

Expecting Different Results: How to Train Multi-Domain Capable Divisions

A Monograph

by

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Abstract

Expecting Different Results: How to Train Multi-Domain Capable Divisions by MAJ William C. Toft, USA, 53 pages.

The US Army must adjust its large-scale training exercises to achieve initial operating capacity for Multi-Domain Operations (MDO) by 2028. MDO represents a significant shift from how the US Army has operated since 2010, and therefore exercises must adjust to prepare large units for MDO. The monograph answers the following questions: What are the similarities between the Interwar Period, and 2020-2030? How were Interwar Period exercises (and subsequently current exercises) planned, and administered? How does MDO differ from previous operating concepts? And, can the US Army achieve initial operating capacity for MDO in 2028 by incorporating lessons identified from Interwar Period exercises into current exercises? Analysis of historical texts, doctrine, journal articles, other research, and fictional books informed the synthesis presented. Conclusions include; the current decade is similar to the Interwar Period. Conceptually training exercises follow the same path they did almost eighty years ago. And, the US Army built MDO with different assumptions than previous operating concepts. Three potential areas of improvement are: increasing the use of the live environment, extending exercise duration, and providing commanders more flexible authorities within the space and cyber domain during exercises.

Contents

Section 1. Introduction	1
Section 2. Similarities Between the Interwar Period and 2020-2030.....	5
Section 3. Comparison of Interwar Period and Current Large-scale Exercises.....	13
Section 4. Is MDO Different?	28
Section 5. Conclusion.....	33
Section 6. Reccomendations.....	36

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To my readers, I wish to give a disclaimer. At no point in the next forty-nine pages do I claim to have found the "right" way to train units for Multi-Domain Operations, or any other operating concept. Instead I approached this project with the hope of contributing to the conversation on how to prepare the US Army for its next conflict, regardless of how its character manifests.

Abbreviations

AFC	US Army Futures Command
BCT	Brigade Combat Team
CPX	Command Post Exercise
FM	Field Manual
GEN	General
GHQ	General Headquarters
JMC	Joint Modernization Command
JWA	Joint Warfighter Assessment
LSCO	Large-Scale Combat Operations or Large-Scale Ground Combat Operations
LTG	Lieutenant General
MCTP	Mission Command Training Program
MDO	Multi-Domain Operations
MG	Major General
OC/T	Observer, Coach, Trainer
OPFOR	Opposing Force
PAM	Pamphlet
SOP	Standard Operating Procedure
TRADOC	US Army Training and Doctrine Command
TR	Training Regulation
WFX	Warfighter Exercise

Figures

Figure 1. An “Interval” Exercise.....	41
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Introduction

Soldiers act in war as they are trained in peace.

— US Army Field Manual 21-5 (1941)

Bob could not believe what he saw; he had to do a double-take on the TV sitting over the bartender's head. It was clearer, but no more believable the second time around. In broad daylight, a company's worth of T-32 tanks and People's Liberation Army dismounted infantrymen moved through the wreckage of Camp Humphreys.¹ As he watched the tiny figures move through and around the rubble, he asked the woman behind the bar, "Hey, do you mind turning up the volume a little?"

She pointed the remote at the television and started to increase the volume before even looking at the screen. When she did turn there was a pause, then as the gravity of the situation sunk in, she let out a loud noise somewhere between a gasp and a scream. Her yelp drew the attention of everyone else in the tavern; all 106 of them changed focus to the nearest television set as the wait staff frantically worked to pull the same news feed up on every monitor. Meanwhile, Bob was still trying to figure out what had happened. He knew Russia was not pleased with Ukraine's admission to NATO almost a year ago, and that tensions with China has only grown since they had found out that a group of "Taiwanese pirates" had allegedly used "US-supplied weapons and training" to commandeer three Chinese cutters in Quanzhou Bay just a month or so later. He even knew that those events finally led to the creation of a covert alliance between Beijing and Moscow. But Bob was not aware of the fact that Pyongyang had recently formed another agreement allowing the People's Liberation Army to use North Korea as a staging base for an attack south to finally unify the Korean Peninsula under the aging Kim Jong-un.

