action operation on a highly contested and lethal battlefield, the brigade requires the sustainment capabilities of an ASB. The fact that adverse weather, such as rain, could render a digital mission command system useless is not acceptable, especially if units encounter real-world combat. Utilizing the more robust Ku-band frequency band is a more acceptable solution to overcome this "rain fade" vulnerability.

CHALLENGES with the rapid advancement of technology, **GAPS** in institutional knowledge, and limited **CYBER TRAINING RESOURCES** affect the readiness of Soldiers to face a near-peer mobile fight in the United States European Command (EUCOM).

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Recognizing the rapid obsolescence of technology, I propose a shift to a more agile acquisition model focused on purchasing a limited amount of commercial off-the-shelf (COTS) technology vs. fielding equipment in a larger capacity based on a Modified Table of Organization and Equipment (MTOE). For example, the 277th ASB currently transports large, fragile, and vulnerable WIN-T systems not designed for expeditionary operations for an ASB reinforcing the "fight tonight" mindset in EUCOM. Aviation Support Battalions requiring a more portable high-bandwidth communication platform could purchase the GATR antenna system, an inflatable and flexible dish weighing only 50 pounds (replacing the conventional 4,200-pound WIN-T satellite terminal that requires a trailer, vehicle, and four people to lift the transit cases). Delegating procurement authority for smaller quantities targeted toward deploying units allows a quicker technological acquisition. By considering COTS technologies and open architectures for communications assets, ASBs will move closer toward improving sustainment support capabilities.

Photo by SSG Carol Lehman

Photo by William King

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Expanding on challenges faced during Atlantic Resolve 2.0, the institutional knowledge in operating and maintaining the WIN-T network requires years of experience and training. Institutional knowledge in such a technical field becomes critically important as rotational units train to fight against a highly competitive and dynamic near-peer power. Signal Soldiers install, operate, and maintain complex communications equipment. However, when WIN-T equipment stopped functioning, the 277th, ASB requested assistance from the Brigade Network Technician (a Chief Warrant Officer with institutional knowledge) to assist with troubleshooting equipment hardware failures. This is not a problem when co-located with a brigade headquarters; however, it becomes a problem as Aviation Task Forces disperse across the EUCOM theater, and the accessibility of Brigade Network Technicians is limited. During training exercises, the CAB conducted emergency flights to send the Brigade Network Technician to outlying battalion terminal attack control (TAC) locations to troubleshoot and repair WIN-T equipment.

Furthermore, the idea that "everyone is a leader" is unfavorable for Soldiers who joined the military with the intent to become a technician. This is especially true with Signal Soldiers, who often have a high aptitude for technical work but do not have the desire to be a leader. The Army up-or-out promotion system progression has exacerbated this problem. Signal Soldiers become less of a technician upon earning stripes as they serve in a supervisory role rather than a technician role. Instead of continuing specialization in Military Occupation Specialty (MOS) skills, Noncommissioned Officers (NCOs) lose technical knowledge as they progress to take over new managerial duties.

Loss of institutional knowledge leads to an over-reliance of Brigade Signal Warrant Officers, Department of Defense Civilians, and Field Support Representatives, especially during EUCOM training exercises. The re-adoption of senior specialists answers the need for the Signal Corps to become more agile and technical as Aviation Task Forces disperse across the EUCOM theater.

First introduced in 1955, senior specialist ranks provided upward mobility to Soldiers without awarding sergeant stripes and burdening troops with NCO leadership responsibilities (Elder, 2017). Unfortunately, the Army discontinued senior specialist ranks because it did not have the capacity to manage a technical and tactical track for enlisted Soldiers. Considering the increasingly technical proficiency many Signal Soldiers require, reinstituting senior specialist ranks is key to strengthening the Signal Corps, providing career alternatives for troops, and distilling the pool of leaders. The demand for deep, technical expertise is undeniable in situations where a future conflict may involve electrons more than bullets. Aviation Task Forces must prepare to fight in environments where the enemy interrupts supply lines or lines of communication. In such environments, battalions need to operate independently and not rely on outsiders to troubleshoot or repair communications equipment. Units could accomplish this goal by providing the technically skilled Soldiers in battalion S6 sections with the best growth opportunities through senior specialist career tracks to develop technical expertise.

While the battalion did not face cyber-attacks during EUCOM training exercises, battalions need cyber security training to meet the emerging threats within the cyberspace domain. The Army WIN-T network is highly detectable. Rotational units worry about hacking and jamming (hence the use of Frequency-Hopping and Cipher Text during radio communications); however, the ASB's communication networks have a very loud electromagnetic signature, broadcasting the location of the battalion TOC and becoming vulnerable to fires and sabotage. Encrypting communications works well to protect interception of messages. Unfortunately, the enemy will likely not care about what a unit is saying if it can guarantee that artillery destroyed its key communication assets and equipment. Despite obvious need for cyber defense, Signal Soldiers within the ASB do not train on cyber warfare tactics.

Signal Soldiers in an ASB do not obtain the knowledge to defend the network beyond creating complex passwords for WIN-T network management laptops. Cyber Soldiers authorized at the brigade level do not offer the training or resources required for Signal Soldiers at the battalion level to defend the network against cyber attacks. Solutions to meet this shortfall might comprise the inclusion of trained cyber Soldiers to the Battalion MTOE, the allocation of funds for annual cyber security training, or the augmentation of battalion S6 sections with cyber teams during EUCOM rotations.

The effectiveness of a rotational unit's mission in EUCOM directly correlates with its ability to build a continuous improving Signal force. If given the right time, information, and equipment, a Soldier will do anything asked of him or her. As soon as organizations fail to provide Soldiers with resources and knowledge needed, they will begin to fall short. There should be a singular vision for the future of the Signal Corps. Placing an emphasis on providing the right tools (next-generation equipment), the re-adoption of senior specialist ranks, and the integration of cyber Soldiers at the battalion level will prepare ASBs to win in EUCOM's new domain and changing warfare.

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References:

Defense Video Imagery Distribution System (Producer). (2017). *Top Army officials testify at senate armed services committee budget hearing.* Available from https://www.dvidshub.net/video/527107/top-armyofficials-testify-sasc-budget-hearing

Elder, D. (n.d.).Short history of the specialist rank. *The NCO Historical Society*. Retrieved from http://ncohistory.com/documents/shsr.pdf

Aviation DIGEST

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At the end of each year, the Aviation Digest Editorial Review Board reviews all articles from the year's four issues and recommends one article to the CG for the Aviation Digest Annual Writing Award. The author of the selected article will receive a coin from the CG and a Certificate of Appreciation designating his/her article as the Aviation Digest Article of the Year.

The Aviation Digest Annual Writing Award for 2017 is presented to **CW4 JOE POPE** for his contribution in penning "**TOXIC LEADERSHIP**" published in Volume 5/Issue 4 (October-December, 2017, pg. 40).

Congratulations CW4 JOE POPE!

Read it online by clicking the image below, or find the issue in our archive: http://www.rucker.army.mil/aviationdigest/index.html

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Has the author identified an issue within the Aviation branch requiring command attention/action to improve existing procedures or operations?

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Has the author presented an article that improves audience knowledge of doctrine or other established operational procedures?

Has the author related an experience that others may benefit from professionally or that may potentially prevent an aircraft accident?

Does the author present factual and researched information to support the article?

Has the author recommended a realistic solution to remedy or improve those conditions causing a perceived deficiency?

Has the author presented a discussion based on facts and not suppositions, generalizations, or vague innuendos?

Does the author present his/her article as an organized discussion—introduction to the issue, background information, and meaningful presentation of discussion points, summary, and conclusion?

Was the article easy to read and did it follow the discussion points?

Did you understand the author's message?

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One TACSOP to Rule them All

By CW5 Jason C. Watson

Light signals. Torch. Nightmare. Blind alley. These words all mean something, but they don't mean the same thing to different units. The Army makes use of tactical standard operating procedures (TACSOP) so everyone in a unit knows how everyone else in that unit will function. This document enables us to have shared understanding through all phases of a mission or exercise. What about having one TACSOP for multiple units? What about having one TACSOP for the entire aviation enterprise?

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As the Rotational Aviation Force deployed to support Atlantic Resolve 2.0 (AR 2.0) during 2017, the 10th Combat Aviation Brigade (CAB) was comprised of 2-10 Assault Helicopter Battalion, 3-10 General Support Aviation Battalion, and 1-501 Attack Reconnaissance Battalion, from 1st Armored Division CAB. Having a battalion from outside of our footprint integrated into daily missions and multifunctional task forces really highlighted the benefits that a shared TACSOP would provide. Let's examine those up sides and potential pitfalls.

A shared TACSOP across the entirety of Army aviation would be a newcomer's dream come true. After learning the basics of piloting, using brevity words and terminology inherently specific to aviation while in flight school, it would be great to show up to your unit and have a foundation of tactical knowledge in how that unit operates. If every unit executed basic tasks in the exact same manner and using the same brevity codes, then flight school could indoctrinate students with that knowledge from the beginning. However, Army aviation does not execute in this manner. One unit will pass light signals to signal that they are ready for takeoff. Another will pass Readiness Condition (REDCON) calls over the radio to signal that they're ready. Both achieve the same result—the flight departing for its mission. Which is better? Ultimately, it depends on whom you ask and is not germane to this article. However, what is germane is that aviators in the same unit will execute both of these methods because they grew up in different units and often fall back on muscle memory.

The ease of a shared TACSOP would eventually remove the differing brevity words and terminology from our lexicon. Movement between units would be much smoother, as incoming crewmembers would already know exactly how the new unit executes operations, incorporates methods used for take-offs, performs in-flight link-ups, and implements refueling procedures. Do units use bird names, sports teams, or cities for execution checklists (ex-checks)? Crewmembers will already know, because everyone now uses cities. That is the shiny, golden up side to a shared TACSOP. Is a heavy attack reconnaissance squadron (H-ARS) being carved out of your CAB for a rotation to Korea? The H-ARS will already know what to expect. Now the H-ARS just has to show up, shake some hands, and get a local area orientation to integrate smoothly into operations. A relief in place at the beginning of a rotation is greatly simplified, as the basics of mission execution are standardized and greater emphasis on the mission area can be the focus. Units would move straight into the local specificities that impact your deployed mission set: visual flight rules arrival/ departure corridors in Germany to high altitude flying areas and enemy tactics in Afghanistan.

Many ground units want to know how aviators perform paradrop operations, overwater operations, and air assault. If it were a common TACSOP across the enterprise, it could be stored online. Ground units need not call and ask for a copy of the aviation TACSOP. The ground force would already know that all aviation units execute operations. After that, mission planning and interoperability is just exchanging names and numbers to open up the larger exchange of capabilities and possibilities.

This allows aviation and ground forces to build, in a joint manner, habitual use relationships much faster, enabling quicker planning, training, and execution of complex mission sets.

Integrating ex-checks is easier when the ground force already knows the format aviation uses: city names, A to Z. This minimizes confusing radio clutter such as, "Denver, Stephanie, Giants, Budweiser." The supported unit shows up with their additions in hand, readily made to insert into the ex-check: Atlanta, Columbus, Detroit, and Houston. Simple. Efficient. Effective.

In an ideal world, this streamlines operations; however, it is quite possibly universally unachievable. Why is that? Diversity. Specifically, diversity of key personalities. Each unit, in its key positions, is going to have strong, polarizing personalities rotate through them. These individuals will want to write their own TACSOP to characterize their vision for the unit. Each unit will adopt an individual approach to mission execution based on personal experience and force of personality. Someone will like the light signal approach to formation takeoffs better than the in-chalk-order radio call method. One Commander might want a section on convoying, while another wants only air mission-specific sections. One unit will favor a refuel checklist with 92 steps, while another uses a streamlined, stripped down version with only 17 steps. The streamlined approach would require a change in our culture.

The biggest pitfall that units might face would be complacency. Personnel who reside under a single overriding document usually become very knowledgeable about the contents of that document. We learn it, train it, understand it, and execute it until that execution becomes flawless, or we mistakenly perceive that execution to be flawless. More often than not, this leads to stagnation. Creativity and innovation are stifled because, "this is the way we've always done it." Changes would be difficult to enact, as it would affect the entirety of aviation, and getting a group consensus is difficult at the best of times. Any significant change would have to be developed; tested; documented; and pitched at the highest level; deliberated; widely distributed for review; and then decided upon by some kind of committee. The current process consists of pitching the change to a handful of people at the brigade level to make a modification that can be measured in days rather than weeks, months, or even years.

As with any hotly contested issue, there are plusses, minuses, and a million viewpoints. What is the result? We currently have at least 12 CAB TACSOPs in the active Army. I'm sure that the National Guard and Army Reserve, as well as many of our non-brigade units, have TACSOPs of their own to pile further onto that number. Additionally, flight school continues to labor under its own bureaucratic SOPs. If herding Warrant Officers is akin to herding cats, what phraseology would encompass convincing the entire Aviation enterprise to adopt a single TACSOP?

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Innovation in Military Helicopters:

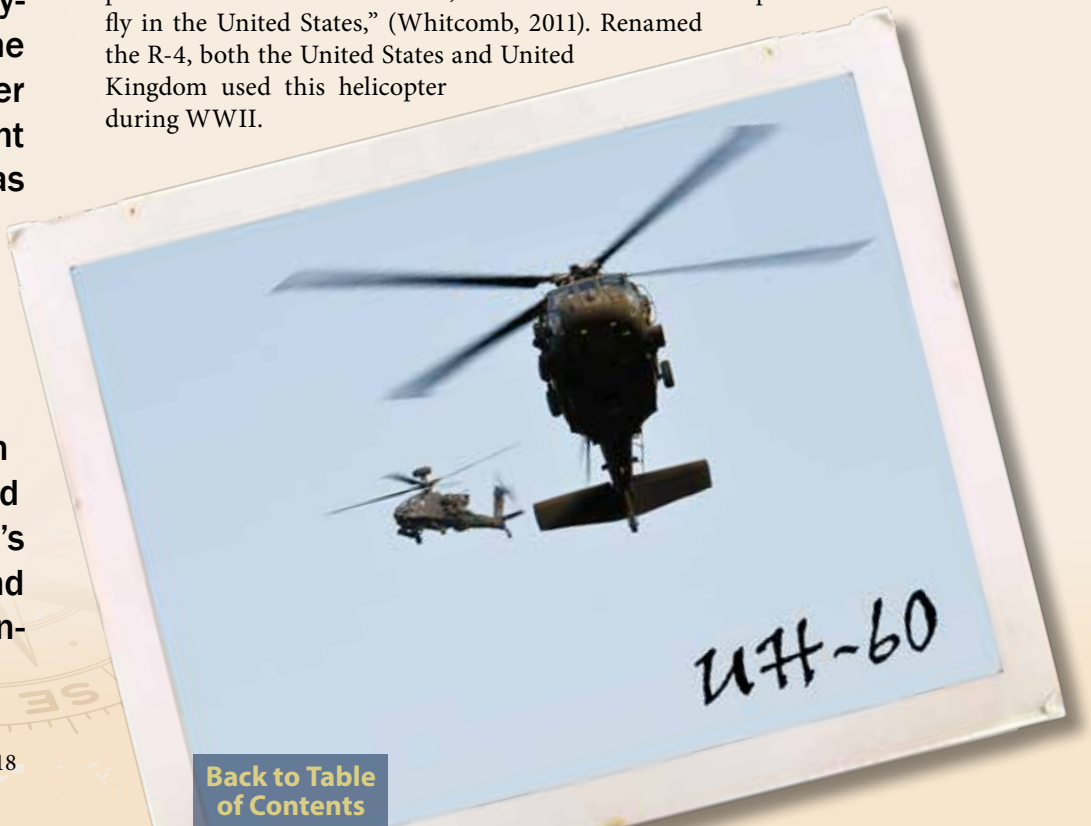
Past, Present, and Future

By 1LT Robert P. Callahan, Jr.

Imagine you are kayaker stranded off the coast of a Caribbean island. You kayaked into the ocean hoping to watch the sun set on the end of the world, but you became disoriented and drifted out into the open ocean. Already dehydrated from a day in the sun, you become thirstier and thirstier as the night turns into morning. Just as you begin to give up hope, a steady slapping sound drifts over the horizon. The slapping grows louder, and a form begins to take shape. Dark green with red crosses painted on the sides and nose, it's a UH-60 Black Hawk, and it's here to rescue you (Condit, 2015).

The UH-60 exemplifies today's typical helicopter design: it uses two turboshaft engines to power a main rotor and a tail rotor (Frenken, Saviotti, & Trommetter, 1999). This design also dominates our formations: 11 out of 12 flight companies in the combat aviation brigade are equiped with dual engine, single rotor aircraft. The story of how this design came to dominate is one of innovation, ingenuity, and military necessity, and these factors will surely determine what design comes to dominate in the future.

Leonardo Da Vinci first dreamed of a flying machine in the 1400s, but Igor Sikorsky's 1931 patent for a "Direct Lift Aircraft" described the first helicopter (Hager, 2012; Connecticut History, n.d.; Sikorsky, 1935). By 1939, Sikorsky's patent had become the VS-300, "the first successful helicopter to fly in the United States," (Whitcomb, 2011). Renamed the R-4, both the United States and United Kingdom used this helicopter during WWII.



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Unfortunately, the R-4 was underpowered, which forced it to fly low and made it an easy target for small arms. It was also flimsy, which meant even the slightest damage would spell catastrophy for the airframe (Williams, 2005). The R-6, "an improved and streamlined R-4…[with] a 240-horsepower engine instead of…[a] 180-horsepower engine," accompanied its predecessor on search and rescue and evacuation missions at the end of WWII (Sikorsky, 2007). The additional lift afforded by the increase in horsepower improved the flight profile of the R-6 over the R-4 and suggests an initial theme in helicopter development: more power!

