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THIS ISSUE

Defining Cross-Domain Maneuver

Operation Atlantic Resolve

Cyber and Electronic Warfare Camouflage

Tip of the SPEAR for SFAB Success

Establishing a Warfighter's Physical Foundation

Lethality Has a Shelf Life

THINK. ADAPT. ANTICIPATE.

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Fellow Professionals,

The environment in which we operate is in a constant state of change. As defined by our mission statement, the Asymmetric Warfare Group (AWG) is widening the U.S. Army's aperture on our friendly and adversary capability gaps. Current perspectives on an ever-changing environment need to be considered to keep U.S. forces one step ahead of their adversaries. In this issue of the *Journal of Asymmetric Warfare*, we discuss three areas that embrace the essentials: tactical concept application, continuum of current operational environment conflict, and individual fundamentals to adapt.

This edition of the *Journal of Asymmetric Warfare* addresses Operation Atlantic Resolve, security force assistance brigade success, cyber and electronic warfare camouflage, individual improvement regarding fitness and lethality, and cross-domain maneuver in a multi-domain environment. As with previous versions of the *Asymmetric Warfare Journal*, AWG seeks to initiate discussion, spur intellectual thought amongst all levels of Army leaders, and provide a lens to look at certain aspects of current and future operations.

In an effort to continue to highlight current and relevant products relating to enduring interests and demand signals from the field, this issue features sidebars detailing handbooks and other reports in support of our mission.

The U.S. Army is one of the most respected organizations in the nation because of the character and commitment of those who serve. Now, more than ever, the future Army must be able to operate effectively in our complex environment because they may well find itself on a battlefield that looks nothing like what it anticipated, armed with old ideas against a new foe. These ever growing challenges place emphasis on understanding our internal preparation for multi-domain thresholds.

Col. Timothy F. O'Brien
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Lethality Has a Shelf Life



Able Squadron

DEFINING
**Cross-Domain
Maneuver**



This article contains the first excerpt of a three-part study on defining cross-domain maneuver...

A century after the end of World War I, contemporary commanders find themselves facing similar challenges to the ones their predecessors faced in Western Europe in the opening days of the Great War. New technologies saturate military inventories, but there is vast uncertainty around their significance and application. Like the machine gun and long-range artillery at the turn of the twentieth century, these technologies add incredible capability and lethality to the force, but no one knows exactly how they will all perform in the next peer-to-peer conflict. Just as few foresaw how new technology and advances in artillery would create a hyper-lethal environment, driving the armies of Europe into trenches, we have yet to witness peer opponents employing cyber, unmanned aircraft systems (UAS), precision weapons, and anti-access/area denial (A2/AD) technologies against each other. Although we have seen glimpses of this modern battlefield in Ukraine, Lebanon, and Syria, these fore shots are also reminiscent of what the Boer War was to WWI—incomplete snapshots that offer only murky hints of what might be, bearing the potential for calamitous misinterpretation.

There is a conviction that the next conflict, and those in the foreseeable future, will be different than fights in the immediate past.

In this age of technological potential, uncertainty, and rising tensions between peer competitors, multi-domain battle (MDB) emerged.

In early 2017, the U.S. Army moved ahead with its MDB concept and doctrine. Army Chief of Staff Gen. Mark Milley and Marine Gen. Robert Neller sent an open white paper on MDB to Gen. Joseph Dunford, Chairman of the Joint Chiefs of Staff. The Army Training and Doctrine Command (TRADOC) released a flurry of literature, conceptualizing MBD for eventual inclusion to U.S. Army doctrine. U.S. Army Field Manual (FM) 3-0, Operations, released to great fanfare in October 2017, connects Army doctrine to the developing MDB concept. Two months later, TRADOC released the concept paper “Multi-Domain Battle: Evolution of Combined Arms for the 21st Century, 2025-2040.”

Even so, soon after the release of MDB, there is much that can be said definitively about the idea. It emerges first from a gut feeling, combined with numerous combat training center (CTC) rotations that the U.S. military is not prepared for the next war. There is a conviction that the next conflict, and those in the foreseeable future, will be different than fights in the immediate past. U.S. forces expect to face near-peer competitors who can challenge their freedom of maneuver across warfighting

domains, from air, land, and sea to cyber and electromagnetic. A2/AD^a is a prime concern as U.S. planners follow Russian, Chinese, and Iranian preparations. MDB is an attempt to arrive at the next battlefield ready for the operating environment, without facing the bloody wake-up call the European forces faced in 1914.¹

However, fundamental questions remain. Though TRADOC described important elements of MDB—and its more tactical application, cross-domain maneuver (CDM)—academics and military thinkers have not agreed upon the crucial question of how to define the essence of MDB. Is it a new vision of battlefield maneuver itself, or is it creating capabilities and doctrines to enable the success of traditional maneuver?

This study tackles these questions. Using an unorthodox approach, the authors present three distinct, ostensibly contradictory models of MDB that emerge from the U.S. literature. One envisions MDB as traditional U.S. Army maneuver adapted to the twenty-first-century battlefield. The second model also sees it as maneuver but such that is markedly different than traditional maneuver—distributed maneuver. The third approach argues that MDB is not about maneuver itself but is rather akin to the role of light cavalry in past centuries—to screen, reconnoiter, and enable the main maneuver force to the battlefield intact and informed, with its freedom of action preserved.

The question of MDB's essence is no mere academic exercise. Presenting these three models and placing them in tension with one another brings out important implications of MDB for the Army, and highlights those areas that the doctrine and concept has not fully addressed or resolved. This study takes those implications and proposes organizational and further doctrinal expression at the Army division and brigade echelons.

Multi-Domain Battle and Cross-Domain Maneuver

The U.S. Army identified the need for a doctrinal shift following the 1973 Yom Kippur War, understanding that it oriented itself as a counter-insurgency force, ill-prepared for peer warfare. The lessons learned from this war, in part, led to the development of air land battle as the U.S. operating concept during the Cold War. This doctrine stayed constant until the demand to shift back to counterinsurgency operations and full spectrum operations during Operation Iraqi Freedom. As both the Iraqi and Afghani theaters matured, the United States again refined these concepts to nest within unified land operations. However, these transitions focused on low-scale conflict and not peer competitors. The United States now finds itself postured to meet a variety of low-scale yet potentially persistent threats and the rise of peer competitors with similar strengths capable of deterring and perhaps generating overmatch under certain conditions. The next fight is likely to stress U.S. and ally capacities to operate within and across all domains, forcing greater debate now about the validity and execution of MDB.

^a Anti-access refers to the capabilities to prevent U.S. power projection to the area of operations, and area denial refers to those intended to hamper U.S. forces operations in the area of operations itself upon arrival.

Only through open exploration and honest debate of emerging doctrine and concepts will the U.S. and allied militaries be able to arrive at the next fight in a position of advantage over their dangerous adversaries.

Defining Multi-Domain Battle

According to the Army Capabilities Integration Center (ARCIC), MDB is defined as “Convergence of capabilities to create windows of advantage (often temporary) across multiple domains and contested areas throughout the depth of the battlespace to seize, retain, and exploit the initiative; defeat enemies; and achieve military objectives.”²

It is, in essence, the Army’s concept to fight peer-competitor adversaries in the time frame of 2025–2040. It should enable the Army to deal with strategies focusing both on operating below the conflict threshold and above it.³

The military problem at the core of the MDB concept is, “How will U.S. ground forces, as part of the Joint/Partners Force, deter and defeat increasingly capable peer adversaries intent on fracturing allied cohesion in competition and armed conflict?”⁴

The MDB concept identifies four changes in the current and future operating environment that work to the detriment of U.S. forces:⁵

- U.S. forces are being challenged in all domains;
- The battlespace is becoming more lethal;
- Operational complexity is increasing globally; and
- Deterrence is becoming more difficult.

Both the United States and its adversaries can now, potentially, leverage capabilities from anywhere in the world, employ them in the field, and challenge power projection into the area of operations at all places simultaneously.⁶ This means that battlespaces will be simultaneously extended^b (in time, space, domains, and actors), converged,^c and compressed.^{d, 7}

A new concept is required, especially given that a range of states with developed A2/AD capabilities. These challenges present themselves in all domains^e—requiring a solution that must transcend traditional domain and Service boundaries.⁸

Defining Cross-Domain Maneuver

Not to be confused or interchanged with MDB, CDM is the tactical application of MDB, to be performed by lower echelons in the context of MDB. Just as air land

^b Extension in time means that the line between peace and war will be blurred. Extension in space means that the battlespace will span across larger and more diverse geographical locations. Extension in domains means that the battlespace will span across all domains, and extension in actors means that there will be a larger and more diverse number of actors involved in the conflict.

^c The ability to integrate capabilities across different domains, environments, and functions, in time and space to achieve effects.

^d The results of extension and convergence, which require each echelon to deal with issues both above it and below it—such as requiring the tactical commander to deal with attacks coming from, theoretically, anywhere in the world, even during pre-deployment, while he/she is on U.S. soil or staging grounds.

^e Air, maritime, land, space, and cyberspace.

battle was performed on the tactical level through combined arms maneuver, MDB is executed by brigades employing CDM.

According to ARCIC, CDM is defined as “The employment of mutually supporting lethal and nonlethal capabilities of multiple domains to create conditions designed to generate overmatch, present multiple dilemmas to the enemy, and enable Joint Force freedom of movement and action.”^{f,9} Accounting for compression of space due to farther-reaching capabilities, the Army reorganized and redefined its familiar levels of combined arms and the Joint levels. Combined arms^{g, 10} will be performed at levels of battalion and below, while CDM will be performed at levels of the brigade combat team (BCT). MDB will be performed by the division and above, and Joint^{h, 11} warfare will be performed at levels above corps and/or in the Joint task force.

Defining Convergence

A critical element of the offensive nature of the CDM concept is the idea of convergence. Convergence is the “integration of capabilities across domains, environments, and functions in time and physical space to achieve a purpose”—an ability to bring to bear multiple, dispersed, cross-domain capabilities at a desired place and time.¹² The concept envisions that once engaged, the Joint Force and its partners will converge capabilities to enable maneuver from many locations simultaneously against the enemy, exploiting identified enemy vulnerabilities or developing the situation to detect vulnerabilities in the enemy’s systems.¹³ Convergence of distributed capabilities and forces across domains, time, and space is not mere Joint integration or combined arms warfare, but it is one step higher—an organic capability of the force to apply its capabilities across domains, by itself, in multiple combinations. This means that a multi-domain force will not only have to hold appropriate capabilities and assets (or be able to access them), it will need to possess the independent ability to plan, access, authorize, and employ capabilities and effects across domains.¹⁴

The remainder of this study is dedicated to defining and explaining three competing visualization models for CDM.

Model 1 – Cross-Domain Maneuver: Division-Enabled Brigade Maneuver for the Twenty-First Century

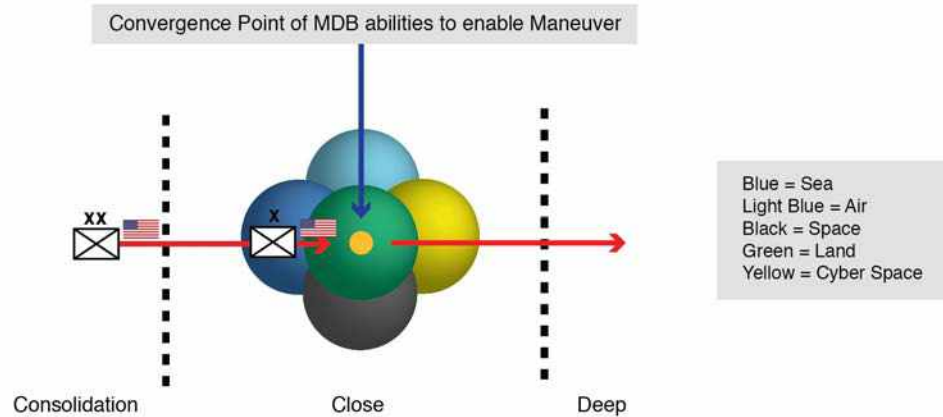
Multi-domain assets are represented by a sphere where, when visualized as five spheres with an arrow of time running through it, they become ideal points at which commanders must converge capabilities against a threat to overmatch it.

This model envisions future conflict being division-centric to enable subordinate maneuver units in the close-area fight as the primary means to execute CDM. It focuses on the division commander’s responsibilities to CDM-enabled brigades

^f This is a proposed definition and might differ with other, existing ones.

^g The synchronized and simultaneous application of arms to achieve an effect greater than if each arm was used separately or sequentially.

^h Connotes activities, operations, organizations, etc., in which elements of two or more military departments participate.



within the close area as a complement to and in conjunction with battalions executing combined arms maneuver.¹⁵ FM 3-0, Operations, the doctrinal capstone for the execution of MDB, states that all current and future fights will be across multiple domains, through contested or denied environments, as the enemy seeks to counter U.S. military strengths. The ability to execute CDM by leveraging multi-domain capabilities to achieve victory within the context of the near-peer future fight. FM 3-0 identifies the division as the center of gravity for integration and organization of Joint and multi-domain capabilities to enable brigades in the close area. Additionally, it updates the operational battlefield framework to account for a current operational environment in which divisions may be fighting and enhances it to reflect modern threats.