¹ This is a fictional estimate of the next model Russian main battle tank following the current version, the T-14 Armata.

Another thing Bob knew is that this was not the celebration he intended when he got to the pub that evening. Bob Garcia officially found out that morning, around the same time the first cyber-masked missiles impacted the joint operations center on Camp Humphreys, he was on the US Army's promotion list for Lieutenant Colonel next year, 2037. He and his wife had gone out for a few drinks to enjoy the announcement. He usually would have celebrated at home, but they had just landed in Denver two days before as they were in the middle of their move from Camp Humphreys to Fort Carson, so their current home was a hotel near the base.

Bob started trying to make sense of things as he watched the newscast. The reporter's voice faded into a distant buzz while his mind raced. He was trying to anticipate what might happen next. He knew that there was no way the United States would let this kind of attack stand without response and that given the repeal of the Authorization for the Use of Military Force a few years ago, the President would likely ask Congress for a declaration of war against China. Based on their covert agreement, a war with China meant war with Russia, and the attack against US servicemembers represented grounds for invoking NATO's Article 5. He did not believe nukes would be an option, at least not right away. China obviously had Russian support, and those two allies and the nature of the attack meant both countries thought they could defeat the US and NATO without using their nuclear arsenals. Bob could barely believe it; he almost said it loud enough for his wife to hear but managed to keep it under his breath, "It's the start of World War III."

But what did this mean for him and his family? He knew that the job he was moving to was on the 4th Infantry Division Staff at Fort Carson, and based on their recent redeployment from Europe, they would likely not be one of the first units to respond to this attack. So, he would be on the sideline, at least to start. The US Army would likely need to expand rapidly to field enough units to fight the Russians and Chinese. They required eighty-nine divisions to defeat the Axis powers during WWII, this war would likely need more. Bob briefly considered if there

would be a draft, then figured that was irrelevant, he was already in the service, and his oldest daughter was only twelve, too young for conscription. His thoughts then turned to what expansion meant for his career. As a recent selectee for Lieutenant Colonel, he knew his opportunities for battalion command were now all but guaranteed. But he quickly remembered his year at the US Army's School of Advanced Military Studies, and what he read about the US Army's expansion in WWII during which officers had jumped ranks precipitously. Eisenhower was a Colonel in 1941, and a five-star General by the end of 1944. He remembered reading about similar trends in WWI and the American Civil War. Would Bob see his own exponential climb through the ranks? Was he ready to command a brigade or, more alarming, a division?

These questions are difficult to answer regardless of their context. The idea skipping echelons in command, skipping over the stepping stone of battalion command for a much larger formation like a brigade or division has potentially serious implications. However, it is not rare in US history, especially in situations like those described above. The reality is that in a world where these events can happen the US Army must not only prepare its mid-career officers and non-commissioned officers for positions of increased responsibility, but must also prepare those organizations through rigorous and realistic training.

The answer to Bob's questions does not have to be no. As mentioned in the preceding narrative, the US Army conducted rapid expansion to meet the needs of large-scale ground combat operations (LSCO) in the past.² The officers who led the nation through those times (US

² US Department of the Army, Army Doctrine Publication (ADP) 3-0, *Operations* (Washington DC: Government Printing Office, 2019), i, vii.; US Department of the Army, Field Manual (FM) 3-0, *Operations* (Washington DC: Government Printing Office, 2017), 1-2. The US Army currently uses LSCO to define two terms. Army Doctrine Publication (ADP) 3-0, published in July 2019 used large-scale ground combat operations whereas Field Manual 3-0, published in October 2017 used large-scale combat operations. ADP 3-0 indicated ownership the term large-scale ground combat operations, but only identified that it superseded the previous ADP 3-0 (2017), and its reference counterpart. Also, worth noting, ADP 3-0 (2019) provided the definition for large-scale ground combat operations (found on page 30 of this monograph), whereas FM 3-0 (2017) did not provide any definition for large-scale combat operations, but

Civil War, WWI, and WWII) felt prepared -for the challenge they faced. By and in large, because they foresaw the impending apocalypse, and helped to build the systems necessary to ready themselves for its arrival.