While Sikorsky's R-4 and R-6 served in Burma, Frank Piasecki introduced a novel rotary-wing method: the tandem-rotor HRP-1 (Whitcomb, 2011; Williams, 2005; Boeing, 2017). Like all rotary-wing aircraft, tandem-rotor helicopters rotate an airfoil to produce lift. The difference lies in how tandem-rotor helicopters compensate for the torque created by the forward rotor. Additionally, both rotors on tandem-rotor helicopters produce lift, meaning that they have higher gross weights than do their single-rotor counterparts. These tandem-rotor characteristics proved attractive, and the Marine Corps fielded its first HRP-1 unit by 1947 (Boeing, 2017; Williams, 2005).

Not one to be left behind, the U.S. Army also investigated additional aircraft after WWII. Unfortunately, when the Army Air Forces split off to form the Air Force, the Army lost much of its aviation-related institutional knowledge. Therefore, the Army's post-war efforts focused on expanding and reestablishing its aviation-based observation and transportation capabilities. Observation and transportation required different capabilities: observation helicopters called for maximum loiter time while transportation helicopters called for maximum gross weight. In 1946, the Army began testing the H-13 for service as an observation helicopter, and in 1950, it approved five experimental transport helicopter companies fielded with H-19 and H-21 transport helicopters (Williams, 2005).

The onset of the Korean War provided a trial-by-fire for military helicopters. The Marine Corps, which had conducted pre-war experiments and training exercises, debuted the vertical assault by helicopter (Whitcomb, 2012; Williams, 2005). An 8-minute HRP-1 ride replaced a 9-hour foot march. Additionally, Marine Corps helicopters transported more than 60,000 passengers, carried more than 7.5 million pounds of cargo, and evacuated 9815 casualties (Williams, 2005).

Bureaucratic infighting with the Air Force delayed the fielding of the Army's H-19 transport helicopter until 1952. Initial training and transportation to Korea further delayed the initial service of the H-19 to January 1953. In the 7 months before the July 1953 armistice, Army H-19s transported 500 passengers, carried 5 million pounds of cargo, and evacuated 1400 casualties (Williams, 2005). The Army had to repurpose its H-13 observation helicopters as medical evacuation helicopters. Its observation helicopter compatriots, the H-12 and H-23, joined the H-13. Together, the

References:

Bell Helicopter. (2016). *Bell V-280 valor.* Retrieved from www.bellhelicopter.com/military/bell-v-280

Bell Helicopter. (2016). *The history of Bell Helicopter: 1990-1999.* Retrieved from http://www.bellhelicopter.com/company/history/1990-1999

Boeing. (2014). *Sikorsky, Boeing selected to build technology demonstrator for future vertical lift (News Release).* Retrieved from boeing.mediaroom.com/2014-08-12-Sikorsky-Boeing-Selected-to-Build-Technology-Demonstrator-for-Future-Vertical-Lift

Boeing. (2017). *CH-46 Sea Knight (Historical Snapshot).* Retrieved from www.boeing.com/history/products/c-46-sea-knight.page

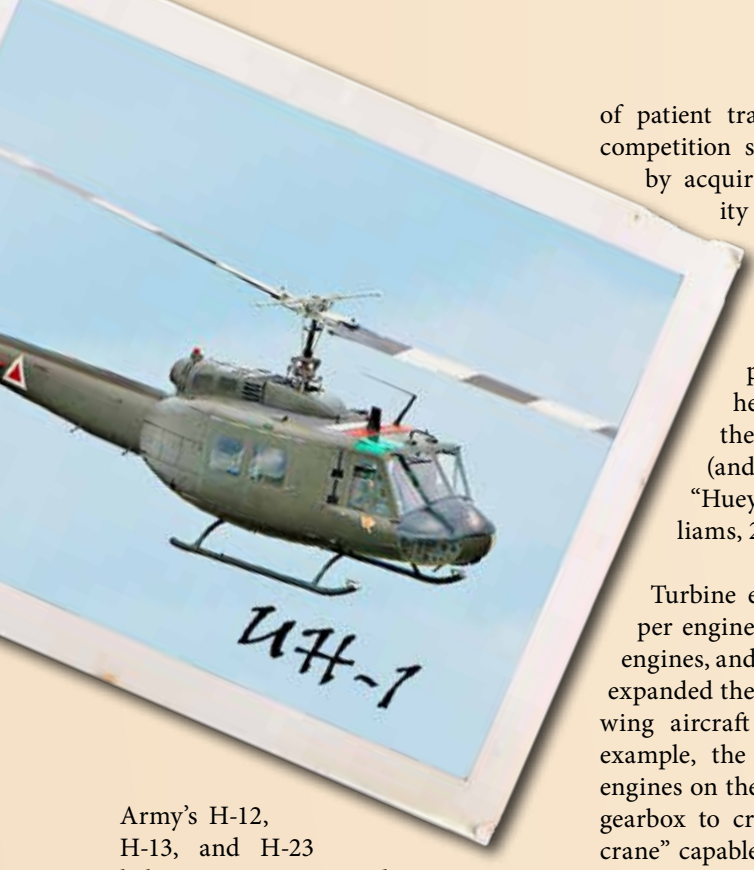
Boeing. (2017). *CH-47 Chinook (Historical Snaphot).* Retrieved from www.boeing.com/history/products/ch47-chinook.page

Boeing. (2017). *HRP-1 helicopter (Historical Snapshot).* Retrieved from www.boeing.com/history/products/hrp-1-rotorcraft.page

Boeing. (2017). *OH-6 Cayuse/Hughes 500 (Historical Snaphot).* Retrieved from http://www.boeing.com/history/products/oh-6-cayuse.page

Boeing. (2017). *The future of vertical lift (Overview).* Retrieved from www.boeing.com/defense/future-vertical-lift/index.page

Braybrook, R. (2014). *Selling the Osprey. armada INTERNATIONAL 38(3), 54-62.* Retrieved from https://issuu.com/vishmeh/docs/armada_-_june_july_2014_main_magazi



Army's H-12, H-13, and H-23 helicopters evacuated more than 17,000 casualties over the course of the Korean War (Williams, 2005; Whitcomb, 2011).

Based on its training and wartime experience with the HRP-1, the Marine Corps acquired the H-37 to advance its concept of vertical assault. The H-37, which had two 4,200 horsepower engines, gave the Marine Corps a single-rotor helicopter, but it failed to meet the operational requirements placed on it. This failure left the Marine Corps searching for a suitable assault helicopter (Whitcomb, 2012).

After the Korean War, the Army recognized that observation helicopters made poor ad hoc evacuation platforms. Therefore, the Army decided to ensure that future helicopters would be capable of patient transport. A 1950s design competition sought to meet this goal by acquiring a dual-purpose utility and evacuation helicopter. The 1955 contract called for a single-rotor helicopter powered by a then-800 horsepower turbine engine. The helicopter was designated the UH-1 in 1962, but it was (and is) bet**ter** known as the "Huey" (Whitcomb, 2011; Williams, 2005).

Turbine engines have a better lift per engine pound ratio than piston engines, and this improvement greatly expanded the flight envelope of rotary-wing aircraft (Whitcomb, 2012). For example, the Army mounted turbine engines on the H-37's transmission and gearbox to create the CH-54, a "Skycrane" capable of lifting 25,000 pounds (Williams, 2005; Whitcomb, 2012). This innovation proved to be the answer to the Marine Corps' prayers. In 1962, the Marine Corps issued a contract to Sikorsky for the CH-53, which added a full cabin to a CH-54 (Whitcomb, 2012). Additional 1960s rotary-wing advances enabled by turbine engines included the CH-46 and CH-47, two similar turbine-powered tandem-rotor cargo helicopters (Boeing, 2017; Grina, 1975).

The 1960s bore witness to the growing conflict in Vietnam. In response to the rising casualties, the Army began a competition for the Advanced Aerial Fire Support System. Lockheed's AH-56, which added a rear-mounted pusher propeller to a typical single-rotor helicopter, was selected. The AH-56 was designed to use the main and anti-torque rotors during hovering and non-forward directional flight, but use the pusher propeller and stub wings during forward flight. This design required the transmission to vary power delivery between the rotors based on flight profile, and the complexity resulted in development delays (Dorr, 2011). Impatient, aviation crews in Vietnam took advantage of the additional gross weight provided by the UH-1B's turbine engine upgrade to create a UH-1 gunship. Additionally, the Army purchased four ACH-47 gunships to supplement the UH-1 gunship fleet. These ad hoc solutions were replaced by the AH-1, the Army's first purpose-built helicopter gunship. The AH-1 was a heavily redesigned UH-1, featuring a more efficient rotor system, more powerful engine, and more aerodynamic fuselage (Williams, 2005). By the time the AH-1 saw service in Vietnam, the AH-56 project was canceled (Dorr, 2011). The Army also pursued a

References:

Callon, M. (1990). *Techno-economic networks and irreversibility.* The Sociological Review, 38(S1), 132-161. doi: 10.1111/j.1467-954X.1990.tb03351.x

Chait, R., Lyons, J., & Long, D. (2006). *Critical technology events in the development of the Apache Helicopter: project hindsight revisited. Washington, DC: Center for Technology and National Security Policy, National Defense University.* Retrieved from http://www.dtic.mil/dtic/tr/fulltext/u2/a450121.pdf

Chana, W. F. & Sullivan, T. M. (1992). *The tilt wing advantage-for high speed VSTOL aircraft* (SAE Technical Paper 921911). doi:10.4271/921911

Cleveland, T. J. (2017, September 20). *OH-58D 'Kiowa Warrior' takes final flight. Peninsula Warrior.* Retrieved from https://www.militarynews.com/peninsula-warrior/news/army_news/oh--d-kiowa-warrior-takes-final-flight/article_e216bc94-1bc7-5559-bcaa-acea50ecc50f.html

Condit, J. (2015). *1-288 aviation regiment performs life-saving, ocean rescue*. Retrieved from http://www.jtfb.southcom.mil/News/Article-Display/Article/842545/1-228-aviation-regiment-performs-life-saving-ocean-rescue/

Connecticut History.org. (n.d.). *World's first helicopter–today in history: September 14. ConnecticutHistory.org.* Retrieved from connecticuthistory.org/worlds-first-helicopter-today-in-history

Crawford, W. (1973). *The T700-GE-700 turboshaft engine program* (SAE Technical Paper 730917). doi:10.4271/730917

DeLeon, P. (1978). *Public policy termination: an end and a beginning. Policy Analysis, 4(3) 369-392.* Retrieved from http://www.jstor.org/stable/42783546

Demotes-Mainard, J. (2012). *RAH-66 Comanche-the self-inflicted termination: exploring the dynamics of change in weapons procurement. Defense Acquisition Research Journal, 19(2), 183-208.* Retrieved from http://www.dtic.mil/dtic/tr/fulltext/u2/a564477.pdf

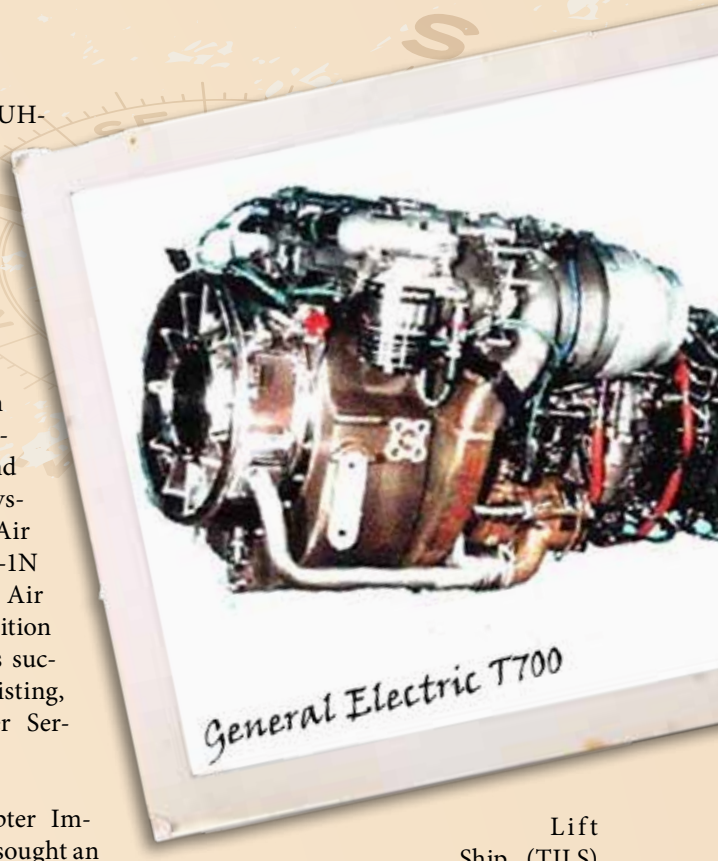
Light Observation Helicopter (LOH) in the 1960s. At the conclusion of the LOH effort, the Army added the OH-6 and OH-58 single-engine observation helicopters to its inventory (Rankin, 1974).

Despite the innovations represented by the UH-1, AH-1, OH-6, CH-46, CH-47, CH-53, CH-54, and OH-58 aircraft, there were complaints. Helicopter engines were underpowered (still!), unreliable, burned too much gas, and required too much maintenance (Chait, Lyons, & Long, 2006). The CH-47, which remains in service today, received regular upgrades over the course of its life, and began its F model upgrade in 2007 (Dillard, Hite, & Wilson, 2007). By the time the CH-47 reached its D model, it could lift as much as the CH-54 without requiring modification to transport personnel. This removed the need for multiple cargo helicopters in the Army inventory and led to the retirement of the CH-54 (Williams, 2005). This swap helps explain why we still have one company of Chinooks in each Combat Aviation Brigade (CAB), but the disposition of the UH-1, AH-1, OH-6, CH-46, CH-53, and OH-58 aircraft were a little more complicated.

The Marine Corps acquired a dual engine version of the UH-1, the N model, in 1971, and a dual engine AH-1 followed its brother into Marine Corps Service shortly thereafter. Both versions of the H-1 remain in Marine Corps service, and they are currently undergoing a modernization program that includes upgrades to the power plant and transmission (Naval Air Systems Command, n.d.). The Air Force also acquired the UH-1N in the 1970s (United States Air Force, 2015). These acquisition projects built on the Army's success by modifying an existing, proven airframe to another Service's specific needs.

In 1979, the Army Helicopter Improvement Program (AHIP) sought an improved observation helicopter; Bell and Hughes both proposed improved versions of their Vietnam era observation helicopters. In 1981, the Army awarded Bell the contract, and Bell began producing the OH-58D (Fairweather & Fossum, 1982). The AHIP decision represented the beginning of the end for the Army's OH-6 fleet, but H-6 derivatives still see limited Army service today (Boeing, 2017). In 1988, Bell modified 11 OH-58Ds to create an ad hoc armed scout, and by 1990, the OH-58D had transformed into the Kiowa Warrior (Bell Helicopter, 2016). The Kiowa Warrior served until its recent divestment as part of the Aviation Restructuring Initiative (Cleveland, 2017).

In the 1970s, the Army developed two brand new helicopters instead of upgrading its UHs and AH-1s. The UH-1's replacement grew out of The Improved



Lift Ship (TILS) project of 1970. Two weeks after the 1972 cancellation of the AH-56 project, the Army began its Advanced Attack Helicopter (AAH) program. The results of TILS and the AAH were the UH-60 and AH-64 helicopters. Each of these helicopters incorporated novel technology to improve their mission effectiveness. The helicopters' engines were particularly noteworthy (Trybula, 2012). Like the earlier UH-1 and AH-1, the UH-60 and AH-64 helicopters had a common power plant: the General Electric (GE) T700 (GE Aviation, 2017). The original T700 engine's 1500 horsepower engine outperformed the UH-1H helicopter's T53-L-13 1400 horsepower engine, and both the UH-60 and AH-64 used two T700 engines (Crawford, 1973; Whitcomb, 2011; Chait et al., 2006). This doubled the maximum gross weight of the UH-60 and AH-64 aircraft compared to the earlier UH and AH-1.

References:

Dillard, R., Hite, B., & Wilson, C. (2007). *Lessons in outsourcing–CH-47F design and production effort initiatives. Army AL&T Magazine, July-September, 36-39.* Retrieved from http://asc.army.mil/docs/pubs/alt/current/issue/articles/36_Lessons_in_Outsourcing_--_CH-47F_Design_and_Production_Effort_Initiatives_200707.pdf

Dorr, R. F. (2011). *The Lockheed AH-56 Cheyenne attack helicopter might have been a formidable weapon. Defense Media Network.* Retrieved from www.defensemedianetwork.com/stories/what-might-have-been-lockheeds-ah-56a-cheyenne

Drezner, J., Roshan, P., & Whitmore, T. (2017). *Enhancing management of the joint future vertical lift initiative. RAND Corporation*. doi: 10.7249/RR2010

Edi, P., Yusoff N., Yazid, A. A., Catur, S. K., Nurkas, W., & Suyono, W. A. (2008). *New design approach of compound helicopter. WSEAS Transactions on Applied and Theoretical Mechanics, (3)9, 799-808.* Retrieved from https://www.worldcat.org/title/new-design-approach-of-compound-helicopter/oclc/424303536&referer=brief_results

Fairweather, R. S., Jr. & Fossum, G. (1982). *The AHIP (Army Helicopter Improvement Program): field artillery aerial observer platform of the future. Field Artillery Journal, 50(4), 14-22.* Retrieved from http://sill-www.army.mil/firesbulletin/archives/1982/JUL_AUG_1982/JUL_AUG_1982_FULL_EDITION.pdf

Frenken, K., Saviotti, P.P., & Trommetter, M. (1999). *Variety and niche creation in aircraft, helicopters, motorcycles and microcomputers.* Research Policy 28(5), 469-488. doi:10.1016/S0048-7333(99)00008-6

Much like the Army's CH-47, the Marine Corps' CH-53 has been upgraded multiple times since the 1960s, and the current CH-53K has a gross weight of 88,000 pounds (Naval Air Systems Command, n.d.). The Air Force acquired the CH-53 in 1967 and employed it until 2008 (Whitcomb, 2012). The CH-46 remained in use until 2014 (Boeing, 2017). Before addressing the CH-46 and CH-53's replacement, an interlude is appropriate to examine the state of the helicopter prior to its introduction.