FM 3-0's extended battlefield framework replaces past operation manuals' operational frameworks. The current version retains the deep and close areas on the battlefield but transitions the rear area to consolidation/support areas with higher echelons of command and enablers assigned to support it than previously defined. In addition, it deliberately adds the Joint security areas and inter-theater strategic support areas to account for Joint assets supporting the primary tactical level commander (division). This change is a deliberate shift away from the BCT-centric operations of the 2000s and the modular force construct, back to the division as a full-fledged formation. Division-centric convergence^{i, 16} allows the Army to address the breadth and depth of current enemy capabilities while refocusing the BCT as primarily a maneuver force in the close area executing offensive/defensive actions.¹⁷ Within the current Army structure, divisions are the lowest tactical level that retain staff and the coordinating relationships to Joint assets to facilitate and synchronize multiple capabilities. At

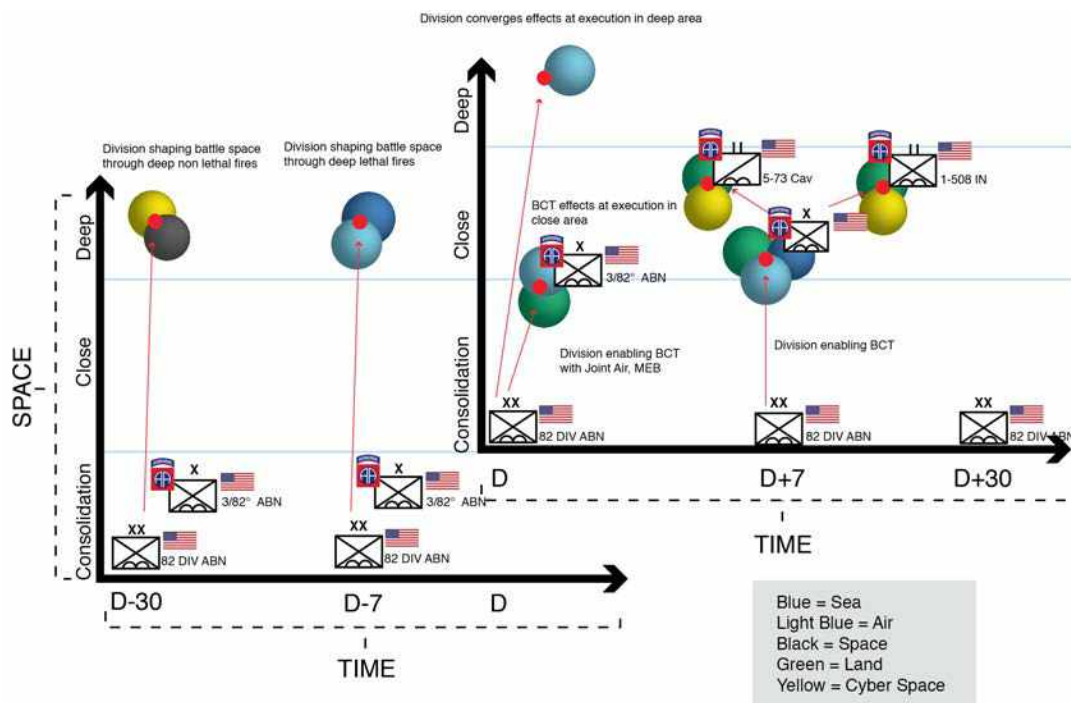
ⁱ The integration of capabilities across domains, environments, and functions in time and physical space to achieve a purpose. Capability convergence produces physical, virtual, and/or cognitive windows of advantage that provide the freedom of maneuver required for forces to defeat adversary systems and ultimately achieve friendly objectives. Achieving convergence requires a sophisticated understanding and mastery of the dynamic relationship between capabilities, time, space, and purpose. This is a proposed definition and might differ with other, existing ones.

present, brigades lack the ability organically to have multi-domain effects with the efficiency and timeliness needed to create periods of relative advantage.

Multi-Domain Battle: A Division Commander's Fight

The division acts as the centerpiece of FM 3-0 and is vital to the U.S. Army's current doctrine. MDB is an echelons-above brigade commander's fight, with the division acting as the lowest tactical level unit capable of generating multiple battlefield dilemmas for an adversary. CDM is not just Joint integration alone; it requires the convergence of abilities at a specific time and location to be effective. The division retains organic assets and the allocated level of authorities to converge multiple and varied lethal and non-lethal capabilities across time, space, and domains.¹⁸

To create windows of opportunity, past U.S. doctrine focused on how to properly synchronize enablers to support maneuver. When capabilities were assigned and aligned in a proper sequence of execution, it would maximize each capability and allow a maneuver commander the greatest possible overmatch at an enemy's weakest point. When orchestrated properly, this sequence of events creates the advantage needed to disrupt, deny, or defeat the enemy in their close maneuver space.¹⁹ In MDB, division commanders no longer solely synchronize and integrate; they must converge resources across time, spaces, and domains.



Displays across time and space that combinations of MDB assets can have separate convergence points supplementing DIV commander's concept of operations to achieve desired outcomes. In this example, the U.S. 82nd Airborne has been denoted; however, the implementation and enabling methodology are not constrained by unit type or designation.

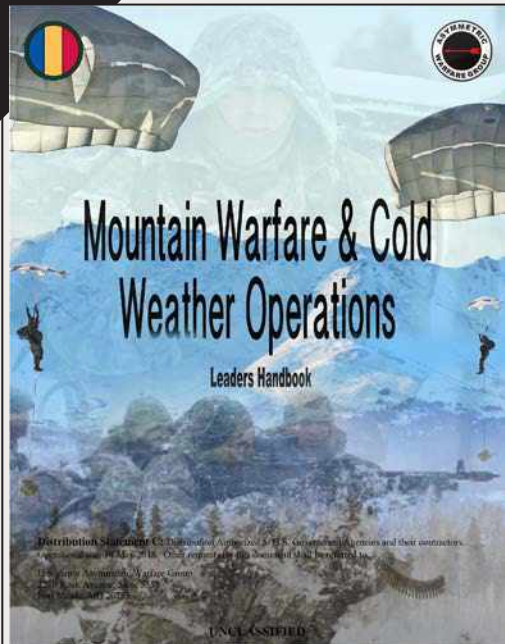
Military operations have evolved from a triangular air, land, sea model to a model including air, land, sea, space, and cyberspace. Formally recognizing that the space and cyberspace domains are potential contested domains allows U.S. commanders to account for peers who retain the ability to preempt, negate, or defeat U.S. combat strengths within them.²⁰ Peer-force-like capabilities can negate each other's strengths and create stalemates within these domains. Doctrine recognizes this as a possibility and offers that, to achieve victory, division commanders must focus on overwhelming a peer enemy at a specific location, for small windows of time, in multiple domains, to maximize capability exploitation windows and create temporary overmatch.

To operationalize CDM, division commanders must identify optimal times to converge capabilities to create overmatch. There are optimal points for CDM enablers to be orchestrated together through the division staff to create convergence through which a BCT commander can create overmatch.

Please see future issues of the Journal of Asymmetric Warfare for the continuation of this study for more information on Models 2 and 3 of defining cross-domain maneuver.

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This May 2018 handbook is for Leaders training for or operating in a mountainous environment. This is the first edition of this handbook based on first-hand observations, and review of current and past Army Doctrine and TTPs by operational advisors from or attached to the Asymmetric Warfare Group.

Recently, many additional Army references dealing with this subject have been created or updated following more than ten years of combat experience and identification of best practices in the mountains of Afghanistan. These documents address individual or squad-level tasks and concerns. In this handbook, AWG will address the principle gap of informing Leaders and Staffs of the considerations necessary to successfully plan, operate,

fight, and win in mountainous terrain at the Company level and above. Many charts, references, and examples from other Army publications are incorporated into this handbook where appropriate.

The information contained in this handbook is a result of observations made by AWG unit members conducting operations in mountainous terrain worldwide, and review of Army Doctrine. The Army Mountain Warfare School, Northern Warfare Training Center, Ranger Training Brigade, sister-service and allied institutions provided additional insights for this publication.

The observations in this handbook are Geographic Combatant Command (GCC) agnostic, and adaptable to Mountain Operations throughout the world. Mountains present Leaders and units with unique challenges that compound existing difficult combat realities. The adverse environmental conditions in the mountains can make basic tasks seem almost impossible.

This handbook is intended to enhance published Army doctrine at the Collective level. Leaders will find this handbook valuable in prioritizing tasks for training and pre-deployment planning for any military operations in the mountains. No previous mountain training or expertise is required to understand and practice most tactics, techniques, and procedures contained in this publication. Users who have experience operating in a mountainous environment can use this handbook to assist them in learning what veterans of mountain operations already know; vertical environments are among the most challenging in which to conduct and sustain combat operations.

This handbook is available in electronic form only, but due to its continuing relevance, there are plans to print it in the future.

OPERATION

Atlantic Resolve:

An Introduction for Brigade Combat Teams



After the Cold War ended in 1991, the North Atlantic Treaty Organization's (NATO's) attention assumed a new direction. Though collective defense remains the alliance's primary mandate, its operational focus shifted to "crisis management and cooperative security beyond member states' territory, first in the Western Balkans, then in Afghanistan, and, to a lesser extent, in Iraq."¹ Moreover, the size—and with it the character—of the alliance changed. In addition to its three Cold War-era expansions, NATO grew further through four enlargements (1999, 2004, 2007, and 2017.) It now includes many of its old adversaries in the now-defunct Soviet Union and Warsaw Pact, as well as three nations of the former Yugoslavia.² NATO simply no longer resembles its former self.

With a new emphasis and greatly altered composition, NATO no longer needed the immense standing armies and materiel stockpiles that were standard during the tense, half-century standoff with the former Red Army and its allies. There was large-scale demobilization and wholesale reductions in defense spending. This change "fundamentally influenced alliance and member state force structure, capabilities and acquisition programs, manpower, training, infrastructure, and defense policy."³ Among the many modifications, the alliance developed the "Smart Defense" program. This effort encouraged members "to work together to develop, acquire, operate and maintain military capabilities to undertake the Alliance's essential core tasks."⁴ Smaller members focused on establishing niche capabilities that were interoperable with the militaries of larger NATO countries.⁵ There was no need for each military to function as an independent, combined arms force. Therefore, for example, the "Baltic states were discouraged from developing fully capable and independent air forces."⁶ These changes suited NATO's newly adopted emphasis on international missions, especially those outside of Europe where the United States provided the overall operational framework.⁷

In 2014, Russia invaded and annexed Crimea. Shortly thereafter, it fomented separatist movements in nearby Donetsk and Luhansk, in Ukraine's eastern Donbas region. The conflict—as well as Russia's support for the rebels—continues and has claimed approximately 10,000 lives, according to the Council on Foreign Relations.⁸ The West, in particular NATO and the European Union, responded with indignation and sanctions.⁹ Many leaders



OAR Map of Training



Four Multinational Battlegroups

were shocked at what appeared to be a blatant land grab and an upending of the post-Cold War equilibrium in Europe.¹⁰

This heightened aggression came when NATO's readiness for a collective defense of Europe was at an all-time low. Although NATO had tremendous land forces in aggregate, such muscle was not concentrated nor was it located anywhere near the alliance's eastern periphery. Much of this capability resided, then and now, in the U.S. military, which had a notably light European footprint. In fact, the United States removed its last tank from Europe only a year earlier.¹¹ Active components of European militaries were much smaller than their U.S. counterparts. This reduction was part of Smart Defense, as well as a more general desire to "cash in" on the so-called peace dividend at the end of the Cold War. The reserve elements of European allies further distorted NATO's aggregate numbers because their use would require a lengthy mobilization process.¹² Even the alliance's more capable European members, such as the United Kingdom and France, would need time to mobilize and deploy in large numbers with heavy equipment. Moreover, it is possible that France, and perhaps others, lacks the airlift necessary for rapid deployment.¹³ Therefore, movement might have to occur over land. This prospect could be disastrous if these forces lack the pre-positioned

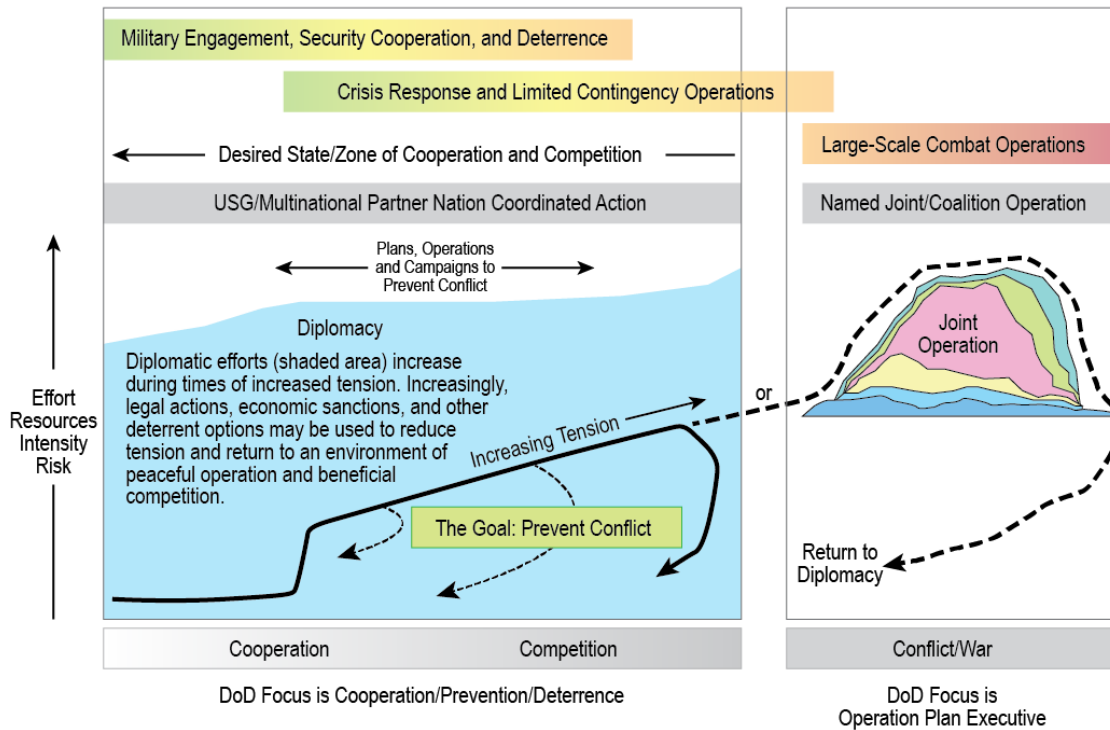
supplies and well-rehearsed battle drills necessary to deploy directly from their home garrisons.