This monograph demonstrates that the US Army must adjust its large-scale training exercises to achieve initial operating capacity for Multi-Domain Operations (MDO) by 2028.³ Originally, this monograph presumed that the US Army could incorporate some training strategies from Interwar Period large-scale exercises in the current era as it seeks to achieve operating capacity for MDO. Unfortunately, research exposed that training strategies and large-scale exercises of the Interwar Period are too conceptually similar to the current era to provide an answer. As such, the purpose of the research shifted.

To determine that the US Army can adjust current large-scale exercises this monograph answers the following questions: What are the similarities pertinent to the training of divisions and above between the Interwar Period, and 2020-2030? How were Interwar Period division level maneuvers and exercises planned, and administered? How are current division level maneuvers and exercises planned, and administered? How does MDO differ from previous operating concepts? And finally, the primary research question, can the US Army achieve initial operating capacity for MDO in 2028 by incorporating lessons identified from the methodology of Interwar

still used the term throughout. Given that both documents are current US Army doctrine at the time of writing this paper, they are used inter-changeabl-y and defined using the same acronym (LSCO).

³ Multi-Domain Operations are "Military activities conducted across multiple domains and contested spaces to overcome an adversary's strengths by presenting them with several operational or tactical dilemmas through the combined application of calibrated force posture; employment of multi-domain formations; and convergence of capabilities across domains, environments, and functions in time and space to achieve operational and tactical objectives." US Army Training and Doctrine Command (TRADOC), Pamphlet (PAM) 525-3-1, *The US Army in Multi-Domain Operations 2028* (Washington, DC: Government Printing Office, 2018), GL-7. The US Army unveiled this operating concept in December 2018, with a goal of achieving "initial operating capacity" by 2028, and "full operating capacity" by 2035. The concept is based on warfighting domains or "An area of activity within the operational environment (land, air, maritime, space, and cyberspace) in which operations are organized and conducted. (modified joint definition)." For the purposes of this monograph, "large-scale training exercises" or "large-scale exercises" refer to US Army training that occurs with a division or larger as the training audience.

Period division-level maneuvers and exercises into current division-level training exercises and rotations?⁴

Analysis of historical texts, US Army doctrine, journal articles, other students' research, and some fictional books, mostly obtained through the Combined Arms Research Library at Fort Leavenworth, informed the synthesis presented below as the answer to those questions. Of particular significance are books that discuss the interwar period and WWII by Christopher Gabel, and Peter Schifferle, and Walter Kretchik. The research staff at Fort Leavenworth graciously provided access to Interwar Period doctrine, past and present journal articles, and other students' research that aided in confirming analysis and furthering the synthetic process.

This work is important because, as research has shown, MDO represents a significant shift from how the US Army has operated since 2010, and therefore it must adjust its exercises to prepare divisions and above for MDO. To ignore these findings potentially puts America's blood and treasure at unnecessary risk that likely leads to calamity in future conflicts, regardless of their limited or total character. This risk is not a new one, just about every American generation has participated in some form of armed conflict. However, what is different is that current US Army leaders have more information about the past from which they can learn. While the Interwar Period may seem a random choice for comparison, it was selected with care, for the reasons specified below.

Similarities Between the Interwar Period and 2020-2030

Analyzing the past can provide, and in many cases has provided, the ability to anticipate things in the near future. The assumption behind this methodology is that one can recognize a

⁴ Often used to discuss the period between WWI and WWII, this monograph uses the term "Interwar Period" more narrowly to denote the period between 1938-1941. This is specifically because it is the period during which the US Army conducted large-scale exercises prior to entering WWII. Between 1919 and 1938, training at the division level was not feasible based on the size and composition of the US Army. For elaboration see page thirteen.

period of enough relevant similarities to the current situation. Additionally, forecasters must identify the critical differences between two scenarios, and evaluate whether they are of consequence to their area of study, if not they may treat the two situations as analogs. The world is a complex and adaptive system and as such, not two points of time can ever be entirely the same. Anyone who has walked down the block knows that while someone can stand in the same geographic location more than once, the passage of time and inherent nature of entropy make it impossible to recreate all of the same conditions. Armed with this conceptualization, and the knowledge that 1938 was the first time the US Army conducted live maneuvers at the Division level before the declaration of war, it makes sense to first look there for potential similarities to the current era.⁵ Upon more in-depth analysis, other similarities become apparent, namely; US Army organizational changes, incorporation of somewhat new domains and technology, and the desire to ensure the next war is of a different character than the last.