At the end of the 1970s, all of the military's helicopters depended on one innovation: the turbine engine. Turbine engines provided the power plant of the UH-1, AH-1, OH-6, CH-46, CH-47, CH-54, CH-53, OH-58, UH-60, and AH-64 aircraft. Moving to the present day, as the turbine engine improved, helicopters increased their maximum gross weights (up to 88,000 pounds for a brand new CH-53K), but retreating blade stall limited the maximum speed of single-rotor helicopters. In a similar way, the maximum airspeed of both single- and tandem-rotor helicopters is limited by compressibility effects on the advancing blade (Edi et al., 2008).

The 1981 Joint VTOL Experimental (JVX) program called for high-speed rotorcraft, which meant overcoming retreating blade stall and compressibility effects. A combined Bell/Boeing bid, dubbed the V-22 Osprey, was selected in 1983. Full-scale development began in 1986, the V-22 reached its initial operational capabilities in 2008, and the V-22 is projected to reach its Full Operational Capabilities in 2018 (Braybrook, 2014; Naval Air Systems Command, n.d.). The V-22 is a "tilt-rotor Vertical/Short Take Off and Landing (V/STOL) aircraft" (Naval Air Systems Command, n.d.). As the name would suggest, tilt-rotor aircraft tilt their rotors, which grants access to flight envelopes similar to a helicopter (while the rotors are pointed upward to produce vertical lift) and an airplane (while the rotors are pointed forward to produce horizontal thrust) (Braybrook, 2014). The V-22 replaced the CH-46 as the Marine Corps' medium-lift rotary-wing aircraft. It also replaced the MH-53 as the Air Force's special operations rotary-wing aircraft (Naval Air Systems Command, n.d.; Whitcomb, 2012).

The tilt-rotor at the heart of the V-22 is not the only method for increasing the speed of rotary-wing aircraft. Tilt-wings, compound helicopters, and coaxial rotor systems have all successfully outperformed the typical single-rotor helicopter (Edi et al., 2008; Chana, 1992). However, the question of which technology (tilt-rotor, tilt-wing, compound helicopter, or coaxial rotor) will dominate future rotary-wing development is still unanswered. In 2014, the Army issued two contracts for Air Vehicle Demonstrators under its Joint Multi-Role Technology Demonstrator (JMR-TD) (Boeing, 2014; Stein, 2017; U. S. Army Aviation and Missile Research, Development, and Engineering Center [AMRDEC], 2016). The JMR-TD will inform the Future Vertical Lift (FVL) program, which is supposed to replace the military's entire vertical lift fleet (AMRDEC, 2016). Boeing and Sikorsky are partnered on the SB-1, which uses a coaxial rotor system and a rear-mounted pusher prop (Boeing, 2017). Bell is producing the V-280, which hopes to improve on the tilt-rotor technology of the V-22 (Bell, 2016).

The JMR-TD and FVL programs could herald an irreversible change in rotary-wing flight. If one technology is chosen for all four categories of FVL (light, medium, heavy, and ultra), then military aviation will begin converging around that technology (Callon, 1990; Wise, 2014). Of course, the irreversibility will also depend on the military Services successfully acquiring the chosen FVL airframes. The Army canceled its last rotary-wing acquisition effort, the RAH-66, and left the JVX well before any V-22s were produced (Demotes-Mainard, 2012; Braybrook, 2014). In the case of the RAH-66, there was no anti-termination coalition (DeLeon, 1978). The Army decided it no longer needed the capabilities offered by the RAH-66, and the fighting in Iraq and Afghanistan made upgrading the existing fleet more important than a new acquisition (Demotes-Mainard, 2012). There are lessons available based on the current ac-

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quisition of the F-35 and studies of the FVL management structure. The chief lesson? The military Services should cooperate. Unfortunately, each military Service develops operational requirements based on its own understanding of how to wage war, and the conflict between operational requirements creates unforced design compromises (Drezner, Roshan, & Whitmore, 2017; Lorell, et al., 2013; Law & Callon, 2014). One potential fix would be for the FVL acquisition to resemble TILS, where one Service developed an airframe (the H-60) and then others adapted it to their needs, more than the F-35, where the services issued their requirements at the same time during the program's initial design (Drezner, Roshan, & Whitmore, 2017).

Military helicopters swiftly followed Igor Sikorsky and Frank Piasecki's groundbreaking innovations in the 1930s and 40s. Engineering improvements expanded the rotary-wing flight envelope through the 50s, but the invention of the turbine engine released the potential of both single-rotor and tandem-rotor aircraft. Beginning in the 1960s, whole cloth innovation and incremental improvements took single-rotor and tandem-rotor helicopters to the physical limit. The JVX, and its resulting V-22, used tilt-rotor technology to overcome retreating blade stall and compressibility effects; however, the Army did not participate in the program. Now, the Army is funding the JMR-TD. One option uses tilt-rotor technology and the other combines a coaxial rotor with a pusher prop. Even with these advances, FVL aircraft built based on the JMR-TDs will not reach their full potential without an upgraded power plant. This fact offers a road map for innovation: new airframe designs create possibilities in rotary-wing flight, but improved engines realize those possibilities.

Photo by SSG Kellen Stuart

U.S. Army Soldiers from Charlie Company, 1st Battalion 77th Armored Regiment, prepare for an attack on the opposing force during Decisive Action Rotation 14-10 at the National Training Center in Fort Irwin, California., Sept. 23, 2014. Decisive action rotations at the NTC ensure brigade combat teams remain versatile, responsive, and consistently available for the current fight and unforeseen future contingencies. (U.S. Army photo by SGT Charles Probst)

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References:

GE Aviation. (2017). *T700-401C/-701C turboshaft engines (Data Sheet).* Retrieved from www.geaviation.com/sites/default/files/datasheet-T700-401C-701C.pdf

Grina, K. I. (1975). *Helicopter development at Boeing Vertol Company. The Aeronautical Journal (1968), 79(777), 401-416.* doi: 10.1017/S0001924000035880

Hager, J.E. (2012). *The need for high speed in next generation rotorcraft (Civilian research paper). Carlisle, PA: U.S. Army War College.* Retrieved from www.dtic.mil/get-tr- doc/pdf?AD=ADA592962

Law, J., & Callon, M. (2014). *Engineering and sociology in a military aircraft project: a network analysis of technological change. Social Problems, 35(3), 284-297.* doi: 10.2307/800623

Lorell, M. A., Kennedy, M., Leonard, R. S., Munson, K., Abramzon, S., An, D. L., & Guffey, R. (2013). *Do joint fighter programs save money?* (RAND Corporation ebook). Retrieved from https://www.rand.org/pubs/monographs/MG1225.html

Naval Air Systems Command. (n.d.). *Rotorcraft.* Retrieved from www.navair.navy.mil/index.cfm?fuseaction=home.rotorcraft

Rankin, T. C. (1974). *Light observation helicopter acquisition: a historical case study (Program Management Course, Class 74-2). Fort Belvoir, VA: Defense Systems Management College.* Retrieved from http://www.dtic.mil/dtic/tr/fulltext/u2/a042955.pdf

Sikorsy, I. I. (1935). *U. S. Patent No. 1,994,488. Washington, DC: U.S. Patent and Trademark Office.*

Sikorsky, S. I. (2007). *The Sikorsy legacy. Connecticut:* Arcadia Publishing.

Trybula, D. C. (2012). *"Big five" lessons for today and tomorrow.* (Institute for Defense Analyses Paper NS P-4889). Retrieved from http://www.benning.army.mil/Library/content/NS%20P-4889.pdf

Stein, R. (2017, September 7). *Bell finishes V-280 prototype with hopes of landing lucrative deal with military. Amarillo Globe-News.* Retrieved from amarillo.com/local-job-news/news/2017-09-07/bell-finishes-v-280-prototype-hopes-landing-lucrative-deal-military

United States Air Force. (2015). *UH-1N Huey (Fact Sheets).* Retrieved from www.af.mil/About-Us/Fact-Sheets/Display/Article/104464/uh-1n-iroquois/

United States Army Aviation and Missile Research, Development, and Engineering Center. (2016). *Joint Multi-Role Tech Demo (JMR-TD) (Fact Sheet).* Retrieved from https://www.amrdec.army.mil/amrdec/success-jmr-td.html

Whitcomb, D. D. (2011). *Call sign-DUSTOFF: A history of U.S. Army aeromedical evacuation from conception to Hurricane Katrina* [Adobe Digital Editions version]. Retrieved from www.cs.amedd.army.mil/Portlet.aspx?ID=90578035-946b-4677-b39a-d23455872ff5

Whitcomb, D. D. (2012). *On a steel horse I ride: A history of the MH-53 pave low helicopters in war and peace.* Montgomery, AL: Maxwell Air Force Base. Air University Press, Air Force Research Institute.

Williams, J. W. (2005). *A history of Army aviation: from its beginnings to the war on terror.* New York, NY: iUniverse, Inc.

Wise, J. (2014). *The rise of radical new rotorcraft. Popular Mechanics.* Retrieved from http://www.popularmechanics.com/flight/a10616/the-rise-of-radical-new-rotorcraft-16850989/

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PARTNERING with HOST NATION ALLIES

By CPT Zachary Johnston

Photo by Charles Rosemond

Photo by Pierre Courtejoie

Strategic messaging played a pivotal role in Operation Atlantic Resolve. The 10th Combat Aviation Brigade (CAB) Soldiers have stuck to the script and "Partnering with our Host Nation Allies" has echoed from the Balkans to the Baltics.

Photo by Pierre Courtejoie

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This rotation was unique in the sense that Soldiers had both an operational and a strategic influence on a daily basis. Specifically, Soldiers in Lithuania, Latvia, and Estonia interact with host nation personnel regularly. While personally stationed in Lielvarde, Latvia from February to October 2017, I can say that partnering with our allies looks far different from that of personnel in other locations. Soldiers, part of Task Force Phoenix, Area of Operations North located at Lielvarde, Latvia share the same workspace, dining space, fitness facilities, and Morale, Welfare, and Recreation facilities with our Latvian counterparts. This lends itself to building lasting relationships and trust, which is the foundation of partnerships.

Partnerships with host nations take many forms. Strictly, from an operational perspective, partnerships can vary. This can be incorporated though multinational training, collaborative efforts to complete a training event, or simply sharing a training space utilizing a co-use agreement. However, is this the most important aspect when "Partnering?" I believe trust and interoperability go hand-in-hand. Building trust and training competence within a multinational formation does not happen overnight. This training has to be deliberate, constantly changed, and continuously updated. As a United States Soldier, I felt most unfamiliar with North Atlantic Treaty Organization (NATO) tactics, terms, and graphics compared to other allied countries. Does this really show a strong commitment? Knowing U.S. doctrine suits us well until we find ourselves within multinational groups and exercises.

As a rotational unit constantly changing out, how do we train; build; and sustain readiness and foster interoperability, all without draining our host nation partners?

Accomplishing these feats requires deliberate planning and proper resourcing. During each 9-month rotation, units are supporting multiple joint training events. In order to best prepare for each exercise and attain the most training for rotational units, they must attend planning conferences that may be outside of their rotation. The knowledge attained from the conferences gives expectation management, shows a unit's commitment to the training mission, and gives adjacent participating countries the actual points of contact well in advance. A small gesture of showing up to a planning conference for a few days outside of an actual rotation sets all parties involved up for success and displays a level of commitment owed to the host nations.

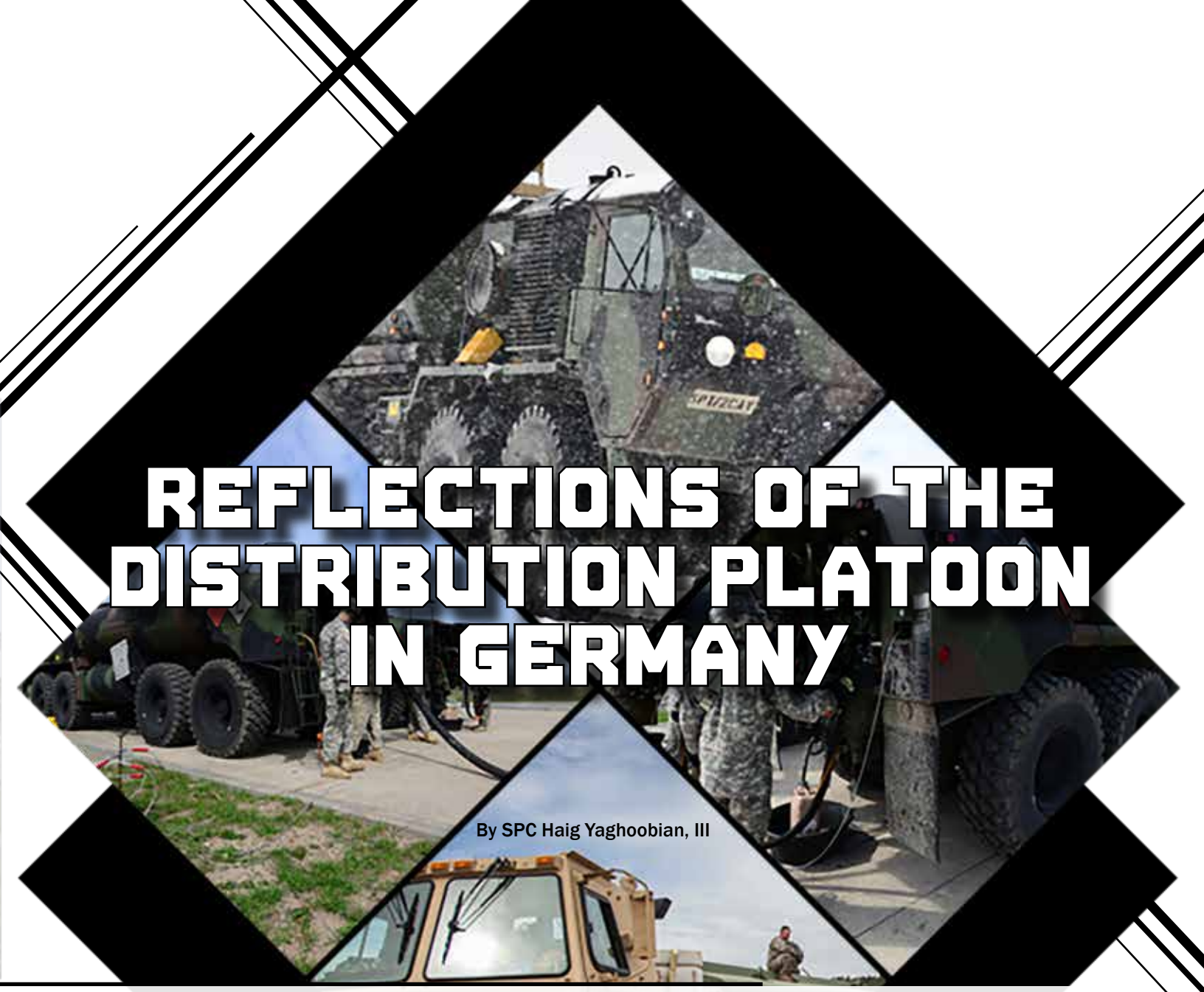
The 10th CAB had many goals prior to leaving Wheeler Sack Army Airfield and embarking on Operation Atlantic Resolve. Collaborating with our host nations was at the forefront of that endeavor, alongside getting multifunctional aviation task force footprints in the South, Central, and North regions of Europe. During Atlantic Resolve-North's beginning stages, our "Partnership" felt more like a parasite-to-host relationship, with the 10th CAB being the parasite. The first to arrive in Latvia, we coordinated often, met many new faces, and started getting our bearings, all while utilizing huge amounts of the host nation's support and time. I believe being an emphatic leader and conveying what we can bring to the host nation early on lends well to partnering and balancing out that relationship, making it more symbiotic.

One of the most important and easily overlooked aspects of partnering with our host nation allies is simply spending time with them. Working with NATO partners happens daily; however, truly building trust requires friendship and an investment in people's lives. Knowing with whom you are working builds interoperability to a level not attainable unless you know the people next to you. This holds true inside our formation, as well as outside. Attaining that trust takes time and work outside of the training environment. Organizing a cookout, playing shared sporting events, and spending time with our partners is what will take these relationships to a level not otherwise possible. At the end of the day, interoperability does not look like a well-coordinated distinguished visitor's day. It looks like a multinational battle group who can operate in any environment and trust the people to their left or right, regardless of the patch on their shoulder.

CPT Zachary Johnston is a 2012 graduate of the University of Kentucky. He has previously served in two platoon leadership positions and two assistant operations officer positions within an Assault Helicopter Battalion and a General Support Aviation Battalion. CPT Johnston recently returned to Fort Drum from Operation Atlantic Resolve where he was stationed in Leilvarde, Latvia. His Area of Operations included Estonia, Latvia, and Lithuania providing aviation support to host nations and NATO countries. CPT Johnston wears the Army Aviator and Air Assault Badges. CPT Johnston and his wife, Tessa (Clinical Mental Health Counselor), are both from Kentucky.