The United States responded in June 2014 with the European Reassurance Initiative (ERI), “a means to assure our NATO Allies and partners of the U.S.’s commitment to the security and territorial integrity of NATO.”¹⁴ The ERI provided billions of dollars of funding, which enabled the U.S. European Command to execute Operation Atlantic Resolve (OAR), “a persistent rotational presence of American air, land, and sea forces in the region, especially in Central and Eastern Europe as a show of support to our Allies and in response to Russia’s actions in the Ukraine.”¹⁵ In 2017, the ERI was renamed the European Defense Initiative,¹⁶ though it retained the ERI’s original following five focus areas:¹⁷

1. Increased presence of rotational U.S. forces to deter and respond throughout Europe
2. Exercises and training which improve readiness and interoperability of allies and partners
3. Enhanced prepositioning which enables deployment of additional forces if necessary
4. Improved infrastructure in support of defense and deterrence requirements
5. Building partnership capacity that strengthens allies and partners ability to defend themselves.

Among the U.S. Army’s tasks under OAR was to sustain a “rotational Armored Brigade Combat Team (BCT) and Combat Aviation Brigade Presence; Increased Intelligence, Surveillance and Reconnaissance (ISR) capability; Integrated Air and Missile Defense enhancements; Continue enhanced interoperability exercises and deterrence exercises; Enhanced prepositioning of additional [equipment],” referred to as Army Prepositioned Stock (APS). With nine-month rotations, the BCT remains under U.S. command and focuses “on strengthening capabilities and sustaining readiness through bilateral and multinational training and exercises.”¹⁸ It operates in the following seven nations: Estonia, Latvia, Lithuania, Poland, Hungary, Romania, and Bulgaria.¹⁹

In late 2018, the Asymmetric Warfare Group (AWG) will release a brief handbook to assist the soldiers supporting OAR. This product is not a doctrinal publication, scholarly article, or comprehensive reference. Each issue presented therein is discussed in much greater detail in other works. As such, it is a practical instrument solely intended to orient the members of the BCT to the current operational environment (OE). The United States and other member nations of the NATO are not at war with Russia. Nor are NATO and Russia experiencing a period of genuine or wide-ranging cooperation. Instead, the two are engaged in competition that has not crossed the threshold into conflict. In other words, the present situation occupies a space in the middle of the conflict continuum between cooperation and conflict. This document will examine the capabilities, military and nonmilitary, Russia can employ to compete for influence in this area of operations (AO).



The Conflict Continuum

The first chapter briefly reviews the events that brought NATO to this point and concludes with a discussion of the current U.S. and alliance land-power footprint in this AO. The second chapter also provides a historical review, but from Russia's perspective. Using that country's foundational policy documents, this section makes the case that the heightened tension between NATO and Russia should come as no surprise. The third chapter examines the proverbial toolkit Russia employs writ large to achieve its foreign policy aims, particularly along its periphery. The final chapter takes a much closer look at those Russian "tools" the OAR BCT is most likely to encounter at this point in the conflict continuum. Vignettes featuring fictional composite characters are used to introduce each chapter.

Lastly, this handbook includes an epilogue that discusses hypothetical scenarios in which NATO and Russia move beyond competition operations, crossing the threshold into conflict. This text does not contend that Russia desires conflict. Nor does it imply that such an outcome is likely. Rather, it invites the audience to explore several ways in which the OE could change and challenges readers to ponder the operational implications.

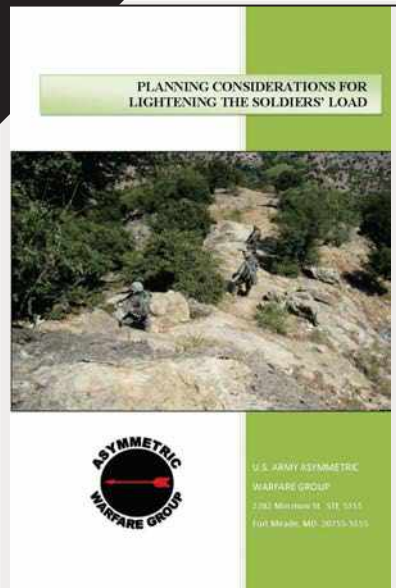
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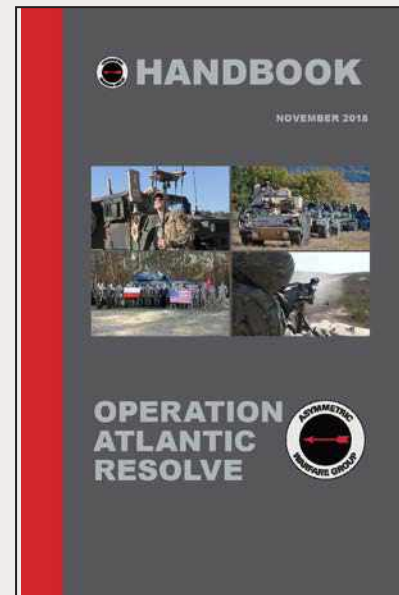
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U.S. and Bulgarian Tank Exercise [Image 7 of 7], by SGT Marcel Pugh, found in DVIDS, <https://www.dvidshub.net/image/4746505/us-and-bulgarian-tank-exercise>.



The purpose of this February 2011 reference guide is to consolidate well-known and validated practices through established fundamentals and principles that help manage and configure the Soldiers' load in a combat environment according to Mission, Enemy, Terrain and weather, Troops and support available, Time available and Civil considerations (METT-TC). The data contained in this guide provides a tool for Soldiers and leaders to derive ideal load set-ups for individual load carrying platforms through application of fundamentals and principles with regard to load management configurations. It will supplement, not replace, existing SOPs, doctrine, fundamentals and principles, with a reference of consolidated applicable information to help guide Soldiers and leaders through load configuration challenges.

As the United States refocuses on near-peer adversaries after over a decade and a half of low-intensity conflict, it now occupies an inferior position in terms of electronic warfare and cyber capabilities. Divergent threat perceptions and rapid technological advances have reversed the balance of power between the United States and Russia in the electromagnetic spectrum. Although open-source data are limited on these topics, sufficient information exists to demonstrate Russia's notable EW overmatch. If the U.S. forces had to engage their Russian counterparts, especially along that nation's periphery, many U.S. communications and weapons systems would likely prove ineffective, thereby upending the technological superiority on which U.S. training and operations are based. Tactical-level leaders and their subordinates should internalize the fact that control over the electromagnetic spectrum could likely be the deciding factor in modern maneuver warfare. It is no longer just an enabler but a necessary and devastating type of fires. This text does not contend that Russia desires conflict. Nor does it imply that such an outcome is likely. Rather, it invites the audience to explore several ways in which the OE could change and challenges readers to ponder the operational implications.



Cyber and Electronic Warfare CAMOUFLAGE



Understanding the Environment, Protecting Your
Soldiers, Electronic Equipment, and Your Unit

BLUE: The threat is observing you in the electromagnetic spectrum (EMS), virtual, and physical environments. These are the environments in which you are fighting. Plan and prepare for it.

The laws of nature create camouflage, and natural instinct demands obscurity when the presence of a threat is detected. Within those laws, the relationship between predator and prey naturally occur. Camouflage deceives the eye in the natural world and allows for blending into surroundings, enables speed of movement, provides shadowing to obscure, dulling to reduce shine, and breaks up outlines to take away shape. Effective camouflage creates the conditions where an illusion provides screening for movement, creates cover for actions, and enables surprise. For predators in nature, or victors in battle, camouflage enables **speed, surprise, violence of action, and victory**.

Indicators and observations in nature begin with the **seven Ss: shape, shine, shadow, silhouette, sound, speed, and surroundings**. Although these **seven Ss** exist in the natural world, they have parallels in the virtual world and in the EMS. The demand for early detection in the natural world has created the ability to detect encroaching elements visually, using thermal and infrared (IR) from the ground, sky, and space. The demand to detect in the virtual world similarly created the ability to detect in the EMS and in the cyber domain. Detection is focused on identifiable, attributable data and metadata in the cyber domain; likewise, we observe data and the EMS from the ground, sky, and space.

To gain a competitive advantage and determine predator-prey relationships in battle, Soldiers take action and camouflage themselves and their equipment. These actions are key in creating the three critical fundamentals of success in battle: speed, surprise, and violence of action. For Soldiers, the predator-prey relationship is human against





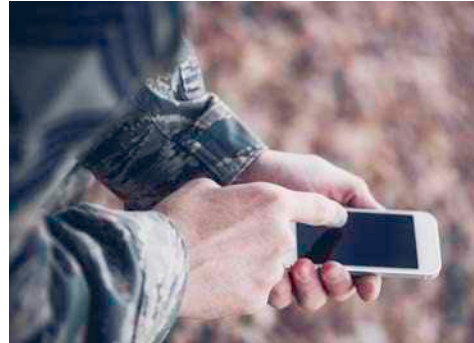
human. A unit's initiative and discipline in applying effective camouflage assist in screening their movements, covering and concealing their actions, and determining whether they are predator or prey in all environments—natural, electromagnetic, and virtual.

Because of rapid technological advances and changes in individual equipment that Soldiers carry, a unit's footprint extends past the five senses. Commanders must consider their footprint in the EMS as well. A visually concealed unit can still be detected if it fails to manage or eliminate the EMS signature it produces. Because of our peer threat's electronic warfare (EW) capabilities, a maneuver element that is well concealed and silent can be easily targeted with electronic direction-finding equipment.

This is why every electronic device on the battlefield is a potential vulnerability and should be camouflaged, concealed, protected, and encrypted as appropriate. It is an American warfighting tradition to exploit technological advantages. On the modern battlefield, every piece of equipment that emits a signature or processes software can become a staging area for enemy attack or targeted for exploitation.

Commanders are responsible for all domains, including cyber and the EMS. Do not assume that it is "echelons above me;" identify the capabilities you need and coordinate for support. In a high cyber threat environment, the commander must assume that even the most secure networks may be vulnerable to penetration. Position, location, and other automated features can be useful but should not be trusted without verification. The S-2 must collaborate with the S-6 and the rest of the unit staff in estimating and anticipating enemy cyber threats, along with visualizing the entire cyber domain.

When the term “deception” is used in this paper, it includes camouflage and obscuration. The applications of camouflage, obscuration, and deception have not been focus areas for tactical formations during the Global War on Terrorism and, in some cases, have been ignored due to the impact camouflage has in a counterinsurgency environment. The Army is constantly developing new camouflage and deception doctrine, and there is renewed interest across the Armed Forces in camouflage and deception. This paper will highlight examples on the use of camouflage, concealment, and deception focused on cyber and EW to drive the need for camouflage as an imperative for protecting Soldiers and combat units.



It has been known since the conflict began in Eastern Ukraine that Russian rogue cell stations and sites were gaining time, location, and concentration of troop movements based off the smartphones carried by individuals in the areas of conflict. It is safe to assume that within our armed forces, every Soldier, Sailor, Airmen, and Marine possesses a smartphone. Soldiers will even carry them with them when they are deployed forward and without the cyber protections necessary on today's modern battlefield. An iPhone in an Eastern European environment, where the iPhone is limited and typically carried by Westerners, is a key indicator of the carrier and country of origin. In this case, the **shape** and **shine** of the iPhone are indicators that attract attention. With regard to **shadow** and **silhouette**, the applications that smartphones are running will provide metadata to local hotspots, “smartly” sharing GPS pattern of life, the most frequently listened to music, buying habits, etc. This can lead to easily identifying you as someone from the United States or, simply, not from the local area. The **silhouette** of your smartphone when tethered to a Wi-Fi hotspot will clearly display your phone's identification name, or the **speed** with which it transfers data. Even a sound that a phone emits, or ringtones, can identify the location and origin of a user. Smartphones present many security challenges due to the amount of data and metadata stored and shared on them. If the smartphone carried by a Soldier is targeted, a U.S. International Mobile Equipment Identity (IMEI) or International Mobile Subscriber Identity (IMSI) are also key indicators of the user's origins. Area codes gained from IMSIs can be a dead giveaway, easily identifying the phone's, and user's origin.

Our enemies and adversaries will target personally identifiable information (PII) from deployed Soldiers. Soldiers and their families must be prepared for such incidents and take measures to prevent them. Likewise, a Soldier's personal information should be considered “cyber key terrain.” Specific to **surroundings**, if you are carrying a SIPR-capable phone, the presence of this phone is obtuse to most of the surroundings across the operational environment. This is an indicator of a high-value individual, and it should be concealed whenever possible from any potential threat observer.

To reduce each individual's footprint, consider the following measures. For personal operational security (OPSEC) and creating your "cyber camouflage," always assume that your information is vulnerable to outsider attacks. Keep your chain of command informed of any changes to your phone or any suspicious activities with your phone. Immediately inform your chain of command if your phone powers on when left in off mode, takes a picture, or has a sudden signal increase compared to other devices around you. For access into the phone, do not use the fingerprint option as a means to secure the phone. Fingerprint locks are easily bypassed with latent prints. Utilization of passwords is the best measure for securing the phone and denying access. Passwords should be alphanumeric and include special characters; creating easy to remember phrases work best—for example: (S33th3B!GP!ctur3). When using a Wi-Fi hotspot, ensure that the device is WPA2 encrypted, and limit the distribution of the access point password. Also utilize airplane mode while connected to the Wi-Fi hotspot. Turn off the geolocation, Bluetooth, and Wi-Fi features unless needed. Do not respond to unknown text messages, and never power on or utilize your phone during operations.

If you are deployed forward and must use your phone for banking or personal contacts, use a virtual private network (VPN). Only use reputable banking services, disable password recall features, and do not store passwords on any device. Ensure that you completely log off any system you use, and utilize a trusted computer cleaner and antivirus software regularly. Keep your personal phone on you at all times when on pass or out on the local economy. If you have to utilize text messaging, consider using encrypted text applications in place of standard text messaging. Only use authorized service providers, cleared by the unit S6 before committing to a service contract or connecting to any device. The principles of patrolling still apply to patrolling with a smartphone.

Rogers Standing Order #5: "Don't never take a chance you don't have to."