In 1939, General (GEN) George C. Marshall adopted the triangular division format, a significant structural and organizational change from the square division that fought WWI. The Army built the square division based on the necessities of attrition style warfare as embodied in the stabilized front of the Western Front. The square division consisted of four line-infantry regiments that contained three line-infantry battalions, supported by centrally controlled regimental heavy weapons (mortars and machine guns), as well as other centrally controlled division enablers (artillery, engineers, heavy mortars). Based on lessons from WWI, the US Army developed the triangular division based around three line-infantry regiments also consisting of three line-infantry battalions, in which those battalions and their subordinate companies controlled their own heavy weapons, but still received support from divisionally controlled

⁵ Jean R. Moenk, "A History of Large-Scale Army Maneuvers in the United States, 1935-1964," (Fort Monroe, VA: Continental Army Command, 1969), 23. The next section explores the circumstances behind why 1938 is the first time the Army conducted live Division or larger maneuvers prior to the declaration of war.

enablers. The Army specifically designed the triangular formation to fight differently from the square organization.⁶ This reorganization is similar to the current transformation the US Army is undergoing as it transitions from the brigade combat team (BCT) to the division as the primary warfighting echelon. The ultimate goal of the transition from BCT to division as the primary tactical echelon currently underway is the desired transition from counter-insurgency to large-scale combat operations (LSCO).⁷ Also, similar to the Interwar Period, the US Army understands that it must functionally redesign the division to accomplish its intended purpose. As a result, there are ongoing theoretical discussions regarding what capability a current US Army division requires. Much like the Interwar Period, inherent with those discussions is the need to incorporate new technology within operational domains.

The US Army spent significant effort during the Interwar Period figuring out how to use new technology in its desired method of waging war. Namely, the tank, two-and-a-half-ton truck, airplane, frequency modulating radios, and radar were of vital interest. All of these items had made an appearance during or shortly after WWI, the best method to employ these platforms were the topic of professional debate, as is evident in the thousands of professional journal articles and historical studies of the time.⁸ As US Army leaders reached a consensus regarding the

⁶ Christopher Gabel, *The US Army GHQ Maneuvers of 1941* (Washington, DC: Center of Military History, 1991), 9-11. The reality is that the US Army wanted to fight a different style of war than that of a stabilized front, and recognized that the square division was not optimized for a system of mobile warfare.

⁷ “The division is the foundational maneuver element.” US Army TRADOC, PAM 525-3-1, 44. “Divisions are the tactical unit of execution for a corps.” US Department of the Army, Field Manual (FM) 3-0, *Operations* (Washington, DC: Government Printing Office, 2017), 2-13. The idea that divisions are the primary maneuver unit within the United States Army has become prevalent throughout doctrine since the adoption of the LSCO into the 2017 version of FM 3-0. As of 2020, this change prompted the restructuring of the basic table of organization and equipment for the division headquarters.

⁸ Peter Schifferle, *America’s School for War: Fort Leavenworth, Officer Education, and Victory in World War II* (Lawrence, KS: University Press of Kansas, 2010), 28-31. Schifferle presents the experimentation embraced by the Interwar Period US Army stretching from 1925-1939 and illustrates the important role played by professional branch journals. Gabel, *The US Army GHQ Maneuvers of 1941*, 22-41. Gabel focuses on how the US Army integrated tanks, motorized vehicles, and airplanes with their operating concepts. His book argues the US Army finally agreed upon it during the 1941 Louisiana Maneuvers largely out of reaction to the German application of their lighting tactics during the invasion of Poland in 1939. Alan Beyerchen, “From Radio to Radar: Interwar Military Adaptation to Technological