Photo by SPC Hubert Delany

Photo by Henria Cambier



REFLECTIONS OF THE DISTRIBUTION PLATOON IN GERMANY

By SPC Haig Yaghoobian, III

The distribution platoon successfully served as the backbone of logistics support for the various missions and training events completed by task force Phoenix in support of Atlantic Resolve 2.0. Working with fuel and ammunition in the European theater brought a host of logistical challenges, and there were many lessons learned since our mission began in March 2017. Since our arrival, we maintained a steady mission tempo conducting 17 ammunition missions, 3 forward arming and refueling point (FARP) operations, and 1 jump FARP operation. Our tasks were critical to the success of the task force's mission and we are proud not only of our achievements, but of the progress we made in-country.

Our first mission was in April 2017 for an aerial gunnery exercise at FARP East, Grafenwoehr Training Area. It was during our preparation and execution of this mission that we were first confronted with many of the challenges we would continue to face working in Germany. We found the hazardous material (HAZMAT) standards to be far more rigorous, with secondary containment being necessary for every M978A4 fuel servicing truck we had on the FARP—even if they were not on the line. Hose connections also needed to be wrapped with absorbent pads at every connection—something many Soldiers had never done before. This exercise was also the first time many of our heavy expanded mobility tactical truck driv-

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Photo by SGT Shiloh Capers

ers experienced the intricacies and challenges associated with driving on narrow German roads and the high-speed nature of autobahn—a challenge each member of the platoon eventually came to face.

Shortly after conducting after-action reviews (AARs) for this exercise, we began to plan for our largest mission in Atlantic Resolve 2.0—Saber Strike 2017. Our role in this exercise would prove to be the largest and most critical for the success of the task force. Stationed in Kazlu Ruda, Lithuania, we conducted a four-point FARP operation and cold fuel operations as required for the 3-10 task force. One of the biggest challenges we faced was in the terrain itself. The airfield had long been out of use, and it took the distribution platoon an extensive amount of time to clear all the debris from thehard surface to mitigate any foreign object damage hazards. Our busiest times on the FARP were during the air assault operations conducted between the U.S. and North Atlantic Treaty Organization (NATO) allied forces, with multiple aircraft returning for fuel every hour. At times when the FARP was shut down for the day, we frequently got a chance to meet members of the Lithuanian Army. Although there was often a slight language barrier with their broken English, they seemed delighted at any opportunity to converse with us—asking about our lives in the U.S. and our jobs in the U.S. Army. They told me how fascinated they were with all the aircraft we brought in and how much they liked watching them fly over throughout the day.

Outside of solely FARP operations, the distribution platoon remained busy with a multitude of ammunition missions for the battalion. Traveling to Grafenwoehr Training Area regularly, and even as far as Miseau, Germany, the distribution platoon was able to execute 17 different ammunition missions successfully. As opposed to ammunition missions at Fort Drum, New York, each mission in these regions was far from routine. The HAZMAT regulations for transporting ammunition in Germany are far more stringent, and often frustrated our abilities to plan for missions as usual. A good standalone issue, even without ammunition, was simply driving in Germany. The driving distances for these ammunition missions was extensive (Miseau alone was a 4-hour drive in a military vehicle) and often involved Soldiers having to drive after ranges closed and late into the night. Even after arriving for ammunition turn-ins, if the paperwork under NATO and German regulations was incorrect, personnel were turned away. This exact circumstance happened to a group who went on a mission to Miseau. You can well imagine the frustration at having to drive all the way back unsuccessful! Even so, our platoon managed to adapt to this learning curve quickly, and soon became proficient in this area of our responsibilities.

The platoon's most recent exercise at the Grafenwoehr Training Area was the culmination of all the training the distribution platoon had done in Europe—Phoenix Fury. Here again, the distribution platoon executed a day and night FARP operation, thereby holding a critical role in the success of the battalion's support mission. In contrast to aerial gunnery on FARP East, FARP West had significantly more infrastructure challenges for the distribution platoon. Instead of hard buildings on the FARP and the barracks at night, we constructed tents both for the FARP and for the living quarters in the battalion assembly area. Additionally, due to the high risk associated with the surrounding exercise, the aircraft fuel handlers had to wear their field gear while hot-refueling aircraft on the FARP. This proved especially challenging with the AH-64 helicopters because the improved outer tactical vest would often leave little room between the grounding emplacement and the refuel port on the aircraft.

Our platoon endured all of these challenges, just as we had throughout the entirety of Atlantic Resolve 2.0. Each member of the platoon was able to learn new skills—and perfect old ones—in an untried environment. I came away from this rotation much more confident in my abilities, as well as those of my peers. I feel supremely confident that should the need to support our NATO allies arise in the future, we will certainly be ready.

Specialist Yaghoobian is currently a 92F with E Company, 3-10 GSAB, 10th Combat Aviation Brigade at Ft. Drum, New York. He joined the Army in October 2015 through the Boston MEPS station after receiving a Bachelor's Degree in International Relations from Boston University (CAS '14). Atlantic Resolve 2.0 was his first rotation overseas, and he looks forward to many more in his future Army career. His short-term goal is to attain the rank of Sergeant, and his long term goal is to eventually attend the Officer Candidate School and be commissoned as an Army Officer in Logistics.

Photo by SPC Kishroy Robinson, E Company, 3-10 GSAB, 10th CAB

Speed of Assembly:

How Fast Can We Fly a Mission After We Relocate?

By CW2 Michael Falk and CW3 Ryan Harmer

There are many ways we can try to measure the effectiveness of a military organization. It could be the strength of the forces in numbers; it could be the victories or successes of past operations; however, one of the most valuable methods is to see how fast a unit can assemble and operate after moving the organization to a new theater or area of operations. We call this the speed of assembly. In Army aviation, we often pose the question, "How fast can this unit fly a mission after we relocate to where we are going?" The three most standout factors that can give aid to a quick and successful speed for operation and assembly are: the unit's equipment readiness, personnel readiness, and the unit's mission command element readiness.

The Army has one main mission and intent—to fight and win the Nation's wars and to secure the peace of the country at all times. The two primary things used to accomplish this are the materials or equipment and the training or people. In the case of speed of assembly, the equipment refers to the first material things that will reach the new area of operations, and are be expected to be mission capable when they arrive. As an experienced aviation Soldier in a rotational movement to Atlantic Resolve 2.0, an aviation brigade's aircraft is the most pivotal equipment when it comes to the speed of assembly. Yet, there are readiness-related items that can make moving aircraft overseas much easier, and thus quicker to make useable on the other side. The most easily identifiable items that can provide aid to the speed of assembly are the scheduled maintenance and the projection of the work performed with the aircraft after arrival in theater.

Special tools, both aircraft-specific and general-use tools, are often overlooked. A good example of this would be turbine engine wash systems that are required for engine maintenance; however, due to their size and weight they are often put in a place that is not accessible when they are needed. I have also observed times when special tools requiring calibration (like torque wrenches) are allowed to have their validation voided, making them useless when they are needed. The usability and readiness of our ground and air support equipment is every bit as important as the aircraft themselves.

Another consideration is the availability of parts while moving a unit to a new location. Repair parts may not be readily available during the first part of a movement, so making crucial parts immediately accessible will aid in the speed of assembly. During Atlantic Resolve 2.0, our unit assembled and executed a mission less than 4 days after arrival due to detailed planning of necessary equipment. This was possible mainly because our unit had senior maintenance personnel who made sure the things we needed most were packed

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into the aircraft. These necessities would be unloaded and put back together first on the deployed location. This displays more than ever how experience will sometimes solve a problem faster than a doctrinal approach might.

Even more important than the gear the unit uses are the people who use it each day. Usually an aviation brigade will conduct academics and local area orientation flights to familiarize aircrews with a new area in which they will operate. However, much of this training can be made available before the unit ever deploys, translating to a faster speed of assembly on the ground. Most of the information we have previously covered explains the people and equipment as separate items, but the next aspect that is important to discuss for speed of assembly is mission command.

Army doctrine defines mission command as the conduct of military operations through decentralized execution based on mission orders for effective mission accomplishment. What does that really mean? It means using the Commander's intent and working through whatever friction points present themselves in order make the mission happen. Units that have operated in those or a similar area of operations can be a very valuable asset in planning. Unfortunately, the lessons learned from the unit that is being replaced are not usually drawn upon until the learning is reactive instead of proactive. It is never a bad idea to communicate and coordinate early and often with the subject matter experts of the area to best set the conditions for an incoming unit.

Combining that early coordination with the proper training of personnel and care of equipment will aid with the speed of assembly, as well as aid with safer mission accomplishment overall. By empowering our junior leaders and integrating them early and often to the area of operations ahead of us, our unit's rotation to Europe was much more successful. It seems like an easy concept, but sometimes in execution, it does not always work out that way. So much of the Army is based on change: change of leaders, changes in training such as tactics and techniques, and changes to equipment, as well. It is important to remember that no matter what changes take place, the Army is always expected to fight and win our great Nation's wars. The better we take care of our people, keep our equipment ready, and train our junior leaders, the faster and safer our speed of assembly will be when operating in a new environment.

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Photo by SGT Kalie Jones

The 10th Combat Aviation Brigade (CAB) learned of its upcoming rotation to Europe 7 months prior to execution. As the first rotational CAB, minimal knowledge existed on support requirements. This article explores the Aviation Support Battalion (ASB) distribution company's (Alpha Company) significant challenges and the actions taken to overcome obstacles during Atlantic Resolve.

The ASB immediately began constructing a task force capable of supporting three flight battalions spread throughout Central and Eastern Europe. There are several key differences between executing a "rotation" instead of a deployment. A regionally aligned force (RAF) mission does not authorize "fencing" personnel, but requires Soldiers to pass stringent Soldier Readiness Program (SRP) stipulations generally experienced during deployments. Several Soldiers were non-deployable due to medical readiness, permanent change of station (PCS), and expiration term of service (ETS). Alpha Company lacked personnel in key positions including 92F (Fuel Supply Specialist), 92W (Water Purification Specialist), 88M (Motor Transport Operator), and 89B (Ammunition Supply Specialist). Atlantic Resolve did not require Supply Support Activity (SSA) augmentation from Alpha Company, so leadership selected 12 strong 92As (Automated Logistical Specialists) to fill critical shortages.

Alpha Company Forward (FWD) implemented an extensive cross-training program focused on Forward Arming and Refuel Point (FARP) operations, water purification, and driver training. Soldiers displayed technical competence and gained valuable experience by teaching peers how to execute missions outside their Military Occupation Specialty (MOS). All personnel learned the basics of each MOS to create flexibility. Soldiers and leaders built trust during four FARPs, one water purification exercise, and two comprehensive field-training exercises. The training focused on operating military vehicles over long distances in civilian environments, a significant shift from traveling on the local training area at slow speeds. The culminating event sent Soldiers more than 8 hours through the Adirondack Mountains to establish a four-point FARP at Rome, New York. Several 92Ws, 89Bs, and 92As served as truck commanders (TCs) during the convoy and assisted with all FARP operations.

Following the train-up, focus quickly shifted to completing U.S. European Command (EUCOM)-specific requirements. All hazardous material vehicles required modifications to satisfy the European agreement concerning the

LEFT: An Alpha Company 92W directs a UH-60 Black Hawk into the FARP at Rome, New York. Photo by CPT Monte Bailey, Alpha Company, 277 ASB, Fort Drum, New York

RIGHT: An AH-64 Apache Helicopter with 6th Squadron, 6th Cavalry, 10th Combat Aviation Brigade, hovers during a training exercise at Fort Drum, New York, on October 3. A similar helicopter was used in the rescue efforts to save a man with dementia who had lost his way in the woods, necessitating a nighttime search to find him. (U.S. Army photo courtesy of 10th Combat Aviation Brigade UPAR)

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ATLANTIC RESOLVE 2017

By CPT Monte Bailey

international transportation of hazardous goods by road accord (Européen realtif au Transport International des Marchandises dangereus par Route), called an ADR. The ADR vehicles, a tanker (M978A4 HEMTT), mobility tactical truck (M1120 Load Handling System), palletized load system trailer (M1076 TRL), and tractor truck (M1088 Bobtail) shipped 4 months prior to arrival so civilian contractors could install and conduct modifications at Maintenance Activities Kaiserslautern (MAK) and Maintenance Activities Vilseck (MAV). All required Soldiers attended a 2-week hazardous material drivers course (HAZ 11) for hazardous vehicle operators. Any hazardous material movement requires accompanying paperwork completed by a HAZ 12- and HAZ 15-certified Soldier. Units can complete these courses with a mobile training team (MTT) at home station or at several sites in Germany. The battalion coordinated a MTT, but last-minute requirements prevented maximum participation. The certifications directly feed capability and should be a major priority before leaving home station. I recommend all 92F and 89B personnel attend HAZ 11 to remove the limiting factor entirely. Five HAZ 12 and HAZ 15-certified Soldiers are sufficient to support the high operational tempo.

Alpha Company travelled to Germany on four separate movements spread out over 1 month. It is critical to manifest support Soldiers on early flights. Competent leaders and versatile operators greatly increased the overall speed of assembly. Most operations during this phase are reactionary due to civilian assets delivering vehicles from port. Carriers arrive at any time with little predictability due to lack of in-transit visibility. Available operators and material handling equipment (MHE) drive success during reception. A daily synchronization meeting between company unit movement officers improved asset visibility and tracked capabilities as they arrived from port.

Civilian contractors did not complete any ADR vehicles prior to our arrival, severely diminishing fuel and ammunition capabilities. The ASB contacted personnel at 21st Theater Sustainment Command (TSC) to coordinate stay-behind equipment (SBE) when it became apparent that many of the vehicles were weeks from completion. The first ADR equipment began arriving after 90 days, but the M978 HEMTT fuelers did not pass Aqua-Glo testing (an ultraviolet method used to test aviation fuels for undissolved [free] water) due to a white, milky substance found in each of the tanks. Soldiers recirculated trucks for 3 to 4 consecutive days before the fuel was below 5 parts per million (ppm) and ready for aircraft, per the 10th CAB standard operating procedure. The M969 truck had continuous brake line and chamber issues because brakes are altered in order to pass the strict ADR brake test guidelines. The only way to combat both of these issues is to immediately begin recirculating and ensure additional brake systems are on hand for quick repair.

Alpha Company utilized the first month in country to implement a convoy progression program that consisted of four convoys, increasing distance with each mission. The progression allowed Soldiers to get comfortable with tight roads, European drivers, traffic circles, etc. It also forced company leadership and battalion staff to complete the proper paperwork and identify key points of contact (POCs) for future operations. Convoys improved in all aspects, with each repetition and operations slowly synchronized amongst operators and staff.

Alpha Company travelled more than 10,000 miles through 10 countries during Atlantic Resolve. Extensive convoy operations satisfied the Commander's intent by displaying a dynamic presence throughout EUCOM. There were several challenges leaders worked through to ensure

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mission success. Each country operated on unique timelines, required different information, and utilized particular forms. The extensive work on several formats never decreased, but the ASB staff built relationships with key personnel at higher echelons in order to expedite requests. The staff routinely submitted and received local march credits within 48 hours by the end of Atlantic Resolve. The march credit timeline improved drastically through constant repetition and captured lessons learned.

Alpha Company sent personnel and equipment to augment the Forward Support Companies (FSCs) at nearly every training rotation. The package ranged from a couple of Soldiers to a full four-point FARP capability. The constant training increased competence and enhanced relationships with supported units. The Soldiers learned alternative methods to accomplish several tasks and came back with a better understanding of how to best support that FSC. Alpha Company assumed risk by sending a significant portion of the formation for weeks at a time but gained valuable field experience in each case. It is critical for command teams to build a collaborative plan to ensure the exercise meets both intents and properly utilizes augmentation personnel.

Saber Guardian 2017 was the largest training event during Atlantic Resolve. The exercise took place in Hungary, Romania, and Bulgaria. It involved more than 25,000 Service members from over 20 allied and partner nations. The ASB conducted a tactical road march that spanned 1,300 miles from Illesheim, Germany to Novo Selo Training Area, Bulgaria. Alpha Company provided a fuel asset to each serial and distributed fuel at several refuel on the move (ROM) sites. Exercise planners coordinated ideal ROM locations, but convoy Commanders often adjusted based on mission variables such as traffic, vehicle maintenance, weather, fatigue, host nation escorts, and route changes. Each serial stopped at five convoy support centers (CSCs) to receive fuel, food, and shelter. Most CSCs included maintenance capabilities and a recovery asset. Task Force Falcon placed a liaison at each CSC to coordinate support, maintenance, transportation movement requests (TMRs), and host nation escorts for the following day. The liaison expedited operations by pre-staging CL I (rations/health and comfort items), directing traffic to staging areas, briefing key locations, and reporting information to the Movement Control Team on station. The large-scale ground movement was strenuous and demanding for an aviation brigade, but the experience gained was invaluable. Senior leaders empowered junior leaders to react and generate plans to complete the mission.

Alpha Company supported Task Force Falcon with CL I, II, III, IV, V, VIII, and IX (differing classes of supply) for 45 days during Saber Guardian 2017. The exercise challenged every MOS and encompassed several mission essential task list (METL) tasks, and it concluded with a multinational air assault called Swift Response. Alpha Company established and operated a four-point FARP in conjunction with four additional points run by FSCs. All the training came to fruition when Alpha Company pushed over 13,000 gallons of fuel to 30 aircraft in less than 6 hours. The Swift Response FARP team included three 89B, two 92W, and two 92A personnel. This exercise was a microcosm of Atlantic Resolve; Alpha Company was successful because every Soldier bought in to "our mission" vice "my mission."