Smartphones introduce a plethora of vulnerabilities to the mission, unit, and Soldiers. A modern smartphone is a multi-functional piece of equipment with the ability to track you and can be targeted to exploit you. Brigade combat team (BCT) commanders must control smartphone use and apply cyber camouflage (encryption and protection) where applicable. Cell phones are emitters. Even if used in a disciplined manner, they present targets for enemy signals and electronic intelligence. Utilizing a smartphone for simple tasks, such as using it as a hot spot, can highlight the user's name on the phone—for example, "PVT Snuffy's Phone"—to nearby agents of a foreign government. Soldiers and commanders need to conceal or utilize cryptography to obscure the name of the user on their individual phones by making it nonattributable.

Conversely, the enemy may co-opt known phones or provide cell phone use to mobilize resistance among civilian populations. Social media represents a key intelligence source in the competition phase of conflict. Forward BCTs need to use these sources to help develop situation awareness and understand the threat. In most places in the world, local populations use Facebook, WhatsApp, Twitter, VK, or similar social media. The enemy will certainly use these resources to craft a narrative in their favor. Never post operational photos or tag other Service members in your posts. Restrict

your access on social media to only friends and family. Soldiers need to be very aware of what they are highlighting on social media (time and location), otherwise known as the “check in” on Facebook. For targeting purposes, an adversary only needs your time and location to influence or affect you.

Concealing and denying open access to social media data is an imperative for commanders. Cell phones are everywhere, whether you bring them with you or not. Your OPSEC and cyber security efforts must account for these devices throughout the operation and when in the operational environment. Recent OPSEC concerns emanated from the Fit-Bit heat maps and route depictions generated from run routes in and around forward operating bases. In this case, the routes highlight not just the evidence of the route but also known approach routes, which highlight inherent vulnerabilities and provide free pattern of life details.

TOC Operations: Utilizing Cyber and EMS Camouflage

Deception attempts to create a fake picture of reality in the mind of the enemy. This is accomplished using false information, demonstration attacks, diversions, etc. Camouflage and concealment are two means used to deceive the enemy. States tend to use battlefield deception for different reasons. Strong nations use deception to achieve victory more easily and with fewer losses, while weaker nations use deception to make up for their lack of strength and means. Effective deception causes adversaries to waste their resources, to spread their forces thinly, to vacate or reduce the strength of their forces at the decisive point of attack, and to tie considerable forces up at the wrong place at the worst time. It will divert attention from critical areas of interest, numb an adversary’s alertness, reduce readiness, increase confusion, and reduce certainty. Reducing the costs for the deceiver can increase the costs for the deceived.

Rogers Standing Order #12: “No matter whether we travel in big parties or little ones, each party has to keep a scout twenty yards ahead, twenty yards on each flank and twenty yards in the rear, so the main body can’t be surprised and wiped out.”

The aforementioned standing order is applicable in the EMS. Communication time windows, encrypted frequency hopping, and short-burst transmissions can aid in concealing the locations and actions of the main body’s radio frequency (RF) transmission. Synchronized communication time windows can aid in concealing the unit locations and deceive the observers as to the size of the units transmitting, which can aid in a unit appearing very large or small.

Our BCT formations are accustomed to the command and control (C2) requirements and comforts provided by a tactical operations center (TOC) or command post (CP). On the modern battlefield against a peer threat with a direction-finding RF capability, those C2 requirements and RF signatures will rapidly be placed in the crosshairs of unconstrained long-range fires that will reduce the area creating the RF signature. No matter how much C2 capability a TOC or CP can theoretically produce, if its size, immobility, and signature invite enemy artillery or air strikes, it will be destroyed. CPs, including the TOC, are vulnerable to detection even when small. To gain the benefits of C2 capabilities inherent in a TOC or CP, survivability must be the top

priority. Better to not have a TOC or CP, than to have one destroyed. If they can find a way to hack into or physically infiltrate them, they will. Mission command is the natural partner to cyber protection. Mission command puts a premium on expression of intent, trust, and initiative; there is a reduced need for the BCT command and communications systems to be “always on.”

Rogers Standing Order #19: “Let the enemy come till he’s almost close enough to touch. Then let him have it and jump out and finish him up with your hatchet.”

The 19th standing order has utility in the EMS. If the threat can compromise the network, create the opportunity to lure them into a honeypot, exploit the intrusion, and apply necessary attacks and countermeasures.

Communication technicians can simultaneously observe and monitor the infiltration and learn about enemy techniques while keeping the enemy from the BCT’s key cyber terrain. When employing EW, including jamming, synchronize the effort for best effect. Do not jam carelessly but integrate the effort according to task and purpose. Commanders should provide specific purpose related to each cyber/EMS attack and communicate how the attack supports the BCT main effort. EW jamming at the right place and time is far more effective and produces less collateral damage than jamming ubiquitously. The principles of surprise and offensive tactics contribute to cyber defense by forcing the enemy to overrun their assets and overtax their ability to C2 their forces. Cross-domain warfare includes more than the cyber domain complementing the land, maritime, and air domains. Ground maneuver also contributes to dominance of the cyber domain by destroying enemy telecommunications facilities, capturing CPs, and creating chaos that disrupts enemy cyber warfare. Site exploitation techniques can lead to penetration of enemy networks and gain priority intelligence requirements.

When contemplating threats within cyberspace and the EMS, anticipate, withstand, recover, and evolve. Anticipate how the enemy might attack your systems, and prepare to detect such attacks on a timely basis. Withstand those attacks by being ready to work around and through problems. BCT commanders and staffs should be ready to recover from attacks by preparing ahead of time and communicating throughout the command as problems appear. Evolve through lessons learned, and adapt to the cyber and EW response continuum faster than the enemy.





Tip of the

SPEAR

for SFAB Success

The AWG Soldier Performance and Effective, Adaptable Response (SPEAR) Task is a relatively low-fidelity, computer-based task that consists of two blocks of eighteen mission challenges, each nested within strategic context, mission guidance, and the commander's intent.

Since the summer of 2017, the U.S. Army has made a significant commitment to meeting the 2018 National Defense Strategy emphasis on security cooperation activities (i.e., foreign internal defense, stabilization operations, security force assistance and counterinsurgency operations) by creating security force assistance brigades (SFABs). Chief of Staff of the Army, Gen. Mark Milley authorized six SFABs comprised of five active components and one Army National Guard unit. Each 816-Soldier SFAB will have a brigade headquarters, three maneuver battalions, an engineer battalion with a signal company and military intelligence company, a field artillery battalion, and a brigade support battalion. The number, distribution, and structure of the SFABs indicate the essential nature of this capability and the commitment to meet the National Defense Strategy objectives through Soldier, leader, and advisor competencies. As enabled, SFABs provide an enduring security force assistance solution without imposing on brigade combat team (BCT) preparation for decisive action across all domains.¹

The SFAB is the Army's most intensive effort to date to "provide dedicated and trained personnel to relieve the Brigade Combat Teams from performing combat advisory missions."² On May 18, 2018, the U.S. Army announced the establishment



This training was for Soldiers of the 2nd Security Force Assistance Brigade at the Selby Combined Arms Collective Training Facility Range at Fort Benning, Georgia, February 27, 2018.³

Military Advisor Training Academy Conducting Close Air Support Training

of the Security Forces Assistance Command (SFAC) at Ft. Bragg. The SFAC is led by a Brigadier General and oversees the Army's six security force assistance brigades and the Military Assistance Training Academy (MATA) at Ft. Benning, Georgia. At present, two SFABs have completed MATA training and currently serve in the U.S. Central Command (CENTCOM) area of responsibility (AOR).

The U.S. Army's Asymmetric Warfare Group (AWG) has been actively involved in the development of the MATA program of instruction (POI), leveraging its advisory expertise from tactical embeds with security force assistance advisory teams (SFAATs) in Afghanistan and Iraq, as well as regionally aligned forces (RAF) globally. Trend analysis on SFAAT and RAF gaps led AWG to develop an integrated solution team (IST) on SFA. Since March 2017, AWG has worked closely with the TRADOC Capabilities Manager-SFAB and MATA leadership to evaluate and evolve the MATA POI (see the following figure). "MATA 1.0" began as a ten-day academic course that focused completely on strategic-level Operation Resolute Support problems. However, "MATA 1.0" did not fully realize the training expectation that Soldiers could fully meet and excel in the role and duties of an operational advisor. AWG supported the development of "MATA 2.0," a twenty-eight day, tactically focused, scenario-driven course with a sharpened focus on training the advisor, by perfecting combat-related skills and further developing a Soldier's advisor attributes. AWG also developed "MATA 3.0," a nine-week POI that meets all MATA training goals and builds in flexibility to customize the training and scenario conditions to assure SFABs are aligned to a specific operating environment. The evolution of the MATA POI reflects an understanding that leadership development and operational advising expertise is based on active learning, authenticity and specificity in learning challenges, reflection on the learning experience, and supportive instructional leadership.



SFAB Mission and Roles⁴

In the midst of the emerging, refined POI, critical questions remain regarding training, re-training, and readiness. What does “good” look like? How does MATA achieve “good?” How is “good” measured? Do different operating environments necessitate different advisor training requirements? How is proficiency established and currency maintained? What advisory skills are transferable across different operating environments, and what advisory skills are specific to a particular operating environment?

Army doctrine established that the strategic environment is a critical driver of capability and capacity building of partnered security forces through security cooperation activities. Within the context of the MATA POI, there is a need to identify critical training gaps in near-real time to mitigate operational vulnerabilities. In addition, valid and reliable metrics or key performance indicators confirming the training effect (i.e., demonstration of adaptable, advisor leadership) are critical to fulfilling the National Defense Strategy emphasis on security cooperation activities and assuring quality, consistency, currency, and comparability across the different SFABs.

How is “good measured? Do different operating environments necessitate different advisor training requirements?

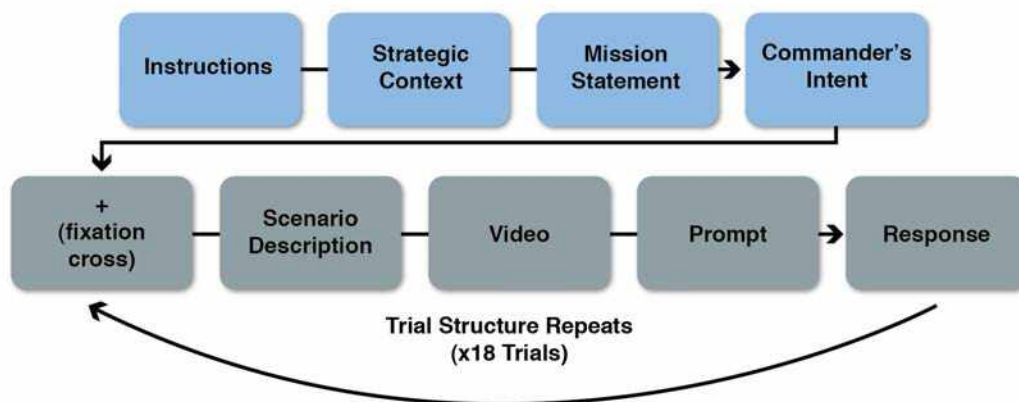
Given the unique operating environment of each SFAB, the MATA POI must achieve training outcomes that meet the specific demands of the operating environment, integrate lessons learned and best practices from the forward-deployed advisors, and employ tools that effectively engage and efficiently support targeted leadership and advisor skills. Training and re-training approaches must realize proficiency, currency and adaptability in leadership and advisor skills applicable to and across each SFAB. For example, 1st SFAB and 2nd SFAB are presently deployed in the CENTCOM AOR. Lessons learned are currently informing military decision-making process (MDMP) efficiencies for the 2nd SFAB. The 3rd SFAB is slated for U.S. Africa Command (AFRICOM), 4th SFAB to U.S. European Command (EUCOM), 5th SFAB to U.S. Pacific Command (PACOM), and the 6th SFAB (named 54th SFAB NG) to U.S. Southern Command (SOUTHCOM). Each cycle of SFAB offers an opportunity to refine operational impact but will only do so by implementing a lessons learned model or a programmatic approach that integrates lessons learned while inserting new, proactive training requirements.

More specifically, tools and techniques are needed that foster skilled advisors, assure training to the specific demands of the operating environment, achieve comparability across the different MATAs, and are scalable. Further, there is a need to enable a timely lessons learned feedback loop, whereby advising success stories and scenarios as well as emergent needs and threats can be infused into advisor training within and across the MATA programs. Strategies that couple tools and techniques with insights

from forward-deployed operational advisors (i.e., feedback loop) could be employed for multiple purposes such as pre-training orientation, baseline assessments, instructional exercises, and formative and summative evaluations. In this manner, the MATA establishes, retains and propagates currency as the Army's premier advisor training academy.

AWG SPEAR Task

One investment the AWG made in fiscal year (FY)2016 and FY2017 to Soldier and unit adaptability to SFA and combat missions may now pay dividends. The AWG Soldier Performance and Effective, Adaptable Response (SPEAR) Task is a relatively low-fidelity, computer-based task that consists of two blocks of eighteen mission challenges, each nested within strategic context, mission guidance, and the commander's intent (see the following figure). Sufficient but incomplete mission information and visual-

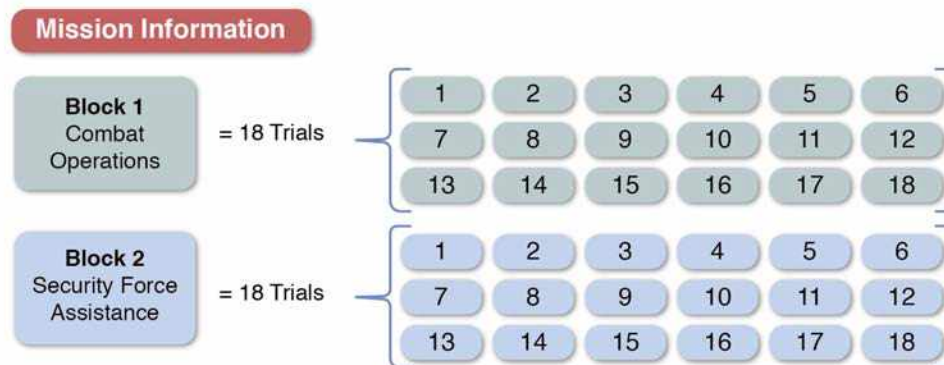


Strategic context, mission statement and commander's intent are provided once per block (x2 blocks) establishing the mission environment. Trials are embedded as separate missions and consist of a scenario description, short video clip ensemble, a response prompt, and the Soldier's response.