use of these items, they incorporated those techniques into doctrinal publications and developed tables of organization and equipment based on the technology's intended battlefield function. While this line of effort directly tied to the transition from the square to the triangular formation, it is essential to note that neither one drove the other. The desire to fight a different kind of war than one of the stabilized fronts like those found on WWI's western front drove planners first to conceptualize the new methodology, then design the best formation incorporating available technology. The incorporation of new technology in warfare is constant across time. However, the Interwar Period offers a more direct similarity to the current era because the US Army was attempting not only to incorporate new technology, but it also saw the addition of a new domain. Inherent with the US Army's latest operational concept, MDO is the official recognition of the cyber and space domains. The identification of these two domains, along with the increasing rate of technological advancement, drove the US Army to stand up Futures Command (AFC) in 2018. The mission of AFC is to "modernize the way [the US Army] does business.... [they] want to make sure Soldiers have what they need, before they need it, to protect tomorrow... today."⁹ As a result, their focus is manifold, but the fact that Future Command exists shows that much like during the Interwar Period, the US Army is committed to identifying not only how to best incorporate new technology and domains, but also, how they fit into a different conceptual framework of warfare, than the one most recently used.

change in Germany, the United Kingdom, and the United States," in *Military Innovation in the Interwar Period*, ed. Williamson Murray and Alan R. Millett (New York: Cambridge University Press, 1996), 287-294. Beyerchen comments on overall technical, operational, and technological innovation during the Interwar Period. He uses the improvement of the radio and development of radar as examples.

⁹ Full text "At Army Futures Command, we believe in utilizing the best expertise, whatever the source, to create innovative solutions faster and better. We're on a quest to modernize the way the Army does business by creating a space of endless possibilities to explore, develop, and test new methods, organizations, and technologies. Above all else, we want to make sure Soldiers have what they need, before they need it, to protect tomorrow... today." "Who We Are," US Army Futures Command Website, accessed January 18, 2020, <https://armyfuturescommand.com/>. Clarification in brackets added by author.

After the gross waste of human life that took place from 1914 to 1916 along the western front in WWI, none of the countries involved wanted to fight in the same manner ever again. Despite having her teeth ostensibly removed by the treaty of Versailles, Germany felt the most incentive to identify a new manner of warfare that would allow them to rectify the wrongdoings to which she was subject.¹⁰ For the most part, the world watched as the Wehrmacht unleashed their lightning tactics in Poland, but the fall of France in six weeks during 1940 provided a wake-up call to the western powers. This war would not be like the last. Fortunately for the US Army, their efforts would not be necessary until 1942. Geographic reality provided US Army leaders with the strategic time to observe, analyze, and understand the German way of war, and subsequently develop tactics to counter it.¹¹ To be clear, the US Army did not wait until 1940 to understand it did not want to fight as it had in France from 1917 to 1918. They identified that fact even before the doughboys returned home. GEN Pershing coined the phrase “open warfare,” used synonymously with mobile warfare, a concept that was present in 1914 and slowly developed up until the Third Reich invaded Poland and then France. Those events merely provided the catalyst to fully complete the evolution of GEN Pershing’s concept into one of combined arms maneuver, which has underpinned US Army doctrine ever since.¹²

¹⁰ James S. Corum, *The Roots of Blitzkrieg* (Lawrence, KS: University Press of Kansas, 1992), 4-10, 30-32, 37-43. Corum clearly illustrated Germany’s motivation to avenge the “stab in the back” that many Germans saw as the main reason for their loss of WWI. Additionally, he discusses the fact that Germany was in the unique position to learn lessons from both the Western and Eastern Fronts, which meant they could integrate them into a new form of tactics focused on speed, mobility, and firepower.

¹¹ Gabel, *The US Army GHQ Maneuvers of 1941*, 8-9, 12. In 1940 US military officials were not aware that they would have the benefit of almost two years to develop a successful counter to German tactics. However, they did take advantage of the fact that they could observe the application of German tactics and organizational structures prior to having to face them in armed combat. As a result, protective mobilization began in earnest on September 8, 1939 when President Roosevelt declared a “limited national emergency.” Though the enactment of the protective mobilization plan occurred prior to the fall of France in the summer of 1940, that event did eventually prompt the US to enact its first peacetime draft on September 16, 1940.