Supporting a rotational CAB spread throughout Europe is an extremely challenging and rewarding venture for a distribution company. The unique mission set demands strong leadership at all levels. It is an outstanding opportunity to decrease focus on garrison tasks and train during a significant real world deterrence mission. The high operational tempo, strict HAZMAT regulations, and difficult environments increase the overall risk, but the unit will return to home station at the highest possible state of readiness after a rotation in the "Leadership Factory."

A 20-vehicle Atlas convoy travels through Europe. Photo by CPT Monte Bailey, Alpha Company, 277 ASB, Fort Drum, New York.

CPT Monte Bailey was commissioned into the Army as a Transportation Officer in 2011. He completed the Transportation Basic Officer Leader Course at Fort Lee, Virginia and was assigned to the 10th Transportation Battalion (Terminal), 7th Sustainment Brigade, Fort Eustis, Virginia. CPT Bailey served as a Platoon Leader and Executive Officer in the 97th Transportation Company (Heavy Boat). CPT Bailey deployed to Bagram Airfield, Afghanistan in support of Operation Enduring Freedom, where he served as the 7th Group Support Battalion Aerial Delivery OIC. Upon returning from Afghanistan, CPT Bailey served as the 10th Transportation Battalion (Terminal) Maritime Operations OIC. Following attendance at the Combined Logistics Captains Career Course, CPT Bailey was assigned to the 277th ASB, 10th CAB at Fort Drum, New York. In June 2016, CPT Bailey took command of Alpha Company, 277 ASB. His Company deployed to Storck Barracks (Illesheim), Germany (2017) and supported 10th CAB for 9 months throughout Europe during Atlantic Resolve.

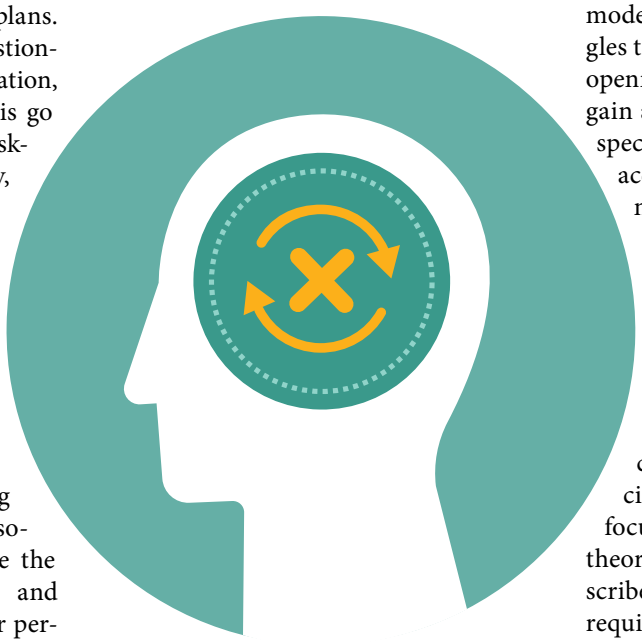
Lacking Perspective: The Perceived Incompetence of Higher Headquarters

By MAJ Michael C. Shaw and Mr. Justin M. Witty

ALWAYS SOMEONE ELSE'S FAULT

It's the middle of the week, and your organization is a beehive of activity with all operations, requirements, and taskings flowing normally. Out of the blue, someone from headquarters walks into your office and passes along a short notice, must accomplish, priority tasking, which has your organization's name all over it. You read the order, begin to sort through the specified and implied tasks, and realize that this change will crater the rest of your week's plans. Simultaneously, you start questioning—Why me? Why my organization, who approved this, why didn't this go through the required 180-day tasking window, and most importantly, where is the support needed to accomplish this task? It's as if my higher headquarters just cut sections out of another operations order and threw this together without any critical thought—aaaarrrrrgggghhh!!!!

At some point, most of us have had these thoughts tumbling through our heads given our association with the Army, to include the Aviation branch. We internally, and sometimes vocally, place blame for perceived difficulties or perceived lack of coordination upon others, mainly as a self-defense mechanism, but sometimes out of confusion, frustration, or a lack of perspective. Many times, the ill will is directed at our higher headquarters and their perceived lack of competence and respect for our time. However, isn't each organizational body made up of the same general mix and quality of Soldiers, Noncommissioned Officers (NCO), and Officers? I would bet those "incompetent yahoos" at headquarters would suddenly become a bunch of dedicated professionals if we changed jobs and went up an echelon to work with them every day. Is that just how it goes? Do we simply lack empathy, or can we not get over ourselves? Is this gap in perspective related to perceived overconfidence (Shaw & Witty, 2017)? One thing is for sure, it took the authors more than 10 years of service to move beyond the self-focused construct such as my team, my squad, or my company, and move into a wider field of view that modified the "my" and incorporated "the"— the team, the squad, the company. Thus, beginning the perspective years. A decade of service is too long to wait for a perspective awaking.



As we progress through the ranks, varying assignments, and units, we realize that not everyone thinks or acts the same way we do. Everyone has different priorities and worries, and though we try to align ourselves to a common purpose, on a day-to-day basis we are often just not on the same page. For our profession to advance, one must synchronize and de-conflict, one must humble themselves to larger organizational objectives, and one must possess the willingness to see beyond their temporary role. We must resist the desire to place blame for mission difficulty, confusion, or opposing outcomes upon others and silence, whenever possible, the idea that someone else is always making it harder for us to do our jobs. Gaining and maintaining a broad perspective is the final challenge of this mini-series.

CAUSES OF OUR DYSFUNCTION

Tom Rieger, a Senior Practice Expert for Gallup, describes the concept and cause of lacking perspective as "the fear that lives within..." the walls of the organization (Rieger, 2016). While couched from a different point of view, his three-level model describes in detail similar struggles that limit the Army's and Aviation's openness, and thus impact our ability to gain and maintain a much broader perspective. Unfortunately, this model is accurate in describing frictions spanning newly formed squads all the way to the halls of the Pentagon.

LEVEL ONE: PAROCHIALISM

We all get parochial at times; it is human nature. A focus on "my platoon," or "my unit," or "my career" dominates everyone's decision-making at some point. Such focus is not inherently bad, but the theory of selfless service that we all subscribed to when we joined the military, requires us to look beyond those selfish desires and take the needs of others into account (especially if we are leaders). Those others mentioned just so happen to include your next higher headquarters, the next higher-level operation, or even an overall strategy that may or may not take your organization's well-being into consideration. By fulfilling our narrow focus at the "my" level, are we meeting the goals required of us by higher headquarters? These authors believe that the Army assumes junior officers or Soldiers will piece together this complex relationship and inherently put selfless service ahead of all else. For us, it took a decade of service to identify such a shift was needed and several more years to capture these observations in some form

on paper.

On a daily basis, the damning accusations of "they," and "them," and what "they are doing to me" can be heard in motorpools, cubicles, and conference rooms across the Army. No assignment, position, or rank is immune to such thoughts. Since we all have differing missions, priorities, and funding, it is difficult to get various echelons to work toward the same goals. We are reminded of Miles' Law, "where you stand depends on where you sit" (Miles, 1978). Now apply this 1978 concept across the coordination and planning happening at different speeds and across differing timelines. Look to our own Aviation branch and the complexities that erupt out of seemingly simple coordination across a like-minded aviation brigade, across a pure rotary-wing battalion, and across a training-focused and intimate line company. More often than not, the intent of the order issued from higher has morphed, and the perspectives changed by the time direction reaches the end user. During our time as assistant planners, we used to say "to plan early was to plan twice." Such a phrase was half rebuke but also half acknowledgment that first drafts never made it to the final production and circumstances would inevitably change. Perspective and the ability to fully recognize the intent of orders may not always eliminate friction, but it can provide understanding, which may stem the tide of incompetence finger pointing. What is best for a company of 35 Soldiers may not be best for a 450-Soldier battalion or a 2400-Soldier Brigade. Perspective is everything.

LEVEL TWO: TERRITORIALISM

Territorialism is a result of building silos that not only restrict communication and sharing but often cause open competition for resources and personnel within the unit. In our early days as officers, we saw and participated in the spending of our organization's remaining budget at the end of the fiscal year. This act was founded in the belief that such actions were necessary to ensure you are given the same dollar amount next year, regardless if you used the remaining portion on Morale, Welfare, and Recreation events, unit equipment, or pens and ink. These actions define territorialism, which continually gums the gears of our extensive bureaucracy. Instead of units or echelons giving some of that money back, units spend all they can because budgetary expenditure is a measure of success. We selfishly and defensively horde resources, which in turn creates inefficiency. These inefficiencies are not limited to warfighting units. Budgetary territorialism is mimicked throughout the entire Aviation branch and the entirety of the Army. In the end, the dollar not spent requires justification, and if not sufficiently justified is deemed unneeded or excessive, resulting in reduced funding the next fiscal cycle. In the Army, the term "rice bowl" references the organizational territory people protect as if it were their asset; often to the detriment of larger organizational needs. Again, we can apply the idea of perspective and how understanding the larger funding, spending, and requirements model can directly impact the user. Unfortunately, many do not see or know a perspective beyond their territory. Most of the time, leaders think they are protecting their loyal Soldiers from disruption by fighting for all the resources they "believe" they need to function, and fostering esprit de corps for their subunit. However, by taking such a myopic view, they are hoarding resources. Leaders may view the reallocation of assets as a rebuke to their individual leadership or loss of territorial power, which may cause them to feel backed into a corner and ready to fight.

Moreover, Soldiers often only have a specific job for a short time. There is little continuity and much of the time spent in a position must focus on learning one's job and attempting to better that specific organization. The short amount of time spent in each assignment tends to support the idea of territorialism, as perspective is difficult to garner. The broader one's perspective, the more he can support long-term objectives, whereas, newly assigned positions respond to immediate and organizational-focused actions. Relationships that garner perspective continually have to start over, consistency is lost, and trust becomes an afterthought. Without trust and with short-term assignments, one just has to wait people out. While we permanently change stations every 2–3 years, individuals change jobs almost every year. How do we build and sever relationships every 365 days and still expect to maintain perspective and vision sharing? It is of little surprise that one defaults to territorialism.

LEVEL THREE: EMPIRE BUILDING

With increased scope and responsibility, one must also maintain a matching degree of perspective. When unable, people become increasingly defensive. We have already discussed how a lack of perspective can lead to parochialism, which in turn grows into actions of territorialism. Left unchecked, an individual's reliance on territorialism can morph into empire building, Rieger's third level. During empire building, leaders attempt to "assert control over [others] people, functions, or resources to regain or enhance self-sufficiency" (Rieger, 2016). Here, we see the lack of trust ensuing from a deficiency in perspective begins to consume organizational decisions, and a need to assert greater control out of that fear surfaces. For a practical example, let us look to a specific action within the Aviation community over the past 3 years. The Aviation Restructure Initiative, a Department of the Army (DA) execution order restructuring the entire aviation branch as a result of Congressional budgetary decisions (sequestration), is a living example what happens when trust goes missing, and fear reigns supreme. Not one Aviation component, command, directorate, organization, unit, or individual Soldier was left untouched by this shift. We witnessed parochialism and territorialism jetting forth, building momentum into the year of greatest turbulence, 2016. Defensive natures, fueled by fear and lack of perspective, mired the branch in a torrent of empire building. Entities sought victory for themselves and their command empires and not the betterment of our branch or Army. Difficulties and challenges were, and to some degree still are, viewed as a plot to usurp power and authority. Fear of the unknown, fear of change, and failure of trust caused more friction within our community than any reduction in budget ever could. The idea of selfless service fell to the background as the battle for new Aviation empires within our

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community waged.

As of this edition of Aviation Digest, the branch is less than 1 year away from the scheduled completion of the Aviation Restructure Initiative, and still, major decisions remain, trust remains inconsistent, and broader perspective is in short supply. The good news is, there is always hope. Mission accomplishment is taking place slowly, and while every decision is not universally agreed upon, we as a community must begin to acknowledge the decisions not directly benefiting one's own unit are not a result of higher level incompetence or lack of understanding, but rather growth and enhancement of the force at large. Overconfidence in the power and effectiveness of parochialism, territorialism, and empire building must cease. Leadership of organizations, such as those within the service, mandate the alignment of multiple purposes toward a singular vision or objective. Therefore, it takes a broad aperture and a willingness to humble oneself and one's organizational desires in order to grow and flourish from a position of non-power.

A PATH FORWARD

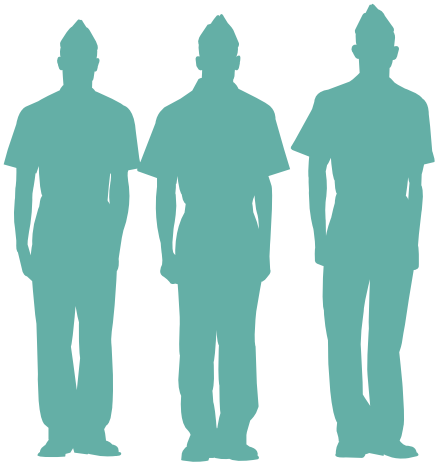
Life is a series of hurdles. That fact reigns true regardless of one's profession. How one looks at and describes those obstacles is what makes the difference. Are those objects in the way placed there intentionally for you to trip over, are they in your way for you to learn how to jump higher, are they in your path because someone has to tackle that difficulty and your organization was chosen, or are those obstacles there out of sheer dumb luck? Regardless of how they got there, the power/responsibility resides within each leader to accept those challenges and garner as much understanding as possible, while avoiding the temptation to accuse, blame, or smite another for such challenges.

Greater understanding of where people are coming from, what their aim is, and the sharing of a vision greater than the organization, is how one can defeat parochialism. Our unwillingness to let go of the selfish and embrace the selfless is a challenge that we all must face. The sooner we gain a broader perspective surrounding our environment, the better we are able to let go of the blame.

Forgetfulness and/or blindness of our purpose–selfless service is a leading cause of territorialism. We must embrace the inevitability of being replaced, while still maintaining confidence in our worth and abilities. We must remain humble servants to the greater organization. No individual, staff, directorate, budget, or piece of equipment is the savior of all. We must remind ourselves that there were those who came before us, and there will be those who come after us. It is not for us to blindly protect what we believe we are entitled to. There may come a time to sacrifice a specific job, eliminate a staff, or build new structure. It is only with a much larger aperture that one can be in a position to see those possibilities, embrace change when needed, and hold steadfast as required. To love one's organization sometimes requires its sacrifice.

At our weakest, most afraid, and most vulnerable, one clings tightest to their empire. Through fear and a lack of trust, one continues to build or fortify existing walls. A lack of understanding and heightened perspective prevents neighboring communities from combing resources to enhance their strength and unity. Instead, we question all decisions and peer cautiously over our walls at decisions made by others, believing that our own self-sufficiency reigns supreme. These limitations and blockades are all internally driven and thus, can be internally torn down. Trust, being foundational to the Army profession and one of its seven values, quickly tarnishes (DA, 2015). Perhaps we need to look at the tarnished areas and begin treatment, an act that requires sacrifice and facing individual and organizational challenges. Who has the personal courage to take such a look?

Perspectives differ depending on the view from one's foxhole, cockpit, or cubicle. Additionally, very few perspectives share the same priority. Even if we all want similar outcomes, our methods and processes are very different. One person may focus on Soldier development, while another focuses on fixing the logistics. In the end, it matters not on what any one individual chooses to focus. Preferably, the end state is a common vision, shared understanding, and efforts supported by resources all moving in concert with one another. We all may not agree on the best path forward. However, knowing we all have fruitful concepts that contribute to overall mission accomplishment regardless of the challenges placed before us, must cause us to pause and ensure we maintain the correct perspective.



Major Michael C. Shaw is currently serving as the Integration Officer at HQDA G-3/5/7 DAMO-AV. Previous assignments include Executive and Operations Officer, 3-159 Attack Reconnaissance Battalion (ARB) and Commander, A Company, 4-4 ARB. MAJ Shaw is a graduate of the Army's Command and General Staff College at Fort Leavenworth and has a Ph.D. in Human Resource Education and Leader Development from Louisiana State University.

Mr. Justin Witty is a former Senior Instructor at the Aviation Warrant Officer Advanced Course at Fort Rucker, Alabama. His previous assignment included Commander, C Company, 3-101st Aviation Regiment, Fort Campbell, Kentucky. Mr. Witty has deployed twice in support of Operation Enduring Freedom.

References:

Department of the Army. (2015). *The Army profession* (Army Doctrine Reference Publication 1). Washington, DC: Headquarters, Department of the Army.

Miles, R. (1978). *The origin and meaning of Miles' Law.* Public Administration Review, (38)5, 399-403.

Rieger, T. (2016). *Breaking the fear barrier: How fear destroys companies from the inside out and what to do about it.* New York, NY: Gallop Press.

Shaw, M. & Witty, J. (2017). *Overestimated, self-perceived command abilities of aviation captains career course graduates.* Aviation Digest, (5)3, 41-44.