AWG SPEAR Task Structure

izations are provided. Limiting the information provided in the challenge requires Soldiers to analyze the planned mission, assimilate and synthesize new mission information, and determine their action plan in an environment of uncertainty. Soldiers are then prompted to report their action plan and shape their responses as if they were addressing their higher headquarters, adjacent units, or subordinates. Changing the reporting requirements compels the Soldier to communicate effectively—a key skill in adaptive leadership and operational advising.

A short period of time (ninety seconds) is permitted for the Soldier to type his/her response. This time constraint requires decisiveness and reveals skilled problem-solving, decision-making, and leader/advisor attributes. Trials are presented one



This figure shows the Combat Operations and Security Force Assistance blocks and the eighteen trials of mission challenges embedded in each.

Illustration of the Current AWG SPEAR Task

Minimum adaptability						High adaptability		
Trials Demonstrated	Identifies or recognizes altered situation (0 if no response or response is not scoreable)	Takes action based on altered situation that is appropriate behavior for military: legal, ethical, moral	Creates a new approach--changes behavior--not doing the same thing. New approach is appropriate behavior for military: legal, ethical, moral	Explains new approach application--how the new approach is implemented--includes breakdown of tasks	New approach meets commander's intent. Focus is on the purpose.	New approach meets the trial-tactical situation and purpose	Explains how new approach meets commander's intent, the purpose and shows the relationship	Explains how new approach meets the trial-tactical situation, the purpose and shows the relationship
								Total Score

SPEAR Task Scoring Rubric

after the other, requiring sustained focused attention, flexibly moving from one mission challenge to the next, and maintaining a mindset of analysis, synthesis, action planning, and communication. The highest quality responses demonstrate the recognition of the critical features of the mission challenge, report an action plan appropriate to the mission context and within military moral, legal, and ethical expectations, and describe the relevance to the strategic context, mission guidance, and commander's intent (i.e., communicate deep understanding of the mission purpose).

The AWG SPEAR task is scored using a rubric (see above) designed to specifically determine the operational relevance, feasibility, and quality of the action plan described by the Soldier. Such an approach allows for multiple, novel, appropriate solutions to be determined by the Soldier based on that Soldier's knowledge, understanding, and experience, while avoiding prescriptive responses that are contradictory to developing adaptive leader/advisor skills.

As described, the AWG SPEAR task effectively engages and measures leader adaptability—its original intent.³ When the SPEAR task was developed (FY2016/2017),

there was no MATA and, therefore, no obvious “home” for this tool. Because this tool captures operational challenges and requires “think on your feet” leader/advisor problem solving and decision making, we propose that the SPEAR task be leveraged to the benefit of the SFAB MATA as a tool to train against scenarios for leadership and advisor analysis, problem solving, development, and communication skills.

The following table provides a closer look at select security force assistance mission content. You will note that they are relevant to the CENTCOM operating environment as well as most other AORs, and represent genuine operational challenges.

Selected SFA SPEAR Task Scenario Challenges

SFA Topic of Interest	Scenario Challenge
Medical Training	Your unit is providing a set of training courses to a partner nation force. Your task is to conduct medical training to develop the partner nation force's ability to care for their injured and increase their capability for sustained operations.
Small Unit Tactics	Your unit is training a new group of partner nation soldiers. Your task is to teach small unit tactics to the new group to increase the numbers of partner nation forces available for security and stability operations.
Border Patrol Operations	Your unit is part of an advise and assist operation in a partner nation. Your task is to conduct joint patrols of a border region to stop poachers and increase the partner nation's border security.
Live Artillery Fire Training	Your unit is training a partner nation force on large weapons systems. Your task is to conduct a live artillery fire exercise to increase the number of nation force's indirect fire capabilities.
Small Unit Tactics for Border Operations	Your unit is providing training to a partner nation force in their country. Your task is to complete your small unit tactics training agenda with the partner nation force in one week to prepare them to participate in a large security operation on their border.
Cordon and Search Operation Training	Your battalion has been planning a large joint military training exercise with a partner nation force that you will conduct once in country. Your task is to conduct a battalion-size cordon and search operation with the partner nation battalion. This will occur in the large jungle region of the country to develop collective task competency and large-unit operational capability in the partner nation force.
Relief Operations	Your unit is part of a large international security support and relief effort. Your task is to provide supplies to various sites throughout the countryside to provide stability to the people of the country and assist in maintaining security force presence at key locations.
Live Fire Range Training	Your unit is providing weapons training to a partner nation force. Your task is to run the live fire ranges for fire and maneuver to improve weapons proficiency of the partner nation force and prepare them for regional security operations.
Counter Narcotics Patrol Trainin	Your unit is part of an international coalition force supporting regional security. Your task is to train and conduct counter-narcotics patrols with the partner nation forces along their porous border to prevent narcotics smuggling into the partner nation.

In addition to these identified scenarios, training modules also exist for the following SFA mission sets:

- Live-fire weapons
- Basic rifle marksmanship
- Political, military, economic, social, infrastructure, information, physical environment, and time operating environment analysis
- Air assets
- Unmanned aerial vehicles
- Demolition

- Live-fire hand grenades
- Partner force weapons proficiency
- Operating live-fire ranges
- MDMP development

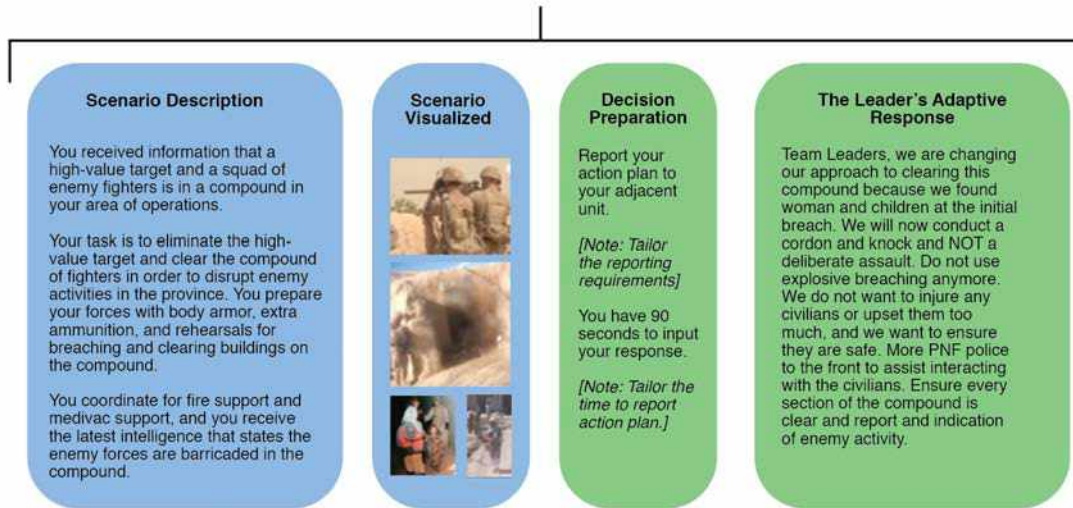
The structure of the SPEAR task lends itself to content editing to meet the needs of tailoring training challenges and providing scenarios customized to the operational environment, force structure, and partner nation forces with which one is advising, as well as meeting scalability requirements. Further, we established and demonstrated a scoring approach that is valid and reliable. Team and individual training could be accomplished with the SPEAR task, and it could be deployed on a number of different platforms to include computers or mobile devices and used in a number of different training environments. The scoring approach could be further developed to achieve greater automaticity in the process without sacrificing the necessary, unique, adaptive responses provided by the Soldiers.

We illustrate a specific trial as currently constructed for leader adaptability that also includes a sample of a Soldier's reported action plan (see the following figure). How might such a structure and content be customized to meet the needs of training operational advisors? Scenarios can be tailored for each SFAB. Unit lessons learned could be used to inform the scenario information (blue boxes). The response requirements can be edited for type and nature of the advisor's response to assure the advisor training is capturing all aspects of the SFAB tasks (i.e., organizing, training, equipping, rebuilding, and advising). Lastly, the scoring rubric can be easily edited to simplify scoring and assure reliability in evaluated responses.

Developing operational advisor skills requires both the capability to make adaptive decisions based on analysis and synthesis, and the translation of the decisions/action plans to guidance and instruction. Significant practice opportunities with a broad variety of challenges is needed to develop this complex skill set. The AWG SPEAR task offers a low to no-cost solution to a persistent challenge to Army training and readiness. The figure for an example of a full trial of the SPEAR task. The scenario description and visualization, as well as decision preparation elements, are fully editable to customize the task. The ease with which this task can be tailored offers an existing tool to translate lessons learned to direct SFA training opportunities. Further, the plug-n-play features of the SPEAR task structure and the requirements to sustain focused attention, be decisive, and describe task, purpose, and action, trains the "think on your feet" capability—an essential feature of operational advising.

The purpose of the SFAB MATA is to identify and develop advisor attributes. We assert that advisor and leader efficacy is predicated on the ability to be adaptive to the constraints and demands of the context and operational demands. We understand that SFAB training is expected to equip a world-wide capability and, therefore, must be adaptive to the specific challenges of regional and temporal conflict. The AWG SPEAR task is a tool that can be used for training and testing to support this capability.

AWG SPEAR Task: Leader Adaptability and Operational Advising



Scenarios can be tailored for each SFAB and for the specific purpose in support of the training process (e.g., orientation, pre-test, baseline, instructional engagement, formative and summative evaluation), for advancing leader decision making and operational advising skills. Modifications would be made to the scenario content to reflect the specific operational environment. Associated scenario visualizations would also be customized. The decision prompt would be specified to capture dimensions of the SFAB tasks and the rubric would be modified to align with the SFAB task components.

AWG SPEAR Task Scenario Example

The following table provides descriptions of the five key SFAB tasks. SFAB task elements offer immediate opportunities to edit the SPEAR task for specific customization within and across SFABs.

Five Key SFAB Tasks

SFA Task	Definition
Organize	Create, improve, and integrate doctrinal principles, organizational structures, capability constructs, and personnel management.
Train	Create, improve, and integrate training, leader development, and education at the individual, leader, collective, and staff levels.
Equip	Integrate materiel and equipment solutions into the FSF; includes procurement, fielding, accountability, and maintenance through life-cycle management.
Rebuild (and/or Build)	Create, improve, and integrate facilities and supporting infrastructure
Advise (Core SFAB Task)	Provide subject matter expertise, guidance, advice, and counsel to FSF while carrying out the missions assigned to the unit or organization.

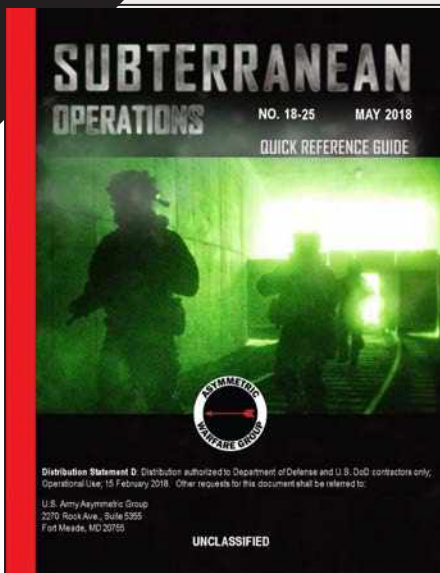
In summary, the number and function of the SFABs meets critical operational challenges. Simultaneously, creating the SFABs, conducting the trainings, measuring the efficacy, and maintaining currency is a unique, real-time challenge that is best met with simple yet effective tools enabling scenario engagement. The SPEAR task is one such tool that can be edited to meet specific training objectives and operational requirements as well as establish, reinforce, and challenge advisor attributes and skills.

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Image credit for article introduction:

1st Security Force Assistance Brigade activation ceremony, U.S. Army photo taken by Patrick A. Albright, https://www.army.mil/article/200403/1st_security_force_assistance_brigade_holds_activation_ceremony..



Subterranean operations are military actions that occur under the surface of the earth. Subsurface spaces include basements, tunnels, sewage and water systems, bunkers, underground facilities (UGFs), and naturally occurring caves. Subterranean operations can be both offensive and defensive.

The subterranean operational environment (OE) presents Soldiers with unique challenges that compound the inherent difficulties of combat. To achieve combat readiness and effectiveness in the face of the distinctive characteristics of the subterranean environment, U.S. forces must expand their knowledge of subterranean operations and implement critical aspects into their planning and execution. The enemy continues to adapt by constructing and utilizing subterranean means of

operation to counter adversary capabilities, conceal and protect assets, and create tactical advantages. The likelihood that our Soldiers will be required to fight underground increases as the practice of utilizing a subterranean system to protect key assets becomes more common. The battlefields of tomorrow, regardless of region or OE, may possess subterranean aspects that will challenge the manner in which U.S. forces conduct military operations.

Tunnels and UGFs provide cover, concealment, and protection from direct and indirect fire, ISR, and air drop munitions. They can conceal and protect national and strategic assets, but large tactical subterranean networks take on strategic significance because of the time and risk involved in clearing them. Commercial technology that allows cities to build deeper and longer subsurface structures to accommodate daily life, further complicates operations in an urban environment.

To operate effectively in both subterranean and urban OEs, leaders need to understand the similarities and differences that characterize each environment. Subterranean operations will present challenges distinct from those found in urban operations. Subterranean challenges include confined and unstable spaces in rudimentary tunnels, kilometers of modern urban transit systems, hardened facilities with integrated defenses tailored to the underground environment, and the potential for situations where Soldiers are cut off from their air supply. Urban and Subterranean OEs can also share characteristics which means proficiency operating in urban environments will contribute to proficiency operating in subterranean environments. Adaptable leaders who can distinguish and accurately factor the similarities and differences between subterranean and urban OEs into their planning considerations, will have a better chance to overcome the challenges unique to the subterranean environment.