¹² Walter E. Kretchick, *US Army Doctrine: From the American Revolution to the War on Terror* (Lawrence, KS: University Press of Kansas, 2011), 124-128, 134-135, 138-151. Kretchick established the connection between GEN Pershing’s concept of “open warfare” and ideas proposed by Emory Upton and Arthur Wagner in the late 19th century. These ideas were codified in the US Army’s 1914 Field Service

This desire to fight a different kind of war presents the starkest similarity to what the US Army is currently experiencing. As early as 2011, the US Army recognized it no longer wished to focus exclusively on the counterinsurgency operations necessary for the campaigns in Afghanistan and Iraq. It was at this point, following ten years of operations in Afghanistan and seven in Iraq, US Army leaders recognized the need to focus across the full breadth of the conflict intensity spectrum.¹³ As a result, the US Army implemented a marked shift both in concepts and doctrine from counterinsurgency to what the US Army initially called decisive action within a framework of unified land operations. The ability to conduct simultaneous offense, defense, and stability tasks filtered down to the Army's unit of employment, the BCT, and became the basis for that elements redesign to the BCT 2020 structure now fielded.¹⁴ The current evolution of this desired change manifests within the MDO concept and the intrinsic discussions of force modernization both organizationally and technologically. One important note to make is that in both the cases of the WWI US Army as well as the 'forever war' US Army, the concepts they

Regulation, and received marginal updates in 1923, but did not get modernized again until 1941 when the US Army integrated them with lessons learned from the German invasion of Poland and the US Army's own Louisiana Maneuvers. Following his discussion of the 1944 updates to US Army doctrine, Kretchik implies that all other updates are conceptually underpinned by the same ideas of Upton and Wagner. Schifferle, *America's School for War*, 36-37. Schifferle links the concept of mobile or open warfare to a memo issued in 1919 by MG William Haan. He goes on to illustrate how the US Army embraced this concept in its officer education, specifically the Command and General Staff School, during the period between the two World Wars.

¹³ In 2012 the US Army Combat Training Centers introduced the concept of hybrid rotations deliberately designed to test BCTs against threats that existed across the conflict spectrum, while still validating their readiness for deployment to Iraq or Afghanistan. Then in 2015 the Combat Training Centers transitioned away from Mission Rehearsal Exercises (MRXs) designed to prepare US Army BCTs for operational deployments and introduced decisive action training environment (DATE) rotations focused on the simultaneous execution of offense, defense, and stability operations.

¹⁴ US Department of the Army, Army Doctrine Publication (ADP) 3-0, *Unified Land Operations* (Washington, DC: Government Printing Office, 2011), 1-2. The framework of unified land operations (simultaneous execution of offense, defense, and stability operations) initially defined in the 2011 version of ADP 3-0 underpins the US Army's conceptualization of LSCO as presented in the 2017 version of FM 3-0. These notions carry over further into TRADOC PAM 525-3-1 and the description it offers of multi-domain operations. The US Army adopted the BCT 2020 model circa 2010. This design ensured BCTs possessed the combat power to meet the requirements of unified land operations.

employed were of necessity. Neither organization wanted nor anticipated fighting their war in the manner which they pursued. Before 1914, the US Army focused on defending and policing the homeland and its associated protectorates, its concept of warfare was one of movement, not of stagnant trench lines. Similarly, the pre-9/11 US Army intended to fight the next war using combined arms maneuver and executed its initial offensive into Iraq using that framework.¹⁵ It is possible to say in both cases that the US Army adjusted its warfighting concepts as a result of recognizing they wanted to fight a different kind of war than the one they had just fought.