AMSO ROLES

AND CHALLENGES IN A MULTINATIONAL ENVIRONMENT

By CW3 Jason Penn

The evolution of the battalion Aviation Mission Survivability Officer (AMSO) position in 2-10 Assault Helicopter Battalion (AHB) truly started over a year ago, prior to our deployment to Europe for Atlantic Resolve 2.0. Many AMSOs are utilized in roles outside their specified duties; therefore, this is where delegation is key. After a year as battalion AMSO, I've realized that we have to train or cross-train beyond the single point of failure. There is no reason that an individual should be the only one who knows how to program Combat Survivor Evader Locator radios (CSELs), update the Aviation Mission Planning Systems (AMPS), print maps on the plotter, or analyze aviation threats—and I haven't even really mentioned personnel recovery operations. My effort was to change this mindset and eliminate the single point of failure by cross-training all the way to the platoon level. In addition to this goal of properly training others, our AMSO program also expanded to include the liaison officer (LNO) program developed during Atlantic Resolve 2.0, as well as the master gunner program, and a close developmental relationship with the S2 analysts.

Our battalion developed an LNO program to better interface with the multiple, multinational units we worked with during Atlantic Resolve 2.0. Based on my initial experience as an LNO with 4/25 Airborne at the Joint Readiness Training Center (JRTC), I set out to develop a training class for the next rotation. A former infantry paratrooper, and now current aviator, took those class materials and publications and added the specific information needed to assist an air assault LNO serving with ground forces during the air assault planning process. As a battalion, we found it made a world of difference in smoothing out the wrinkles. These results reinforced that just jumping into the liaison environment without educational development and a sense of purpose leads to wasted time and only serves to burden the warfighter and their Commanders.

The master gunner position in an air assault battalion is usually a part of the Standardization Instructor (SI) program. As a master gunner, I was tasked with this new job based on the mindset that since I understood

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Photo by MSG Mark Olsen

the tactical employment of the aircraft, I should ensure that the weapons were being employed correctly. Initially, I started out simply by serving as a range officer in charge (OIC) because I had never run an aerial gunnery range before, let alone have any idea what a master gunner really was. However, after three aerial gunnery ranges, I now have a better idea what the role of master gunner entails. As I stated earlier in this article, jumping into the assigned task or environment without "educational development," will lead to wasted effort. Through this process, I have become a tremendous advocate of gaining an education via the programs made available to us in Army aviation. I believe the best ideas and best of intentions can only be shored up with formal education, if it exists. A personal example is the development of Surface Danger Zones/Weapon Engagement Zones (SDZ/WEZs) for gunnery. Understanding not only the range of the weapon systems, but also the materials of the projectile, the target or target area, and the geometry of the SDZ/WEZ in reference to the physical range boundaries makes a huge difference in the success and safety of the range.

My efforts as a budding master gunner were stretched in trying to account for the effect of terrain on mission planning, while developing another allied partner's range for aerial gunnery at Cincu, Romania, was challenging to say the least. To make it work, our battalion relied on several elements: range OIC, tactical Command post (TAC) OIC, and our maintenance and logistics companies, to name a few. Even our S2 analysts (intelligence operations and security) were there to staff the threat simulators. It didn't hurt to have experience as an LNO to better work with allied nations. With a great deal of cooperation and patience, we pushed the range as far as we dared in order to identify what advantages and disadvantages this realistic training offered to us through the terrain and natural and manmade barriers. The challenges facing the crews included operating on a range no one had ever utilized for door gunnery, with aviation survivability equipment (ASE) indicators and SMOKEY SAMS (surface-to-air missiles) going off. With no room for mistakes for the five aircraft crewmembers, this effort became a challenge for aircrew coordination.

To increase the realism for gunnery tables I–XII (training and evaluation tables), we conducted live-fire coordination with SA-8 Gecko RADAR, man-portable aircraft survivability trainer (MAST), and SMOKEY SAM rocket simulators. The flights included assaults into shoot-house targets with and without Romanian troops on a range that, in retrospect, we weren't sure we were going to be able to fully utilize up to company size live-fire air assaults. Yes, being pushed out of your comfort zone can be unnerving; yet, what Army aviator hasn't been unnerved a bit? It's why we keep coming back for it.

Our final effort involved assimilating the AMSO into the S2 shop. Our aim was to develop an integrated threat analysis technique that surpassed the 3-dimensional realm of ground warfare. We wanted to integrate the S2 analysis tools and thought processes into our 4-dimensional environment where nothing ever stays the same, and there is no place to pull over or press pause.

In this assimilation effort, the S2 shop learned about our aircraft, ASE systems, and what the different threat systems available mean to aviators. I learned about the different techniques utilized in analyzing best- and worst-case scenarios (depending on whose side you're on) of weapon emplacement, speed of those systems through terrain, and how that timing can be utilized to put warfighters on the ground to destroy those assets or bypass them for another target. I also learned that you might be close to a threat system, but that does not mean the fight is over. I had never really looked at these techniques and ideas through S2 eyes before; however, I was able to take some of those ideas and utilize them during our aerial gunnery afterward. Success of the mutual understanding of capabilities and limitations was evident in the use of Polygone range (PR) assets in Germany, who provided aircrew tactics evaluation and electronic combat training. In my opinion, the AMSO/S2 integration has been our greatest success.

To put it simply, we have been extremely busy in the S2/AMSO/Master Gunner/LNO/PR shop. While it hasn't been the smoothest or easiest program to try and manage, we've grown the position thanks to numerous members of the battalion who have stepped up to help develop our capabilities. This is their program. We have some educating and some reinforcing we need to do; mostly we need to spread out the education so AMSOs are not the single point of failure. All of what we have learned must be shared in order to create a wider knowledge base for our aviators to utilize.

CW3 Jason Penn is a Battalion Aviation Mission Survivability Officer, 2-10 AHB stationed at Fort Drum, New York.

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It's Time to Have the Conversation:

Expeditionary Mindset and Large-Scale Combat Operations

By CW4 Leonard Momeny

A PROBLEM OF UNDERSTANDING

Too many times we see doctrine, field manuals, and the like, all published in a manner that creates a message that is almost impossible to comprehend at the "user-level." Leaders, if you do not believe me, just go and ask your people some simple questions. I would start off with trying to determine if they know what doctrine is, and if not, well, we certainly have our work cut out for us. This is especially important as the Army begins to transition toward a focus on expeditionary mindset and large-scale combat operations (LSCO). This article aims to explain the basics of expeditionary mindset and LSCO in such a way as to make the task at hand the very style of operation that our Army is preparing for: realistic, comprehensible, and executable at the Soldier level. Remember,

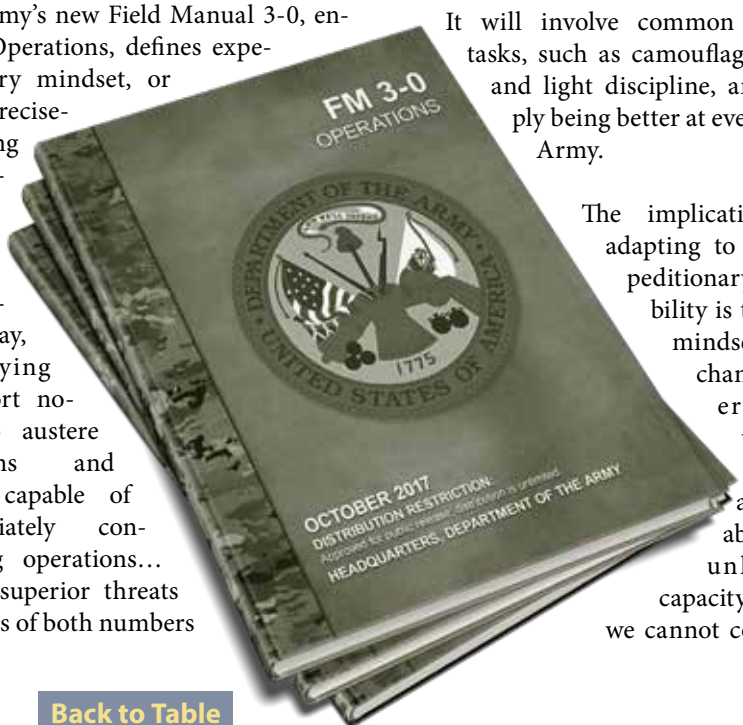
SOMEONE CANNOT EXECUTE A TASK IF THEY HAVE NO IDEA WHAT THE END STATE IS,

or the basics of what the task could possibly entail. First, we must define and frame what these types of operations mean, and we must do so in plain language. There must then follow an explanation of how to prepare, train, and ultimately execute mission, again, in plain language. This does not mean that we forgo all of the intricate vernacular associated military strategic studies; however, it does mean we discuss the problem plainly first, then we can build upon that knowledge.

EXPEDITIONARY MINDSET

War has changed, again. The experiences of the past decade are void, and once more, the combat experience of the future generation will be very different than what was experienced by anyone that fought in Operation Iraqi Freedom (OIF) or Operation Enduring Freedom (OEF). It's not to say that the lessons hard learned in the deserts of Iraq or the Mountains of Afghanistan will not carry value into the future, on the contrary, we should never forget the lessons of asymmetric warfare. However, deployments into pre-established FOBs (Forward Operating Bases), replete with fully operational MWR (Morale, Welfare, and Recreation) centers and Post Exchange (PX) facilities are no longer the norm. You will not stay in a "fancy chu," the beloved containerized housing unit of Iraq and Afghanistan, you will not be able to shower every day…or 3 days…or week, and I think you get the idea. So, what does all that mean? Well, all that doom and gloom means that the Army is going to an Expeditionary Mindset.

The Army's new Field Manual 3-0, entitled Operations, defines expeditionary mindset, or more precisely, being expeditionary, in the following way, "deploying on short notice to austere locations and being capable of immediately conducting operations… facing superior threats in terms of both numbers and capabilities…requiring the capability to defend themselves while they provide reaction time and maneuver space for follow-on forces" (Department of Army [DA], 2017). Wow! That is wonderful Army speak, but what does it mean to the Soldier, to the people that will have to execute? Allow me to translate, being expeditionary means deploying with bare minimums, quickly, executing operations as soon as possible (a.k.a., speed of assembly), being outnumbered, and finally, fighting like Spartans so others can freely move on the battlefield.



THIS IS THE "NEW" TRUTH OF OUR FUTURE FIGHT.

It will involve common Soldier tasks, such as camouflage, noise and light discipline, and simply being better at everything Army.

The implications of adapting to the expeditionary capability is that our mindset must change. Everything will not be available in an unlimited capacity, and we cannot count on

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contracted maintenance. Instead, we must prepare and plan as though we will be responsible for everything. When I think of expeditionary capability and the associated mindset, I think of Sir Edmund Hillary, Robert Peary, and other similar brave expeditionary leaders. They traveled light, in harsh conditions, and depended only on what support they could bring with them, internal to their expedition, and against it all they did persevere. When I think of military examples of expeditionary operations, the first that comes to mind would be the brave men of the 5307th Composite Unit that fought in World War II, serving primarily in the Southeast Asian Theater. They are usually better known as Merrill's Marauders, and I promise that no Soldier since has ever been so expeditionary. Their bravery is so renowned that the 75th Ranger Regiment would go on to adopt their unit insignia as the regiment's own (Mortimer, 2013).

In order to prepare and embrace for the aspects of expeditionary capability and the necessary associated mindset, junior leaders must train in a way that will sharpen and hone the most basic skills. All aspects of aviation maintenance must be second nature to Soldiers. Basic Soldier skills, such as camouflage and threat identification, must be stressed and practiced. Finally, there must be an effort to provide collective training events that establish, and ultimately strengthen, this endurance mentality that is associated with expeditionary capability. That means that Soldiers must stay agile, ready to move at a moment's notice, and yes, have a plan to track and execute operations via an analog medium. Expeditionary capability implies the potential for a limited digital footprint within the organization. Like I said, it's a mindset change.

LARGE-SCALE COMBAT OPERATIONS

Large-scale combat operations (LSCO) represent a shift in focus by the United States Army with regard to the global operational environment. It has been recognized that our future fight will involve much more than just basic terrorist hunting, or more specifically, it has been recognized that we must ensure that we are ready to fight far more than simple pockets of armed resistance. Asymmetric fights occupy a force's time by providing formations with an invisible enemy to pursue through consistent presence-based operations. Most times, the enemy in such a fight is not uniformed, but instead blends with the surrounding environment. The United States Army fought this fight in Vietnam, Afghanistan, and Iraq, but those were not instances of true LSCO. Again, war is changing, but are

OUR YOUNG LEADERS AND SOLDIERS MENTALLY PREPARED OR EVEN FAMILIAR WITH THE POTENTIAL RAMIFICATIONS OF LSCO?

What does FM 3-0 say on LSCO, you ask? These operations are templated to start at positions of disadvantage and be rife with hyperactive periods of chaos. The tempo of operation will be almost unfamiliar to the veterans of both OIF and OEF, as ground force commanders will seek to advance aggressively, toward an actionable objective, actively pushing a division toward forward lines. Every domain will be vulnerable, and no front will be free of conflict. How is that you say? Well, the enemy will be a peer-level threat, not simply a tribesman with an AK-47 or a truck leavened with explosives. The enemy of a LSCO will bring everything to bear that our forces are fully capable of leveraging in a fight. Because of this parody in capability, the lethality factor grows exponentially on both sides, battalions and brigade-size elements become vulnerable to attack, and just like that, our entire perspective on modern warfare has changed again.

CPT Brooks J. Beless from Charlie Company "Coldsteel", 1st Battalion, 327th Infantry Regiment "Bulldogs", 1st Brigade Combat Team "Bastogne", 101st Airborne Division walks the Squad Training Exercise (STX) lanes to supervise the safety of his Soldiers during Eagle Flight II training on Fort Campbell, Aug 23-25. Eagle Flight II is a platoon evaluation of Squad Training Exercise (STX) lanes and Live Fire Exercises (LFX). (Photo by SGT Sharifa Newton, 40th Public Affairs Detachment)

I mean, can you imagine an entire battalion or brigade succumbing to the enemy…how would we potentially reconstitute such a force?

The question I pose to our field grade leaders, both warrant officer and officer, and senior NCOs is thus; are your people ready for this type of fight? Even if your unit is prepositioned for a rotation into one of the already active theaters, have you prepared them for every type of fight? Sometimes, that is not always possible. As leaders, we simply cannot prepare for everything, effectively at least, all the time…believe me, I know. However, we must still strive to do our best by our organizations, and there are other ways to provide exposure to such topics than training exercises. If we do not expose our Soldiers via training (usually due to things like conflict in an upcoming deployment schedule that require we prepare for our primary mission), then the remaining solution is a professional discussion via a meaningful development session. Get creative with a professional development session, staff ride, or the like.

This is a total 180-degree change in mindset, and we have to pass this along to our junior leaders. It's not a matter of ensuring all of their doctrinal terminology is correct regarding the matter, though it is important to be doctrinally correct. Instead, I maintain that it is a matter of ensuring the junior leaders and Soldiers are aware of the implications of such a fight. Then perhaps, a good strategy involves that you simply review the potential preparation involved for such an operation, and see what your Soldiers think they need to do in order to prepare for this type of all-consuming warfare. Remember, the conversation cannot be without focus, and a great way to develop the professional development session would be to guide the conversation of preparation through the Warfighting Functions: mission command, movement and maneuver, intelligence, fires, sustainment, and protection (DA, 2017).

CLOSING CONSIDERATIONS

The intent of this article was not to somehow insist on gaps in doctrine and doctrine analysis at any level within our branch and Army. Instead, the intent of this article is to bring attention to the fact that we must ensure our Soldiers, company grade NCOs, warrant officers, and officers all understand what these two major areas of concern involve. If we make plain our language concerning expeditionary mindset/capabilities and LSCO, then we had better equip our junior leaders to prepare for the inevitable fight. We cannot be satisfied with keeping the language of the conversation at the conceptual/strategic level only, but instead, we must proliferate the information across the formation in such a way that every Soldier comprehends the impact of this future fight.

THE MORE OUR SOLDIERS UNDERSTAND, THE BETTER PREPARED THEY WILL BE.

They are the ones, the junior leaders, the ones fighting on the front line that must be fully prepared. More than that, they must be capable, lethal, and prepared to engage in a fight that is more a marathon than sprint. Gone are the days of doctrine and tactics based on "Stormin' Norman-like" standards, and instead we must look to the examples and operational challenges found in World War II. In that same spirit, I think it fair to quote George S. Patton, Jr. It's as Patton said, "The Soldier is the Army…" so let's make sure our Army understands what's ahead with respect to expeditionary mindset and LSCO.

References:

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

Mortimer, G. (2013). *Merrill's marauders: The untold story of unit Galahad and the toughest special forces mission of World War II*. Minneapolis, MN: Zenith Press.