BAKER Squadron

Establishing a

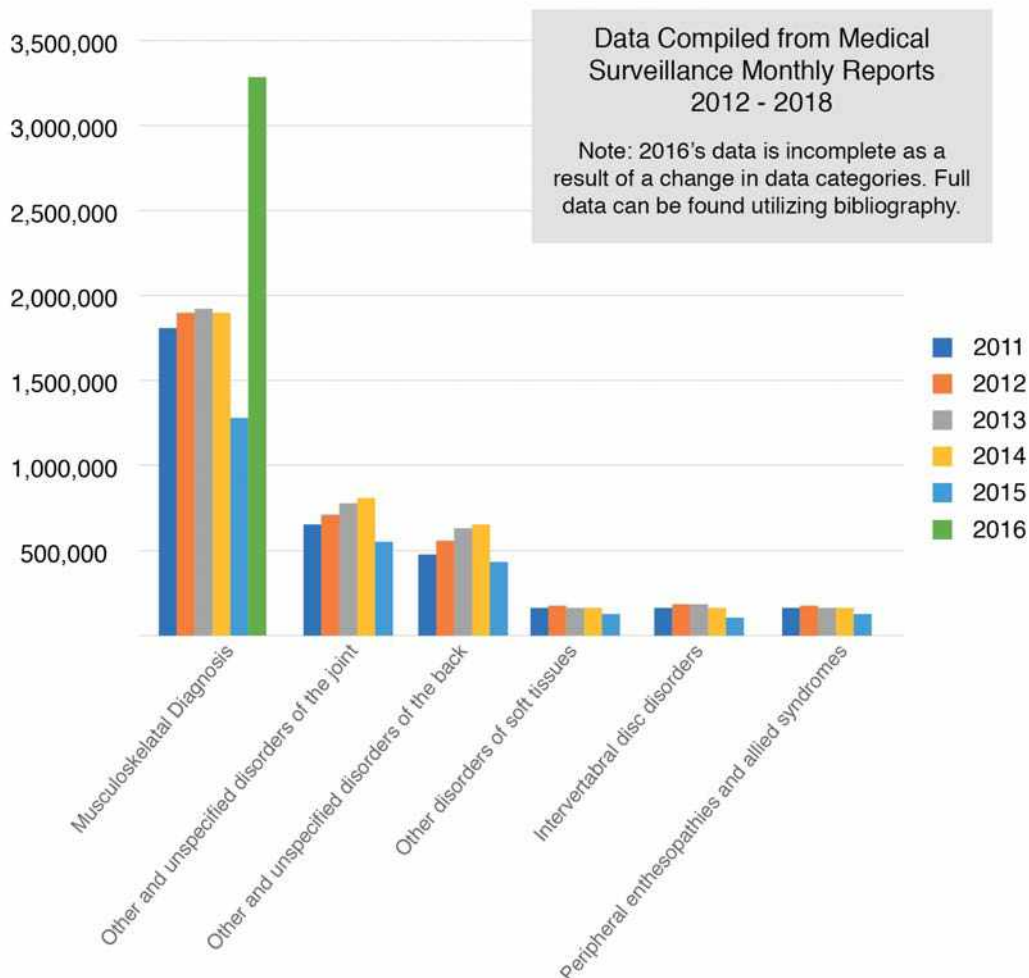
WARFIGHTER'S



Physical
FOUNDATION

In 2016, the active duty military had 4,198,896 musculoskeletal-related clinical visits, and 3,281,366 of these visits resulted in a musculoskeletal diagnosis, degrading a Soldier's, Sailor's, Marine's, or Airmen's ability to defend the nation.¹ In 2016, I became one of these numbers.

During an airborne operation, I broke my left foot and was in a cast for eight weeks. After six months of physical therapy, I was referred back to orthopedics and discovered that I had tendon damage to the anterior of my ankle and also developed an osteochondral lesion at the base of my talus. Both required surgical repair. Once my ankle was strong enough, I started agility training and tore the Achilles tendon in my right foot. After consulting with my physician, I chose to pursue a non-operative treatment option to treat the high-grade tear of my Achilles tendon. Unfortunately, less than three months later, I tore my Achilles tendon again and had it surgically repaired. My leadership was able to enroll me into the accelerated return to duty



Active Duty Military Musculoskeletal Data

program at a private physical therapy and sports medicine center. This program implements a human performance team, which consists of a nutritionist, a physical therapist, and an athletic trainer, to treat its patients and professional athletes. Many professional athletic organizations utilize a performance team to treat athletes and increase athletes' performance and everyone's overall fitness.

This experience has led me to believe that the military can adopt a performance team approach through education on nutrition basics, fundamental movement, and leaders being taught programming methodologies to reach human performance outcomes needed for that unit's particular mission set. In this model, leaders would fulfill the role as athletic trainers and be better equipped to modify existing programming to maintain a Soldier's individual fitness while the physical therapist treats the injury. In my experience, my physical therapists focused on the injury, and it was up to me to plan how I maintained fitness despite my injury. The nutrition education would provide all soldiers a baseline understanding of nutrition, allowing them to make healthy diet choices regardless of living conditions. I believe the utilization of this model will increase our readiness, prevent injury, and ultimately create more capable Soldiers able to keep pace with mission demands. During initial entry training, we spend large amounts of time and effort instilling the Army values into our Soldiers. We take an active approach in Army values indoctrination because we do not know individuals' backgrounds and the values with which they enter the Army. We want to ensure they understand and adopt the Army values in their everyday life, establishing a baseline that the Army can approve. We do not know individuals' eating or exercise habits or their exposure to functional movement forms prior to entering initial entry training. With this knowledge gap, why do we take a passive approach to teaching nutrition education, functional movement, and exercise programming? Field Manual (FM) 7-22 on Army Physical Readiness Training says, "Physical readiness training activities include such fundamental skills as climbing, crawling, jumping, landing, and sprinting, because all contribute to success in the more complex skills of obstacle negotiation, combatives, and military movement."² FM 7-22 outlines movements and actions that Soldiers need to be able to execute to support warrior tasks and battle drills, depicted in the following table.

Warrior Tasks and Battle Drills, Physical Requirements for Performance

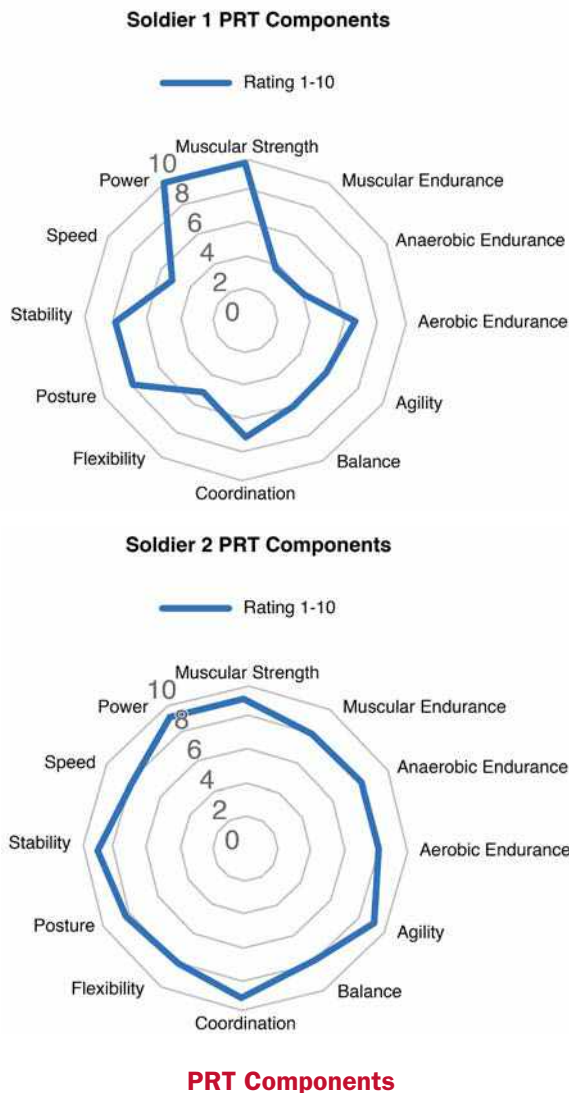
Task	Physical Requirements
Shoot	
Employ hand grenades	Run under load, jump, bound, high/low crawl, climb, push, pull, squat, lunge, roll, stop, start, change direction, get up/down, and throw.
Move	
Perform individual movement techniques	March/run under load, jump, bound, high/low crawl, climb, push, pull, squat, lunge, roll, stop, start, change direction, and get up/down.
Navigate from one point to another	March/run under load, jump, bound, high/low crawl, climb, push, pull, squat, lunge, roll, stop, start, change direction, and get up/down.
Move under fire	Run fast under load, jump, bound, crawl, push, pull, squat, roll, stop, start, change direction, and get up/down.
Survive	

Task	Physical Requirements
Perform Combatives	React to man-to-man contact: push, pull, run, roll, throw, land, manipulate body weight, squat, lunge, rotate, bend, block, strike, kick, stop, start, change direction, and get up/down.
Adapt	
Assess and Respond to Threats (Escalation of Force)	React to man-to-man contact: push, pull, run, roll, throw, land, manipulate body weight, squat, lunge, rotate, bend, block, strike, kick, stop, start, change direction, and get up/down. Run under load, jump, bound, high/low crawl, climb, push, pull, squat, lunge, roll, stop, start, change direction, get up/down, and throw.
Battle Drills	
React to contact	Run fast under load, jump, bound, crawl, push, pull, squat, roll, stop, start, change direction, and get up/down.
Evacuate a casualty	Squat, lunge, flex/extend/rotate trunk, walk/run, lift, and carry.

Our doctrine further outlines physical components for fitness, which Soldiers need to possess to execute these movements under load in stressful conditions. According to FM 7-22, physical readiness training components are muscular strength, muscular endurance, anaerobic endurance, aerobic endurance, agility, balance, coordination, flexibility, posture, stability, speed, and power. If we graph the attributes and rate Soldiers in each of these categories, we can visually depict these with a scaled rating (see the rating charts on the next page). Which Soldier seems to be better suited to meet the demands of combat? We need to train our leaders to be able to program physical readiness training to achieve Soldier 2's profile to ensure their Soldiers are physically able to execute complex movements under load in a firefight.

Our doctrine outlines fundamental skills to incorporate into our physical training, which establishes the foundation for the more complex movements required for warfighting and mission accomplishment, yet we fail to take a deep look into fundamental human movement. While we have excellent resources in the form of the Performance Triad and FM 7-22, we do not regularly talk about them, and it is placed on unit leaders to educate the force utilizing their leadership development program. Additionally, while we train and develop master fitness trainers, there are often too few available to make significant progress in physical training execution and programming. If we do not train and evaluate our Soldiers' form during the execution of different movements, how can we ensure we have made them resilient, efficient, and more survivable? For example, how do we teach them the difference between sprinting form vs absolute speed running form? If we are successfully able to teach basic movements to Soldiers, will we decrease musculoskeletal injuries during training or mission execution?

Every unit I have had the privilege to serve in has struggled to successfully manage profile physical training and ensure soldiers are able to quickly return to duty with minimal loss of overall fitness. This inability to manage and program for profile physical training causes a loss in physical fitness and hinders that Soldier's ability return to being fully mission capable quickly and effectively. In my experience, physical therapists focus strictly on rehabilitating the injury, and the Soldier's leadership relies on their knowledge and the Soldier's profile to develop a plan to exercise the rest of the body. I believe that by implementing Step 2 of the eight-step training model, training and certifying our leaders, we will prevent injuries through



leader and individual knowledge by establishing a knowledge base of foundational movement and emphasizing technique during different lifts and exercises. With this foundational understanding, leaders will be better educated to create and modify exercise programs to mitigate risk of reinjury and maintain, or at minimum mitigate, the decline of a Soldier's fitness while he/she is on profile.

If the Soldier is unable to recover completely, that Soldier will have to undergo a military occupational specialty change or a separation, which will force the Army to recruit and train a new individual to fulfill the lost Soldier's role; "The average cost of training a new recruit from the time the individual walks into a recruiting station until he reaches his first duty station is \$73,000 if he goes to Basic Training (BT)/ Advanced Individual Training (AIT), or \$54,000 if he goes to One Station Unit Training (OSUT)."³ This cost does not account for additional skills learned by the Soldier, such as Ranger School, Airborne, Pathfinder, etc., nor the knowledge gleaned from experiences of the separating Soldier, which are difficult to monetize.

Additionally, if we account for the rank of the separating individual, we would need to add the time it takes to mature a replacement Soldier to fulfill the lost Soldier's role. The cost of the program I attended was approximately \$20,000, which would save the Army an estimated \$53,000 per Soldier if the Soldier was separated immediately after AIT, the loss of knowledge and time to train the replacement Soldier. The article, "Still Too Fat to Fight," highlights the Services' challenges of recruiting eligible candidates to enter the military. The eligible population that could serve in the U.S. military is shrinking, due in large part to degrading physical fitness and obesity: "About 1 in 4 young American adults is now too overweight to join the military. Being overweight or obese is the number one medical reason why young adults cannot enlist. When combined with other disqualifiers an estimated 75 percent of young Americans could not serve in the military if they wanted to."⁴ Obesity is a systemic problem that decreases our ability to recruit

and man our force. A smaller recruiting population is one of the reasons we need to ensure we do our best to retain our current serving population. Increased burden on the medical system and decrease in operational readiness is another: "The additional medical expenses for soldiers on limited duty in the Army because of sprains or bone fracture injuries that are caused in part by some soldiers being less fit or overweight than other soldiers total half a billion dollars a year."⁵

My proposed solution is to take an active approach to human performance education by installing nutrition and functional movement education into our institutional domain of learning. This education will establish a solid foundation for tactical athletes to be built. As leaders are developed in the Officer Education System and, more importantly, the Non-Commissioned Officers Education System, they are updated on technique, taught how to identify and correct faults in technique, and develop physical training plans that accomplish outcomes for their unit's required mission. This educational base will allow us to develop echelons of care to prevent injury, treat soldiers, and increase readiness.