The similarities mentioned above between the Interwar Period and current era for the US Army do not mean the two periods as entirely analogous. There were critical differences in either case. As previously discussed, the Interwar Period US Army possessed two clearly identifiable future enemies, Germany and Japan, for almost two years before entering WWII. The current US Army lacks such luxury; the 2018 National Defense Strategy identified four countries and one non-state group as national level adversaries, but rightly so, offered no prioritization or ranking of most dangerous adversary.¹⁶ Additionally, before WWII, the world order was one of multipolarity; great powers of the west held spheres of influence but no hegemon was easily recognizable. This pseudo hierarchy, combined with geography and power projection technology, provided the US with strategic time and space that allowed for protective mobilization employed during the Interwar Period. In the current era, international relations are no less confusing; however, it is clear that since the fall of the Soviet Union, the US has maintained its status as the

¹⁵ Kretchik, *US Army Doctrine*, 118-121, 124-127, 258-266. Kretchik illustrates that the 1914 Field Service Regulation was not suitable to the realities of fighting along a stabilized front that the US Army faced on the Western Front in 1917. GEN Pershing recognized this and as a result initially relied on the expertise of veteran French and British cadre to train US Soldiers. His discussion of the development of FM 3-24 *Counterinsurgency* (2006) exposes that the situations in Iraq and Afghanistan required the US Army abandon its pre-war doctrine that focused on combined arms maneuver in high intensity conflict.

¹⁶ US Department of Defense, *Summary of the 2018 National Defense Strategy of the United States of America: Sharpening the American Military's Competitive Edge* (Washington DC: Government Printing Office, 2018), 2-3. The document's description of the strategic environment clearly delineates threats from Russia, China, Iran, North Korea, and terrorist organizations.

hegemon. When combined with some of the US' named adversary's ability to project power and employ modern information technology, this status degrades the flexibility in space and time the United States has to react to emerging threats. There are other significant differences between the Interwar Period and current era; however, these two are the most pertinent regarding the context of training US Army divisions.

Another fundamental similarity between the two time periods of focus is the need for a US Army trained at the division level or higher. The German invasion of Poland in 1939 made it apparent to US military leaders that a mobilization plan was necessary to prepare for the inevitable. In the current context, the US Army believes it necessary to field multiple trained divisions, and potentially corps or field armies to defeat a near-peer adversary in LSCO, while leveraging effects across multiple domains. Regardless of the probability of that scenario, it is the one that US strategic leaders have chosen to pursue. As a result, the US Army must do as it has always done and meet the demands of the nation. Significant effort has gone into restructuring the military education system(s) to prepare individual leaders for the requirements of LSCO. In 2019, the command and general staff school transitioned from a focus on preparing mid-career officers to serve at the brigade level to the division level. As the US Army continues to educate individuals on how to wage war in the framework of MDO and LSCO, they must also evaluate how to use training environments to provide an adequate test of its application. Given the similarities between the Interwar Period and the current era, it is possible to find potential approaches through comparative analysis in how both versions of the US Army train at the division level and higher.

Comparison of Interwar Period and Current Large-Scale Exercises

To best evaluate changes that are necessary to division training exercises between 2020 and 2028, it is essential to understand the planning and administration of past exercises. Given the similarity between the Interwar and current periods established in the last section, this section aims to determine the aspects critical to the success of large-scale Interwar Period exercises regarding the achievement of their purpose. This section also attempts to derive key similarities between past and present methodology regarding the planning and administration of large-scale exercises, or likewise, identify key differences. By achieving that understanding, it becomes possible to deduce whether or not the current model for conducting large-scale training is likely to produce the desired results.

Planning and Administration of Interwar Period Large-Scale Maneuvers

Large-scale maneuvers conducted during the Interwar Period were an anomaly in their own time. After demobilizing from WWI, the US Army was unable to conduct field training above the brigade level due to the limited size of the standing active force. However, during the second half of the 1930s, as tensions in Europe increased leading up to the 1939 German invasion of Poland, President Roosevelt exponentially increased the US Army's total size. Between 1938 and 1941, the authorized size of the US Army grew from 165,000 to 1,400,000.¹⁷ As a result, senior commanders in the US Army capitalized on the opportunity to train at the division, corps, and field army level. This situation represented the first time in its history that the US Army could