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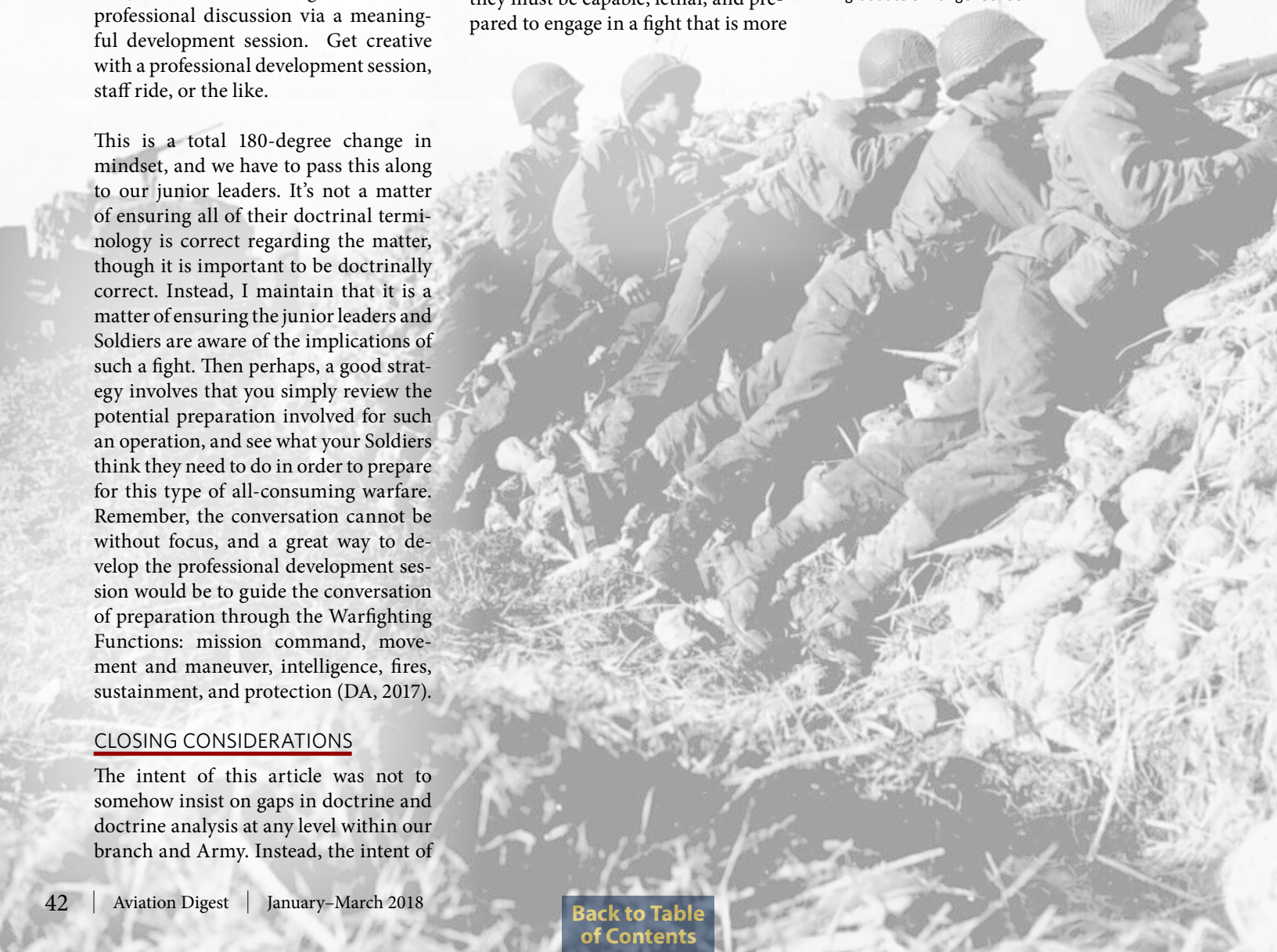

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LIFE IS HARD, GET ON WITH IT!

By MAJ Michael C. Shaw and Mr. Justin M. Witty

"You cannot change the cards you are dealt, we can just play the hand… No matter how bad things are, you can always make them worse"

(Pausch, 2007)

WAR IS CHAOS

Serving one's Nation is not easy. Regardless of how well trained, educated, prepared, or informed one believes they are, new events will surface that will certainly challenge and sometimes even scare us. Lieutenant General Lundy was fond of saying, "At night, terrain flight, five radios, multiple aircraft, 3 kilometers a minute, marginal weather, brown out landing zone, 30 Soldiers in the back, troops in contact…" we must get it right (Lundy, 2015). And these are just some aviation branch complexities.

As operational momentum builds, there is no pause button, no complaining that new operational developments were not included in the pre-mission planning, or option to quit the mission because the enemy was more prepared than expected and willing to meet you on the field of battle. Developing a willingness to accept that operations won't go the way you foresaw, and a capacity to rejoice when they turn out just satisfactory, despite all unforeseen challenges, is key. What Soldiers do in the Army, especially within Army Aviation, is inherently difficult and dangerous. Maintaining operational momentum, "seizing and exploiting the initiative" (Department of the Army [DA], 2015), and ensuring this unwieldly organizational bureaucracy moves forward takes immense effort. Such efforts invariably come with mistakes, often not intentional or malicious. Sometimes life is not always fair.

THE SPEED OF LIFE IS ACCELERATING.

Mistakes sometime occur because in the current world we operate in, almost everything is accelerating at astonishing speeds. The skills required of a Soldier who enlisted in the 1990s is hundreds of times different from those Soldiers raising their right hand this very afternoon. Today we see $50 improvised explosive devices destroying million dollar vehicles. We see social media enabling crowd sourcing and radicalizing all sorts of marginalized individuals in shorter periods of time. The actions of a 'Lone Wolf' become sensational news in a matter of minutes, and on and on and on (Friedman, 2017). We as individuals, as battle buddies, as platoon members, etc., must learn differently and at an accelerated rate from what we are used to, if

Photo by CPT. Jaymon Bell, 12th CAB Public Affairs

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we wish to counter such actions across the operational spectrum. We must become the agents of change and help to shape what is around us; the alternative is to wait for change to come and simply react, assuming an even steeper learning curve.

Life is getting more complicated and complex due to increased globalization and improved technology, and Army Aviation will face new and difficult challenges as a result. Integrated air defense systems, operations in "mega-cities," or how we train our Soldiers with next generation technology are very real issues in front of us today. That is on top of the turbulence found within our daily bureaucratic actions, the general unpredictability of military action, and our branch's "wicked problems."* We must learn to embrace these challenges and opportunities as they are put before us. Over the past 12 months, it was these authors' intent to reintroduce a construct that is vital to the continued development of this profession.

We spent seven articles advocating for the renewal of Reading, Thinking, Speaking, and Writing (RTSW) in an attempt to bring some calm and clarity to the chaos (Armstrong, 2016). Through such a basic methodology, it was our goal to present some of Army Aviation's most "wicked problems," in the hopes it would generate a discussion. Of course, this undertaking was not entirely selfless. We enjoy problem solving, discussing cause and effect, and sometimes making forward progress against some difficult issues. Some of the ideas we presented are not original. You may have heard them mentioned by senior leaders or bantered about in small groups of peers, but this was our opportunity to discuss them in a more public setting. We truly believe that these great challenges can be overcome and that opportunities still exist. However, one of the largest things in our way is **us**.

*General David G. Perkins and Lieutenant General Michael D. Lundy utilize the term "wicked problem" to describe problems of such complexity that no single answer exists nor may provide the solution.

MINDSET MATTERS

Fear can sometimes be a great motivator, and conquering a fear is often one of life's sublime joys. More often than not though, it holds us back and causes us to do irrational things. Fear of failure, fear of looking bad in front of a boss, or fear of not knowing as much as others, are all barriers that we must overcome. How we do that often depends on how we see ourselves. Do we believe that our traits and abilities are fixed and "we are who we are," or are we a work in progress that can grow and flourish with effort? Dr. Carol Dweck calls these two mindsets either Fixed or Growth and argues that how we interact with the world is largely determined by our mindset (Dweck, 2006). Those with a fixed mindset believe that their talents and abilities are fixed at birth and often do their best to hide any kind of mistake or imperfection. Those with a growth mindset believe that abilities are developed and learning takes place throughout your life. This is similar to the old Army debate of whether leaders are born or made. Those with a fixed mindset are more likely to fall into the leaders are born category, whereas those of a growth mindset are more than likely to believe a leader is made. Which philosophy do you support?

> **"Difficulties break some men but make others"**
>
> **(Mandela, 1975)**

Though you may have a growth mindset, every one of us at some point has been in a training environment when an instructor asked a question you thought you knew the answer to but you didn't say anything for fear of being wrong or sounding foolish. Most feel that way, it is human nature. We believe we have an image to uphold, to ourselves if not for others. Unfortunately, in our profession, fear prohibits many from placing themselves in positions of vulnerability through speaking out, offering diverging opinions, or simply recommending untraditional courses of action. While it is simple to point to an individual's mindset as the determining factor, we should also point out that leaders at all levels must acknowledge and claim ownership for the fear that exists by unintentionally reinforcing a zero-defect mentality. Leaders must be accepting of divergent thought and reward those who take a risk utilizing disciplined initiative. Too many times, we give comments on how many different PowerPoint errors we see regarding font or letter spacing yet, never bring up the intellectual contribution or the actual information provided. We must move beyond a fixed mindset, which holds us back, and embrace that which expands our own capacities.

THE MISSION

For seven articles, we have tried to do just that. Expand our own vision and broaden the discussion across the aviation community. We pointed out in our introductory article "Army Aviation's Wicked Problems" that we like a good challenge and aspire to help others in the process. Some of the topics we see as challenging, another may have a ready solution. What we see as an opportunity for change might be overly optimistic; it all depends on your perspective and mindset. What we do know for sure is that burying our heads in the sand is not an option. If we want to remain the premier Army component that other nations model and emulate, then we must all contribute.

Some of the biggest challenges we have tried dissecting were: 1) "Is Army Aviation Truly a Profession," 2) "Overestimated, Self-Perceived Command Abilities of Aviation Captains Career Course Graduates," and 3) "Lacking Perspective: The Perceived Incompetence of

Photo by SGT Marcus Floyd, 101st Combat Aviation Brigade

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Higher Headquarters." We attempted to generate dialogue surrounding what it means to be a profession, something many Soldiers take for granted and perceive to be preordained. We delved into scholastic research that confirmed that Operations Division Captains Career Course graduates possess a significantly high level of self-perceived command ability and what some causes could be. Finally, in this edition of Aviation Digest, we bring forth the belief that many in our branch do not have perspective beyond their current assignment. Such blinders and lack of understanding contribute to the retention and growth of our three identified challenges and the numerous others not captured throughout this mini-series. Yet, with challenge comes opportunity.

Some of the untapped opportunities we believe can provide personal and organizational growth within the Aviation branch were: 1) "Training and Maintaining: The Core of Army Aviation," 2) "Of Course the Army Understands Leadership!," and 3) "What Happened to the Scholar in "Warrior Scholar?"" In our first foray, we attempted to argue the position that the aviation warrant officer corps through reorganization of tracks would produce a higher quality product for both the owning organization and for the Army at large. One's articulation and willingness to discuss such an opportunity reflects directly upon one's mindset and depth of their perspective. Opportunity article two discusses leadership; something so fundamental within our Army and yet so underutilized that we felt it could present an opportunity for a broad cultural adjustment. Our third and final opportunity piece focused on the balancing act that each of us should perform between being a warrior and scholar. As operational and bureaucratic demands increase we tend to default, as a branch, to the path of least resistance: tactical performance. However, the health of our branch and the pace of global demands require a rebalancing of the warrior and the scholar.

LAST CALL

In "Army Aviation's Wicked Problems," we offered the Aristotelian model of RTSW as a method to engage both challenges and opportunities (Armstrong, 2016). It is our belief that this process, one we attempted to model over the past year, is an important entryway to achieving and overcoming much of the unknown that resides ahead of us. However, before any model can gain momentum, we must first aim to be honest with ourselves. The sooner we accept that everyone struggles and has obstacles to overcome, the sooner we can stop blaming them for our encountered difficulties, and we may begin taking ownership of what we can change.

For the Aviation branch, how does our mindset, the increasingly complex world, the chaos of war, and wicked problems come together? How about with a problem set not discussed in any of our past articles but a topic that is on the tip of the branch's tongue, Future Vertical Lift (FVL). No single problem set within the branch entwines the diverse challenges and immense opportunities that exist within FVL. There are those who anticipate going forward and those who will dig their heels in to avoid it. Which are you? What role will you play in the next chapter of Army Aviation? Will you see a need to reshape our profession, find a way to adapt training, or garner a broad enough perspective to see FVL as something other than faster rotorcraft? Should our force structure require redesign, what about our training program, does our scenario modeling fit FVL, and what sort of warrior and scholarship is required to incorporate multiple new platforms? Love of challenge, belief in effort, and resilience in the face of setbacks is required of all of us.

Life is hard and we suggest you acknowledge that what you do is important, even if you do not feel that way all the time. We suggest you stop judging yourself so harshly, stop judging others so harshly, and adapt a growth mindset that everyone can learn and get better if they want to. Humility, care for others, and truly selfless service are all qualities, values, or actions that one can aspire to attain, knowing that some of us will fall short. To move forward as an individual and as an organization, sometimes we must give up our personal fighting positions to find better terrain. This mini-series was just such an act and we hope you too can step forward, take a risk, and join the conversation with your open and honest opinions.

Major Michael C. Shaw is currently serving as the Integration Officer at HQDA G-3/5/7 DAMO-AV. Previous assignments include Executive and Operations Officer, 3-159 Attack Reconnaissance Battalion (ARB) and Commander, A Company, 4-4 ARB. MAJ Shaw is a graduate of the Army's Command and General Staff College at Fort Leavenworth and has a Ph.D. in Human Resource Education and Leader Development from Louisiana State University.

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References:

Armstrong, B. (2016, July 26). #RTSW: *Charting a course for our professional writing* [Web log post]. Retrieved from https://www.militarywritersguild.org/rtsw-charting-course-professional-writing/

Department of the Army. (2015). T*he Army profession (Army Doctrine Reference Publication 1)*. Washington, DC: Headquarters, Department of the Army.

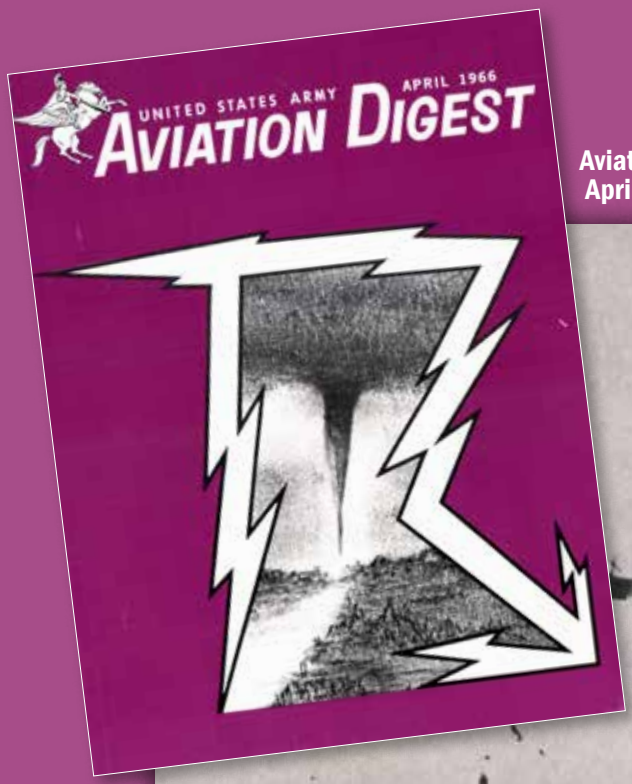
Dweck, C. S. (2006). Mindset: *The new psychology of success*. New York, NY: Penguin Random House LLC.

Friedman, T. L. (2017). *Thank you for being late: An optimist's guide to thriving in the age of accelerations*. New York, NY: Farrar, Straus and Giroux.

Lundy, M. D. (2015). *Quote taken from PowerPoint presentation prepared for the Maneuver Center of Excellence Warfighting Conference*, Fort Benning, Georgia.

Mandela, N. (1975). *Letter from Nelson Mandela to Winnie Mandela in Kroonstad Prison*. Retrieved from https://www.panmacmillan.com/blogs/general/a-letter-from-nelson-mandela-to-winnie-mandela

Pausch, R. (2007). Randy Pausch Last Lecture: *Achieving your Childhood Dreams* [Online Lecture Recording]. Retrieved from https://www.cmu.edu/randyslecture/videos/index.html



Aviation Digest Archived Article
April 1966

Captain Jack Walker

Scarcely had 1,175 STRAC paratroopers from North Carolina shaken the March snow from their boots before they were rocketing from USAF C-130B transports onto a sun-drenched drop zone in tropical Panama. How effective were they after this 2000-mile, 7½-hour flight? Commanders at all echelons must be aware of . . .

THE HIDDEN ENEMY

of Acclimatization

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THE PARACHUTE assault was executed without a hitch. Although assembly along the jungle's edge was somewhat different from the numerous rehearsals along the pine forested woods of south Georgia, it too went as planned.

During the assault to the initial objectives it became apparent that the usual drive and aggressiveness of the troops was somehow strangely absent. Unit leaders noticed that it now took hours to move distances that had once taken only minutes. The dense undergrowth was a problem, but a much greater problem was silently affecting every man in the unit, acclimatization. This invisible enemy was draining the strength of trooper and commander alike. Suddenly, one of the world's best trained, best equipped, and most spirited fighting forces had been rendered a crippling blow.

• • •

We now envision dispatching troops from bases in CONUS to combat in far-flung regions of the world. Deployment is planned to take place in a matter of hours or days. This strategic picture is impressive, but to be realistic, consideration must be given to the physical shock of the men involved.

Although acclimatization to all climates must be considered in strategic planning, by far the most critical area is the tropics. No mere addition of special clothing or equipment can give the men the necessary edge required to meet the critical period of physical adjustment.

Acclimatization to heat can lessen environmental impact on a newcomer to a hot climate. During the process, complex physiological adjustments take place that allow the soldier to adjust to tropical conditions, move rapidly, and with less effect on his health than would otherwise be possible. A direct correlation exists between the method and duration of acclimatization used and the degree of success obtained. Methods of acclimatization fall into two main categories: artificial and natural.

Artificial acclimatization is accomplished through exposure in a "hot room," a chamber in which temperature and humidity are regulated to simulate the conditions of the assigned area. In tests conducted at Bethesda, Md., one group of subjects was exposed to "hot room" conditions for lengthening work periods on subsequent days, and another group for the same period every day. Both groups were assigned tasks requiring physical exertion and periods of rest while in the "hot room."