The first echelon of care is all about prevention. I will refer to it as unit care. This level of care is accomplished by individuals and leaders being educated on foundational movement, exercise preparation, and execution of effective pre-readiness training in a focused manner. Soldiers and leaders feel comfortable critiquing form to improve each other's foundational base. Leaders are also educated and trained in programming methodologies to accomplish their units' identified human performance needs. This education will invigorate physical training programs that expand thought processes and establish the physical fitness outcomes required to make the Soldier more lethal and survivable and drive mission accomplishment. Leaders educated in programming will prevent program stagnation and prevent overuse of injuries through the achievement of variation and methodology. In the event of injury, unit care facilitates the maintenance of physical fitness or at least minimizes physical fitness loss during recovery. The education will allow leaders to develop programs, modify exercises, and work around the Soldier's injuries ensuring that once recovered, the Soldier will be ready to train. Within the daily execution of the physical training, we can communicate





more effectively the purpose of the daily workouts and exercise learning within our operational learning domain. Currently, we use task, condition, and standard to ensure our Soldiers understand the physical training session. I think we could make this communication more effective by changing the briefing to task, purpose, and end state/outcome. Communicating in this format would help flush out the “why” for the day’s workout and would also be in line with tactical mission orders. The why in this context is powerful. Communicating the why reinforces and spreads what Soldiers and leaders learned in our institutions and allows leaders to communicate the short- and long-term goals for fitness, as well as how the day’s physical training plan fits into facilitating a Soldier’s ability to fulfill an operational need tailored to the environments in which the unit will operate. Further, by communicating the purpose on a daily basis, Soldiers will be given insight into training methods and sequencing, grooming them for future leadership roles.

The second echelon of care is focused care. This care is provided when unit care is either unsuccessful or the Soldier requires more intensive care due to injuries. It is achieved by Soldiers attending a post-level, managed program with a human performance team at the post gym. The human performance team provides a workout regime tailored to the Soldier, and the Soldier has daily treatments from a physical therapist. This program would be the Soldier’s place of duty for four hours out of the day. This allows the Soldier to remain involved with his or her unit while being provided focused treatment to ready that Soldier for the fight.

The final echelon of care is off-site care, where the Army builds regional areas at which Soldiers live and are treated. This resident environment will remove work distractions, allowing the Soldier to focus completely on his/her rehabilitation for short durations. This could also be a contracted service provided by a third party or regional facilities established by the Army. While monetary investments in starting this type of regional program may be expensive, the force will save money in the long term with Soldiers being able to return to duty, mitigating replacement costs or decreasing the life-long disability payments Soldiers receive because issues may be resolved by the program.

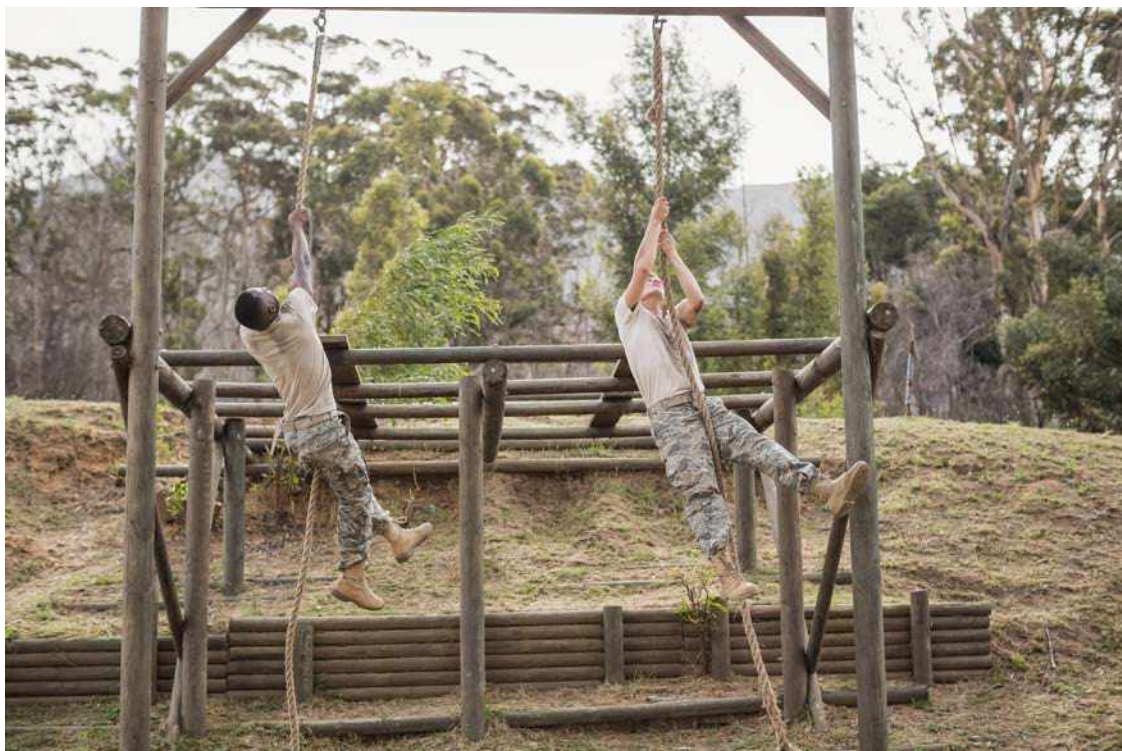


Our doctrine states, “Physical readiness training provides the physical component that contributes to tactical and technical competence and forms the physical foundation for all training.”⁶ Additionally, every leader I have had has given my cohort of leaders their version of BG Bernabe’s “Fitness is paramount” philosophy, yet we still spend minimal time talking about human performance in our institutions.

Hopefully by this point I have you asking, “where do we go from here?” With our special operations forces having developed a relationship and contracted third party athletic trainers, nutritionists, and physical therapists, they established such a small-scale model. They have in-house resources that teams and individuals can leverage to maximize their human performance. If they have injuries or need a more-intensive, full-time approach, they have relationships in place providing them the ability to send

their Soldiers to a private physical therapy and sports medicine center to receive treatment and athletic training coaching to return them to being mission capable. We need to test this model with a general-purpose force on a larger scale to prove its viability and scalability and to determine the benefits of instituting this type of program. I believe that we can execute a large-scale test by assembling a small team to conduct an experiment utilizing two battalions that have similar training glide paths to determine whether training all Soldiers in nutrition and functional movement mechanics will increase performance, lethality, and resiliency. Additionally, we will train leaders to critique these movements and train them in programing methodologies to increase operational readiness, establish coherent outcome-based physical training, and provide leaders the ability to successfully modify programming and tailor exercises to facilitate maintenance of physical fitness of Soldiers while on profile. This will allow leaders to fulfill roles as athletic trainers in the human performance team previously described. The defect we would be trying to fix is a deficit of combat readiness. Combat readiness in this case would be defined by the unit's profile percentage, average functional movement scores, combat readiness test scores, weapons qualification, stress shoots, and knowledge tests. We would compile these scores for a year and compare the two battalions.

We would establish a human performance team construct by training leaders and Soldiers in nutrition, movement, and physical training programming. To accomplish this, we would bring on an athletic trainer and coordinate to work with a physical therapist and a nutritionist on post. We would also work with the unit's physician



assistants. The physical therapist would treat all of the patients needing physical therapy from the unit. A data analyst would gather, compile, and sort the data to assist in determining whether the test battalion benefits from the training when compared to the control battalion. We would need additional assistance when screening the battalions' functional movement and coordinating with a local university's athletic department; perhaps we could establish an agreement for hands-on training, assisting us with the conduct of functional movement screens. We would need our athletic trainer to ensure standardization of the functional movement screen.

One battalion would be the control, with the other being the test battalion. Both battalions would receive functional movement screens, combat readiness tests, a nutrition test, and exercise mechanics tests and conduct a weapons qualification and a stress shoot. We would gather profile data throughout the training cycle. The stress shoot would be longer in duration and has yet to be designed. The control battalion would continue on its training glide path, and we would collect data as it moves along the training glide path. The test battalion would receive a series of instruction for three months, consisting of nutrition and functional movement training. The functional movement training would consist of sprint form, lateral movement form, absolute speed form, change of direction form, and weight lifting form. Leaders would be trained to observe and identify defects in movements and coaching techniques to correct identified defects. Leaders would also learn, discuss, and develop programming basics and develop a plan to implement for their Soldiers based on their mission requirements. At the end of the three months of training, we would let the program take shape and function while we collected data for an additional nine months. At the end of the nine months, we would administer all the tests again for both the control and test battalions to determine if the program was effective and valuable. To provide additional insight, we would administer a survey to provide additional insight beyond the numbers.

I believe we owe it to America's most valuable resource, the men and women willing to raise their right hand and swear an oath to defend our country, to have an outstanding human performance training to maximize their combat effectiveness and resiliency, increase survivability, and teach life skills to maintain quality of life after they depart the Service. With this program, we will become a more-capable force that has the capability to close with and destroy our nation's enemies, yet care for our Soldiers while they serve and, upon their departure from the Army, fulfilling the spirit of a tactical Soldier athlete.

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Charlie Squadron

Lethality has a

SHEL
SHELL Life

As Soldiers, we believe the U.S. Army is the most lethal fighting force on the planet. We take pride in this; however, it can be dangerous if we only look at the now and not analyze our future readiness with brutal honesty.

The 82nd Airborne Division Command Sgt. Maj., Michael Ferrusi, said, when asked, “Is the U.S. Infantry still lethal? *Yes, we are still a lethal force, but lethality has a shelf life.*” This telling statement brought clarity to the idea of lethality and is the crux of this article. For our forces to maintain this edge, we must focus on the Army’s greatest resource: the Soldier.

The U.S. Army’s Asymmetric Warfare Group’s (AWG’s) “Mosul Study” and “Russian New-Generation Warfare Handbook” highlight that tactical level overmatch is not guaranteed in today’s or tomorrow’s operating environment.¹ AWG’s operational advisors observed an increase of electronic warfare and cyber effects designed to degrade U.S. Forces’ GPS and communication capabilities. Electronic and cyber warfare are just two examples of how the enemy can challenge our technological edge. We must derive our combat overmatch from the Soldier, and thus, a greater effort in developing the Soldier is the only way to achieve close combat overmatch against the enemy of tomorrow. As noncommissioned officers (NCOs), we must champion an aggressive return to the basics as the character of war evolves.

Maintaining Lethality

Enhancing lethality or extending its shelf life, for an infantry fighting force, does not entail forgetting about our technological advantage. On the contrary, it involves leveraging it through emphasis on what goes in the Soldier, not just on the Soldier. Marksmanship, like any skill in the profession of arms, demands requisite skills and knowledge. If we want to improve lethality, we must start by aggressively focusing on the fundamentals of weapons marksmanship. Training the fundamentals is more than teaching Soldiers how to qualify but also teaching Soldiers ballistics, environmental effects, utilization of reticles, magazine changes, and kit placement. When, and only when, Soldiers have mastered the fundamentals, will technology lengthen the battlefield and improve the lethality of our formations. Far too often, poor fundamentals translate to poor use of technology. The duty of NCOs is to ensure this does not happen.

Train as You Fight

Challenging the Soldier in a variety of ways that mirror the battlefield is the only way to make certain that NCOs meet their obligation to make all infantrymen proficient marksmen. Shooting drills must be conducted under high stress, limited visibility, and at extended ranges.

Furthermore, outdated qualifications standards limit our Soldiers’ ability to maximize their enablers and extend their range on the battlefield. The three-hundred-meter field fire qualification has been used by the U.S. Army for more than fifty years but has not adjusted with advancements in our weapon systems. As such, we are not able to reliably measure the effectiveness of our applied technology. Additionally, we should



Soldiers from 2nd Squadron, 1st Cavalry Regiment, 1st Stryker Brigade Combat Team, 4th Infantry Division conducted a base defense exercise May 16, 2018, as they prepared to assume expeditionary advisory enabling, security and force protection responsibilities at Forward Operating Base Lightning, Afghanistan. (U.S. Army photo by Lt. Matthew Chandlerj, Resolute Support Headquarters)

reconsider the current training ammunition allotments dedicated to the infantry Soldier. The following table adapted from data included in TC 3-22.9² prescribes the number of rounds allocated to each Soldier annually for marksmanship training.

Planning Guidance for Individual Soldier Marksmanship

	Day	Night
ZERO	216	108
PRACTICE RECORD (Field Fire or Alt C)	240	200
RECORD (Field Fire or Alt C)	240	200
NIGHT (Field Fire)		144
TOTAL	480	544
TOTAL ALLOCATED TO FIELD FIRE	1024	
ARM	200	
SHORT RANGE PRACTICE	600	
SHORT RANGE QUAL	80	
TOTAL ALLOCATED TO ARM	880	

As indicated, more than half of the round allotment per Soldier is designated for qualifying on a restrictive three-hundred-meter field fire range.³ This round allotment, however, does not maximize training value for the Soldier, nor does it maximize the effectiveness of our NCOs to evaluate each Soldier on his or her ability to use the weapon. Just because a Soldier can qualify does not mean a Soldier is a proficient marksman. Necessary marksmanship fundamentals such as immediate action weapon manipulation, and accuracy are best evaluated on flexible ranges that force Soldiers to use their weapons as they would in a combat environment. As such, the ammunition allotment should be adjusted by designating more rounds to rifle marksmanship training and less to field fire qualification.

Soldier Competency

It is the responsibility of NCOs to evaluate each Soldier to ensure they are not only meeting marksmanship qualification standards but also are competent and safe when handling their weapon systems. Evaluation of the fundamentals are best tied to Soldier competency with the weapon system and not just a quantifying score sheet. An authentic evaluation of a Soldier's ability cannot be done by micromanaging every move the Soldier makes. Ultimately, when it comes to marksmanship, technology can be a powerful enhancer; however, neither fundamentals nor enablers can make a Soldier more lethal on their own. It is the confluence of marksmanship fundamentals and technology that will increase Soldier lethality.