Artificial acclimatization was achieved relatively effectively in from 2 to 3 weeks. However, after daily exposure to the artificial hot climate was discontinued, the acclimatization began to lose its effect within 10 days and wore off completely in 6 weeks. It became apparent that to be conducted on a large scale, this method requires extensive equipment and results in many lost manhours of valuable training time. In artificial methods no effort is made to expose troops to native diseases of the anticipated area of deployment.

Natural acclimatization is accomplished by moving troops into an area similar in climate to the one into which the troops will be sent and exercising them by controlled steps of increasing load. During natural acclimatization, training can continue in military instruction and practice needed by the troops before they enter the combat area. This acclimatization process requires from 5 to 7 weeks for maximum effectiveness. The effect is usually lost after 7 or 8 weeks in a temperate climate.

British experiments indicate that nonacclimatized troops enter a tropical area at about 65 to 70 percent of maximum military effectiveness. During the first 2 weeks, as they are exposed to native diseases, particularly diarrheas, effectiveness drops to about 50 percent. Completely nonacclimatized troops reach maximum effectiveness after about 9 weeks in a tropical environment.

Artificially acclimatized troops enter the area at about 85 percent of maximum effectiveness, and in 1 week drop to about 75 percent as they also encounter native diseases. These troops reach maximum effectiveness after about 5 weeks. Naturally acclimatized troops enter the area at about 90 percent of maximum effectiveness. They are newly exposed only to native diseases and they reach maximum effectiveness after 1 week.

Similar experiments and combat experiences indicate that both natural and artificial heat acclimatization increase the effectiveness of forces fighting a tropical environment by reducing their vulnerability to exhaustion and disease. A comparison of both methods indicates the natural method to be superior in several respects. Final, more complete, and realistic training can be carried out. During natural acclimatization in the rear area of a combat zone, or in an area similar to the area of deployment, the troops may encounter most of the native diseases before going into combat and thus build some resistance to these diseases.

The 82d Airborne Division,

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Fort Bragg, N. C., participates in an annual exercise in the Panama Canal Zone. This offers an excellent insight into a unit's attempts to counteract the problem of overnight deployment from temperate climates.

In the first two exercises, known as "Banyan Tree," one battle group departed Fort Bragg in temperatures usually in the 30s. About 8 hours later, after a nonstop flight into the Canal Zone, they jumped into temperatures in the 90s. The problem of acclimatization was apparent in the first exercise, and was reflected by both umpire and commander reports.

These problems manifest themselves in the inability of exceptionally well trained troops to perform in their normal manner. Cases of heat stroke and heat prostration were common. The most graphic evidence was that the troops just could not stand the physical strain required to perform such an operation. Only weeks before, these same troops had accomplished exercises at their home station requiring far greater physical strain.

After the experiences of Banyan Tree I, the 82d Airborne Division took steps toward troop acclimatization for Banyan Tree II. Troop sleeping areas were heated to very high temperatures at night, and most of the troops worked during the day in especially erected sweat tents. After deployment in the Canal Zone, this attempt was found to be of little value.

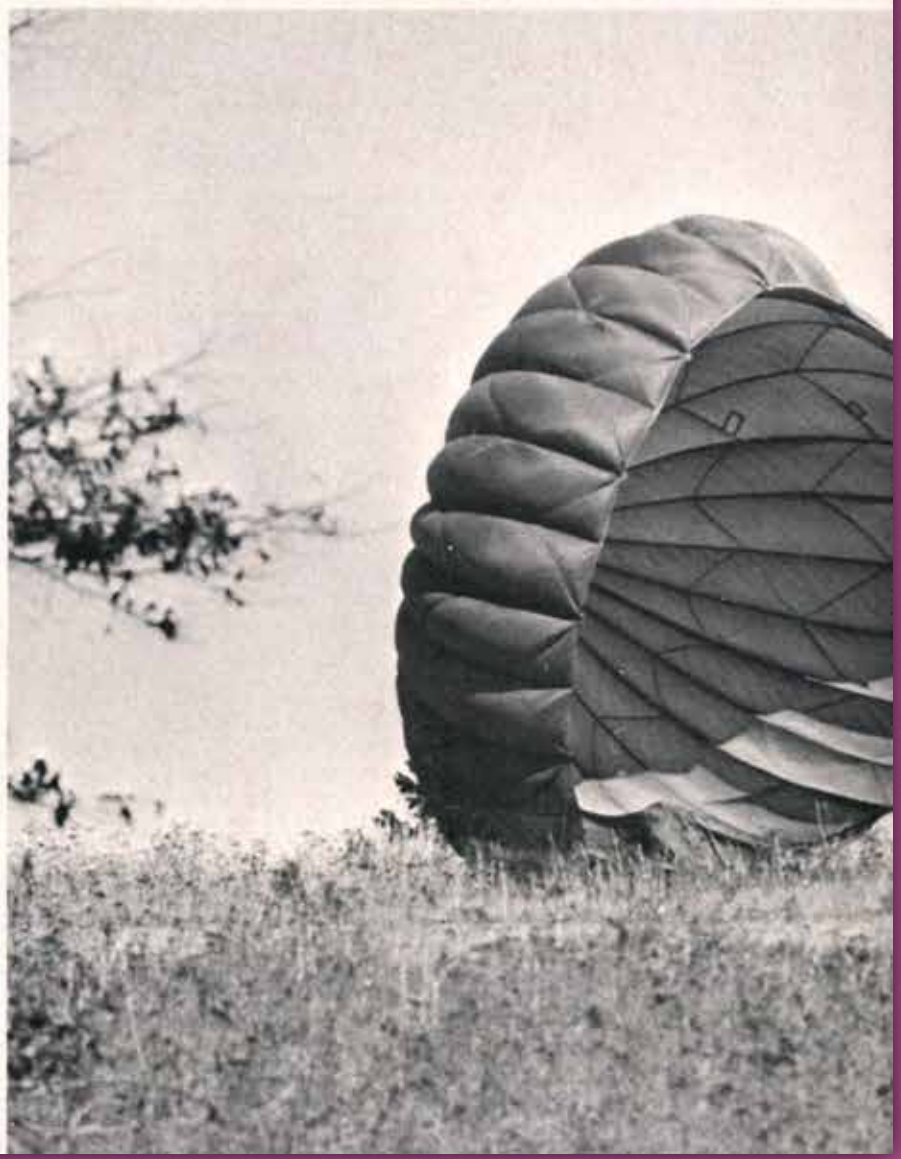
The 2d Airborne Battle Group, 504th Infantry, participated in Banyan Tree III. A determination to overcome the problem of rapid transition was met by a greatly increased physical training program. This program started 7 weeks before deployment. It included an increased calisthenics program, long runs, marches, and more rugged field training, with emphasis on physical endurance. Several companies of the battle group required an increased salt intake by the troops, starting one week before deployment. Detailed briefings were given to the troops on prevention of heat casualties, sanitation, and tropical living.

Awareness of the difficulties to come, coupled with the method of presentation of the entire exercise and jungle training to follow, resulted in a challenge to each individual and increased the appetite of the unit for the exercises to come.

The nonstop flight to drop zones in Panama was altered to include a two-day marshaling phase at Ramey Air Force Base, Puerto Rico, for all elements of the parachute assault echelon. Although short of the required acclimatization time, this period did afford mental adjustment to the climate and temperature that lay ahead in the maneuver area. The time in Puerto Rico also allowed the troops to prepare for the jump in a uniform more suitable to the climate than the one required by the Fort Bragg winter.

Special training before Banyan Tree III was well worth the effort

Highest possible efficiency of units ca
training is programmed — preferabl



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expended; it resulted in greatly increased effectiveness of the participating unit. Umpires and instructors at the Jungle Warfare School spoke very highly of the rapid adjustment by the troops to their new environment. Cases of heat stroke were few, and unit effectiveness was maintained.

Can we expect to employ troops in vastly different environmental conditions and require maximum efficiency? Obviously not. But there are many means of reducing losses to climatic factors.

Before employment, acclimatization, preferably natural, will increase unit effectiveness. Should the tactical situation, time of deployment or logistics prevent natural acclimatization, other measures must be used. Immunization of personnel provides a direct approach to prevention of disease. When effective, it can provide almost absolute protection against the most common diseases. For protection against diarrheal and skin diseases, personal sanitation procedures must be carried out by the individual soldier and enforced by the chain of command.

Personal sanitation requires the following measures to prevent skin diseases, enteric infections, and ingestion of parasites:

- Body cleanliness and care. Keep the feet, neck, groin, and armpits clean and dry; wash hands; wear shoes and dry socks.
- Proper use of insect repellants and mosquito netting.
- Proper use of suppressive drugs to prevent malaria.
- Avoid contaminated food and water; prepare and eat meals carefully; and keep mess equipment clean.
- Proper waste disposal and water discipline.

The effectiveness of personal sanitation depends on the amount of accompanying area sanitation, the quality of the soldiers' previous training, and facilities for bathing and washing or exchanging clothes. Important is the strictness of enforcement of personal hygiene by unit commanders, especially with the difficulties encountered during combat and rapid movement.

A thorough indoctrination and detailed briefing, as to the problems anticipated in the area of operations, must be given to all personnel.

An increased physical training program should be incorporated into the daily life of the unit whose possible missions require worldwide deployment.

The world cold war posture dictates possible employment of United States forces on short notice to all areas of the world. This may require entry of units into areas of vastly contrasting climatic conditions.

We have many resources to help prepare our units to meet the hidden enemy of acclimatization. These resources must be used to the fullest if the commander is to expect an effective unit upon arrival in an area.

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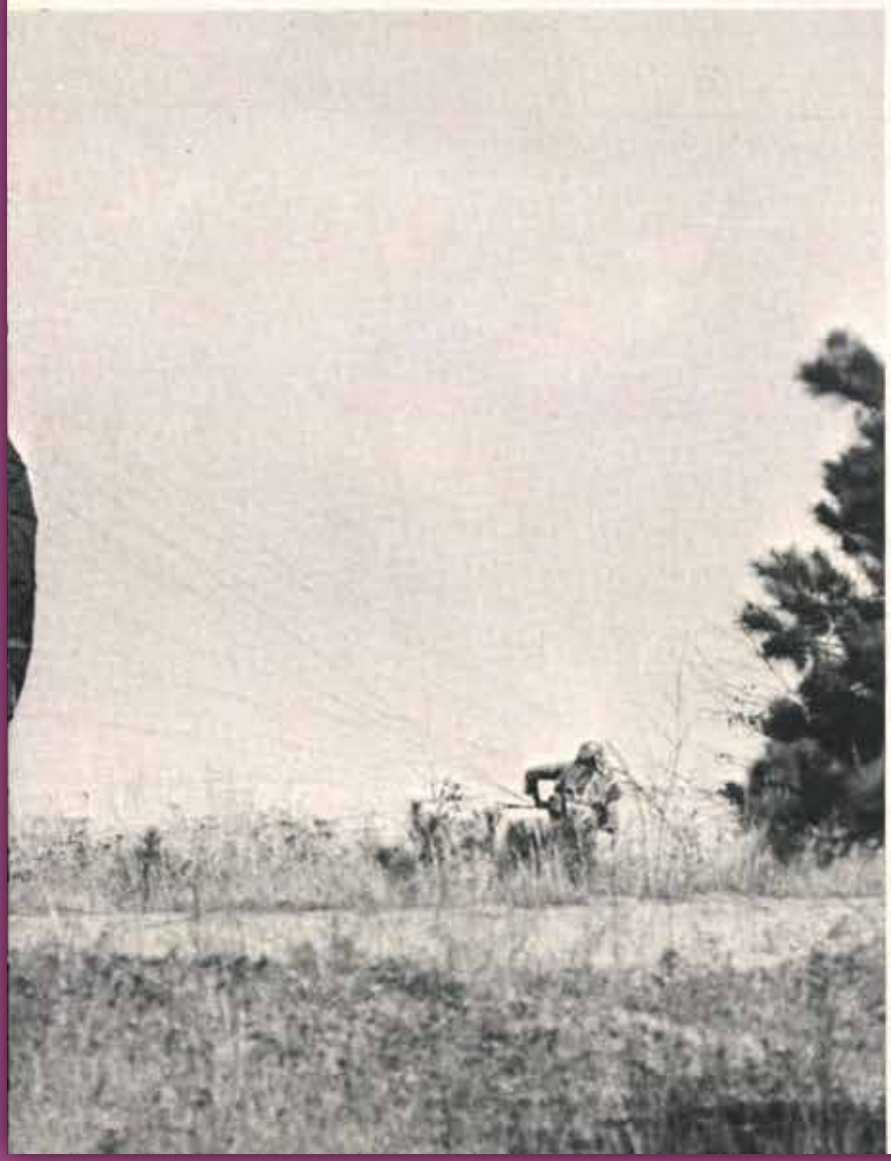

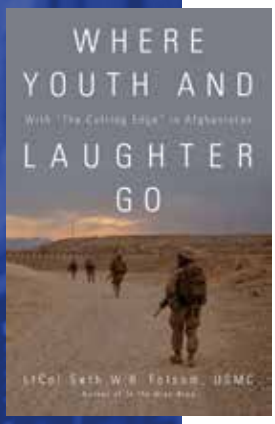

Where Youth and Laughter Go:
With "The Cutting Edge" in Afghanistan

By LTC Seth Folsom. Maryland: Naval Institute Press, 2015. Maps, photography, appendices, 368 pp.

A book review by 1LT Christopher Poppleton

Where Youth and Laughter Go is a memoir about difficulties faced by a battalion command leader who chose to face the same perils and risks his men experienced during an Afghanistan tour from 2011–2012. LTC Folsom documents time while operating in the Sangin Valley of the Helmand Province, one of the most dangerous and difficult regions of the country to operate. Meant to demonstrate incredible courage and bravery exemplified by an experienced fighting force serving in the Sangin Valley just a year prior, Folsom shows war is personal. Every life, whether lost or surviving, leaves ripples in the wake of all others, long after leaving the battlespace. Folsom continues the already challenging mission of helping the Afghanistan Security and Police forces, as well as the Afghanistan National Army, to not only meet their nation's ever-growing need for improved security, but to battle their own internal struggles.

Divided into three sections that merge into one vision, this book documents the timeline and daily interactions of Folsom with "The Cutting Edge," (the 3/7th Marines). As Folsom assumes command and feels the weight of taking the 3/7th downrange again, he describes the unit's rich heritage and its personnel demonstrated as "legendary" (pg. 5). Hoping he is up to the task of bringing all his men home Folsom realizes, in the preparation and throughout his time overseas, that loss will be inevitable, and his own mission will be in helping bring as many of his men home alive as possible. The book's pace reflects the danger and constant threat Folsom and his men faced, making the reader feel engaged and in the thick of each author experience.

The 3/7th's piece of the Sangin Valley would prove unruly and rampant with Improvised Explosive Devices (IEDs), and in many cases with enemy interaction, to be only somewhat rewarding. The men who would be lost would be fewer than the previous unit's, but coupled with the amount of men who would be maimed and crippled, each loss would weigh heavier than the last. In particular, Folsom's Explosive Ordnance Disposal (EOD) attachment would experience the greatest loss and exhibit the most incredible bravery as "The EOD techs were an odd breed…but despite their unconventional appearance, method, and mannerisms, the EOD Marines brought an unmatched value to the battlefield" (pg. 150). The only answer Folsom found after an IED strike to his men was to keep patrolling, the very next day, and keep mission success and constant focus on their goals as each day's ultimate motivation and for when they would return home. The 3/7th Marines would conduct several aggressive operations to sustain and push stronger shows of force to cripple the Taliban and insurgent forces throughout the area. However, even the daily and big movements by Folsom's "Cutting Edge" would meet frustration with an age-old enemy who is no stranger to foreign occupation. This enemy, choosing to hide among innocents (and often the local population), would prove elusive, tough, and determined against even the overwhelming firepower of the U. S. As a result, Folsom developed unexpectedly close bonds to the senior officers running his operations and his senior enlisted advisor, SGM Rodriguez, all experiencing what Folsom believed few could truly understand.

Folsom experienced frustration and pushback consistently while attempting to motivate the local populace and often reminded local leaders that his Marines would eventually leave. Additionally, he faced a potentially devastating setback from within, as a junior officer showed the inability to accept responsibility for a poorly conducted operation. The consequences stressed the relationships the Marines were striving to build, not with just the people of Helmand Province or Afghanistan, but the entire watching world. Folsom patrolled with every rifle squad (usually consisting of up to a dozen men) in his battalion each three times (sometimes two patrols in a day) before the 3/7th Marines completed their 7-month tour in Sangin Valley. By tour's end, Folsom was emotionally, physically, and mentally exhausted and strained. An unconventional enemy called for unconventional tactics (using shaving cream to mark safe pathways while patrolling), and the battalion's success was unquestioned. At his memoir's conclusion, Folsom stated "To lead a battalion of Marines in combat is the privilege of a lifetime" (pg. 331).

For involved aviation assets, Medical Evacuation UH-60 Black Hawks transported those injured by IED strikes, and CH-53 Sea Stallions supported certain operations and transport to infiltrate to the various forward operating bases the 3/7th Marines occupied; this book's focus was the ground forces, which aviation persistently works to support. Unmanned aerial systems played a major role in assisting with artillery and rocket strikes to devastate the enemy, as well as UH-1 Cobras and AH-64D Apache attack helicopters.

Readers can practically view the entire professional side of life for Folsom and the 3/7th in the Sangin Valley, but not as much of the personal, family side as one might expect. However, this perspective lends credibility that Folsom and "The Cutting Edge" went to Afghanistan to take an aggressive and unforgiving fight to the enemy, which without a doubt, this book proves was the result of their dedication, especially to one another.

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