Physical Preparedness

Another core factor of lethality is physical fitness. If our Army is going to improve lethality, NCOs need to prioritize tough physical training. The training must start at the squad level, with physical fitness programs imitating the rigors of the hardest days in combat. Also, the mindset must change; our infantry Soldiers must be viewed as tactical athletes. As athletes, Soldiers need to physically prepare for the sport they play: combat. This involves workouts in the patrolling uniform, carrying a casualty, and mirroring the near-term operational environment (OE) (hills, walls, subterranean, etc.). Professional athletes physically train for the sport they play, and so must our athletes. This begins with commanders placing emphasis on combat fitness training. In his speech to the Association of the U.S. Army in October 2016, the Army Chief of Staff (CSA), General Mark Milley, said "Learning to be comfortable with being seriously miserable every single minute of every day will have to become a way of life for an Army on the battlefield that I see coming."⁴ The CSA's premonition is powerful. It touches upon the necessity of a mentally and physically tough force that almost certainly will have to rely on the disciplined initiative of its subordinates to accomplish the mission. In a sport with no off season, our tactical athletes must be physically prepared to win tomorrow's fight today.

Mission Command Discipline

As NCOs, we must place a premium on mental and physical toughness. To pursue this, infantry elements must train under tough realistic conditions and master



the discipline of mission command. As written in Army Doctrine Publication 6-0, disciplined initiative is action in the absence of order, when existing orders no longer fit the situation, or when unforeseen opportunities or threats arise.⁵ The NCO creed states, “I will exercise initiative by taking appropriate action in the absence of orders.” Disciplined initiative must become the standard for all infantry units in the near-term OE.

Perhaps we can all learn the principles of mission command by studying the opposition forces (OPFOR) at our combat training centers. It is no secret that our OPFOR units are less equipped materially than the brigade combat teams they fight each month. However, the OPFOR are highly lethal because they leverage the disciplined initiative of their subordinates to stand up to an enemy numerically and technologically superior.

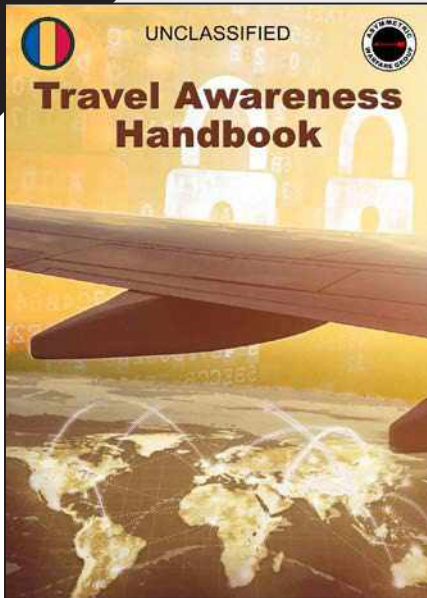
The challenges are immense. Confronting these challenges requires time—the most precious and limited resource we have. Perhaps it is time to review all Army Regulation 350-1 requirements and their overall impact on a commander’s ability to make the force more lethal.⁶ A study out of Fort Leavenworth in 2015 revealed that current mandated training would take one Soldier 514 days to be fully compliant. Compare this to the 256 training days in a calendar year, and you will find there is a deficit of 258 training days.⁷ Combat distractors should be taken away from our fighting force as much as possible. NCOs must learn to prioritize training opportunities, and leaders at echelon must support this in the form of protected training time, resources, focus, and tolerance for mistakes made during training.

NCO Legacy

The legacy of our NCOs both past and present, have shaped our Army into the most lethal fighting force in the world. As the NCOs of today's Army, we must honor our legacy and return to the basics. The NCO creed compels us: "uppermost in my mind – accomplishment of my mission and the welfare of my soldiers." As the backbone of our Army, it is our duty to ensure our Soldiers are ready to fight tonight. By focusing on the fundamentals, the lethality of our force will not have an expiration date.

Endnotes

1. U.S. Army and TRADOC, "Mosul Study Group: What the Battle for Mosul Teaches the Force," 24th ed., vol. 17, September 2017.
2. Headquarters, Department of the Army, "Rifle and Carbine," TC 3-22.9, May 2016, 227–247, <https://fas.org/irp/doddir/army/tc3-22-9.pdf>.
3. Ibid.
4. Rick Maze, "Radical Change Is Coming: Gen. Mark A. Milley Not Talking About Just Tinkering Around the Edges," *Association of the United States Army*, December 13, 2016, www.ausa.org/articles/radical-change-coming-gen-mark-milley.
5. Headquarters, Department of the Army, "Mission Command," ADP 6-0, May 2012, 1–5.
6. https://armypubs.army.mil/epubs/DR_pubs/DR_a/pdf/web/ARN6701_AR350-1_Web_FINAL.pdf.
7. Crispin J. Burke, "No Time, Literally, for All Requirements," *Association of the United States Army*, April 4, 2016, www.ausa.org/articles/no-time-literally-all-requirements.



As globalization rapidly condenses physical and digital spaces, the virtual space to reach across the world has become more dense and complex. Means of cheaper, more efficient travel draw the world closer. The interconnectedness of the U.S. Army to the world has made it necessary for habitual visits to bolster relationships with partner countries. These global partnerships require the U.S. Army to move its leaders and Soldiers to unfamiliar areas on a routine basis. Official travel has become a part of the decision calculus for commanders sending Soldiers on missions. Because of travel's inherent operational risk, travelers should observe the methods, means, and best practices to prevent or mitigate this risk, before, during, or after travel to ensure mission success.

Many of the U.S. Army's relationships leverage burgeoning and legacy technology for conducting meetings or conferences in a virtual domain, which compensates for the inability to be physically present. Even as the U.S. Army uses technology to continue engagement when they cannot do so in person, face-to-face engagement remains optimal. Also, while strategies for virtual training continue to develop, real-world exercises will remain and require moving Army personnel around the world.

The means and capability exist for the U.S. Army to utilize direct travel to foreign countries on a regular basis. We prepare for the associated risks with efficiency, commonsense, and deliberate forethought. This handbook reviews pre-travel planning considerations to supplement mission analysis. It also accounts for operational security, cyber awareness, as well as hotel selection and room considerations and provides an example trip emergency plan.

This handbook describes available and resident capabilities within a traveler's operational environment and applications of learned best practices using vignettes of real world situations. This handbook should serve as a supplement, not a replacement to mandatory 350-1 AT Level 1. Finally, this handbook presents recommendations to U.S. Army Battalion and Brigade Combat Team leaders to counter travel threats and mitigate risks associated with worldwide movement of their Soldiers. The world presents ever-evolving risks when placing Soldiers in unfamiliar environments. The U.S. Army must be highly active in adapting to this need/challenge and become comfortable with worldwide movement by capturing and learning from best practices. Applying critical thought and analysis prior to any mission is a common foundation for preparation.

This revised, publicly releasable 2018 handbook is available in electronic form only, but due to its continuing relevance, there are plans to print it in the future.



ASYMMETRIC WARFARE GROUP

AWG is looking for officers and NCOs who are seasoned warfighters and functional experts to be Operational Advisors or a part of the Operational Support and Staff.

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The U.S. Army Asymmetric Warfare Group provides operational advisory support globally to Army and Joint force commanders to enhance Soldier survivability and combat effectiveness and enable the defeat of current and emerging threats in support of unified land operations.

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Identify enemy
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OPERATIONAL

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As a member of our Operational teams, you can expect to work alongside the best Soldiers and civilians in the Army, like yourself. Our teams are self-sufficient and results driven. Working in our Operational Advisor teams provides you an opportunity to have an incredible impact on those units deploying and those already in theater.

Duties of an Operational Advisor include advising commanders on all aspects of the asymmetric threat, providing the latest countermeasure to deter this threat, assessing emerging threats, and developing innovative solutions. You will work with units under both training and operational circumstances. You may work independently or on a small team.

Support and Staff

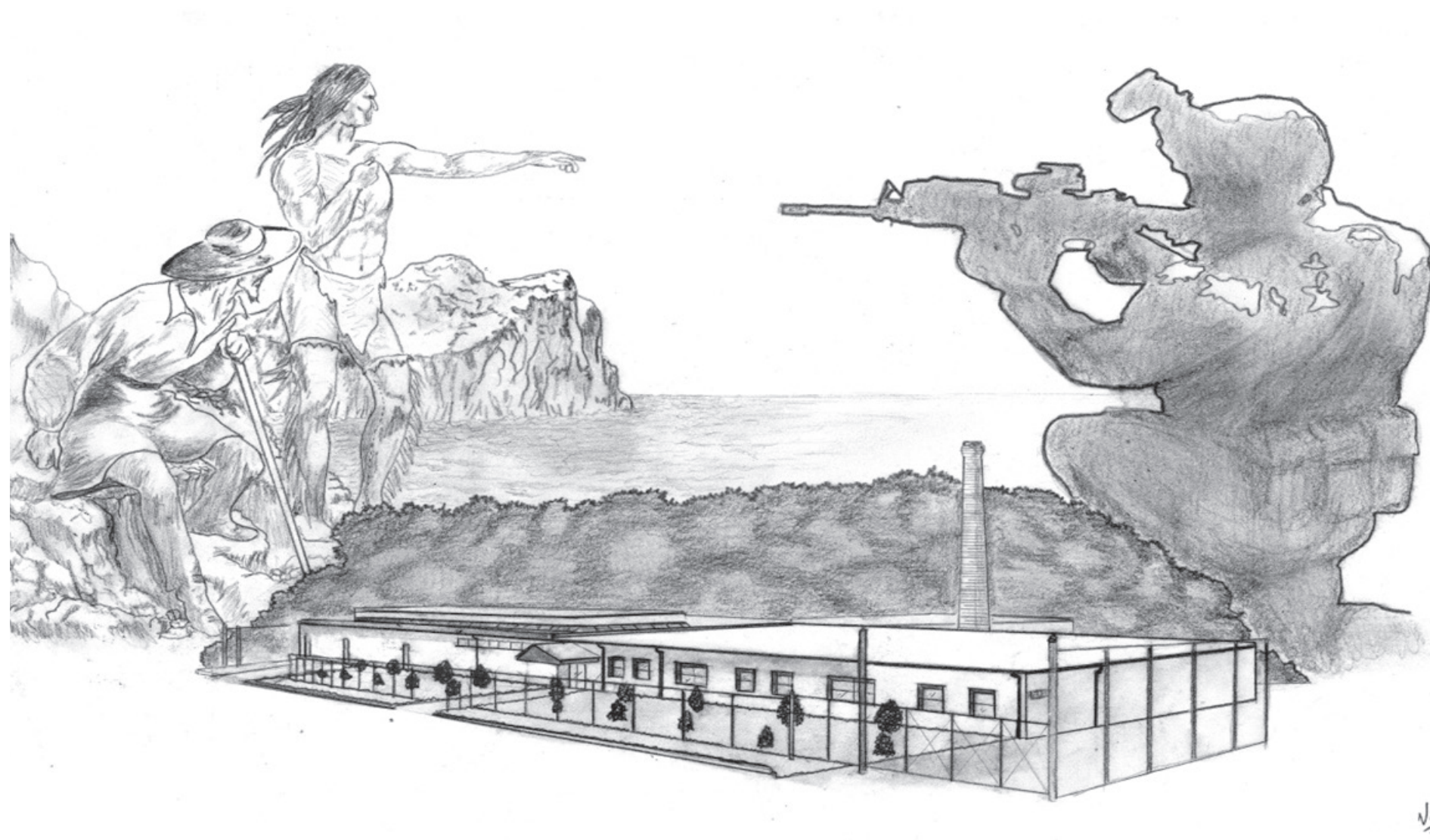
Although our Operational Advisors represent the center piece of the AWG, they cannot accomplish their mission without the hand-picked experts in our Operational Support and Staff positions.

Our Operational Support and Staff members are not confined to the office. They have the opportunity to deploy while providing various forms of support to some of the best Soldiers and civilians in the Army. They are an integral part of the analysis of emerging asymmetric threats and the solution development process.

AWG History

The Asymmetric Warfare Group traces its origin to the 2003 Army Improvised Explosive Device Task Force. The task force proved its relevance, and the Army G-3 directed the establishment of the Asymmetric Warfare Regiment in June 2004. The AWR eventually changed its name to the Asymmetric Warfare Group.

The initial successes achieved by the IED Task Force and its partners, as well as an overriding need for a coordinated, department-wide effort, led the deputy secretary of defense to approve, on July 12, 2004, the establishment of the Army-led Joint IED Defeat Integrated Process Team. Organized around the existing Army IED Task Force, this group assumed the mission of pulling together all counter-IED efforts within the Department of Defense. The IPT identified, prioritized and provided resources for material and nonmaterial solutions from across the services and DoD in coordination with interagency and international partners. The original Army task force, then augmented by joint service staff officers and noncommissioned officers, continued to accomplish the counter-IED operational mission as the Joint IED Defeat Task Force while also providing necessary support to the IPT.



Despite U.S. conventional military superiority and successes in the effort to stem asymmetric attacks, the ability of our adversaries to innovate and rapidly adapt their techniques continued to highlight gaps in U.S. force capabilities.

In January 2006, the AWG was established as a Field Operating Agency under the operational control of the deputy chief of staff, G-3/5/7, Headquarters, Department of the Army. The AWG was activated on March 8, 2006, at Fort Meade, Maryland. The AWG was assigned to the U.S. Army Training and Doctrine Command on Nov. 11, 2011, as a direct reporting unit to the commanding general. The assignment to TRADOC enabled enhanced cooperation with the Army Capabilities Integration Center, the Combined Arms Center, and the Centers of Excellence.

Since 2011, the AWG has experienced a significant growth in operational advisory and global operational scout missions, and it activated its third operational squadron in 2013. With this enhanced capacity, the AWG provides observations, analysis and solution development to both the operational and institutional forces of the Army.

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AWG, headquartered at Fort Meade, Maryland, is an Army unit of highly skilled warriors who provide observation, analysis, training, and advisory support to Army and Joint Force units in order to enhance their capabilities to predict, mitigate, counter, and defeat asymmetric threats and methods. AWG is the only unit in the Army that actively seeks new enemy TTPs and looks to develop solutions, placing its members in the right areas to solve those problems that have the potential to overwhelm or undermine a unit's best efforts at accomplishing its mission.



Think. Adapt. Anticipate.

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