¹⁷ Moenk, "A History of Large-Scale Army Maneuvers in the United States, 1935-1964," 2, 42.; Peter J. Schifferle, "Anticipating Armageddon: The Leavenworth Schools and United States Army Military Effectiveness, 1919-1945" (Doctoral Dissertation, University of Kansas, 2002), 43; Gabel, *The US Army GHQ Maneuvers of 1941*, 14-17. It is important to note that the active force never truly achieved these authorized end strengths. President Roosevelt partially accomplished such rapid growth by activating units and individuals from the national guard, organized reserves, and initiating the draft, thus establishing the Army of the United States. As a result of the short-term nature of activations and conscript requirements, towards the end of 1941 a majority of the US Army was about to stand down. Overall, of the ninety US Army divisions actually formed to fight WWII, only twenty percent were part of the Regular Army.

conduct “genuine” corps and army level exercises on home soil before a declaration of war.¹⁸

Many of these same commanders also knew from personal experience dating back to the Spanish American War that this was a unique chance to train higher level staffs, test concepts, and make mistakes that would not be acceptable in battle.¹⁹ Commanders and their staffs planned using the doctrine available to them at the time and administered the exercises through a team of umpires who not only provided control but also feedback regarding unit adherence to tactical doctrine.

Before analyzing the training doctrine and umpires, it is helpful to understand the broader context of why the US Army preferred maneuvers over other training methods. After demobilization following WWI, before attaining the ability to conduct maneuvers above the brigade level, the US Army used command post exercises (CPX) to test higher-level staffs.²⁰ These CPXs were useful; however, they did not allow for commanders or their staffs to gain experience from the ‘Clausewitzian’ friction exposed during field maneuvers against a live enemy.²¹ The notional nature of these CPXs reduced things like terrain, time, distance, and the enemy to mathematical factors that limited understanding of their collective impact on the headquarters subordinate elements. The shortfalls of the CPXs were known to the participants.

¹⁸ Kent Roberts Greenfield, Robert R. Palmer, and Bell I. Wiley, *The Army Ground Forces: The Organization of Ground Combat Troops* (Washington, DC: Center of Military History, 2004), 9-10. Chief of Staff of the Army, GEN George Marshall noted after 1940 it was now possible to stage “the first genuine corps and army maneuvers in the history of this Nation.” During the US Civil War corps sized organizations conducted drill, which served similar purposes to maneuvers but lacked an opposing force.

¹⁹ Moenk, “A History of Large-Scale Army Maneuvers in the United States, 1935-1964,” 1-5; Christopher Gabel, *The US Army GHQ Maneuvers of 1941* (Washington, DC: Center of Military History, 1991), 5-6.

²⁰ Command post exercise as defined by Field Manual 21-5 *Military Training* (1941) were “exercises conducted in the field under simulated war conditions in which troops and armament are actually present in whole or in part, while those of the other side are imaginary or outlined. They are of general application in the training all troops. When the troops present consist only of command, staff, and communications personnel, they are termed ‘command post exercises.’” US Department of the Army, Field Manual (FM) 21-5, *Military Training* (Washington DC: Government Publishing Office, 1941) 45-46.

²¹ Field maneuvers as defined by FM 21-5 (1941) were “exercises in which a military operation is conducted on the ground, the troops and armament of both sides being actually present, either wholly or in part, and all the conditions of actual war being simulated.” US Army (FM) 21-5, *Military Training*, 46.

The US Army based all officer education during the Interwar Period on experience gained by the Army Expeditionary Forces during WWI, and therefore officers who had attended schools at Fort Leavenworth, were aware the gaps between that reality and the CPXs.²² Nevertheless, given the financial and manning constraints under which they operated before the late 1930s, the CPXs were the best they could do.

As troop levels increased, field army commanders independently sought opportunities to train their organizations above the brigade level. Third Army was the first to conduct successful maneuvers, doing so twice in 1938.²³ Despite manning issues, the maneuvers provided a proof of concept, that field army headquarters could run live exercises that tested corps and division-sized elements in a more realistic manner than previously used CPXs. Both First and Third Army used the model pioneered in 1938 to evaluate their subordinates throughout 1939 and 1940. Initially, regular army units comprised the training audience; however, as President Roosevelt federalized national guard units as part of his mobilization plans, they became incorporated into the training.²⁴ The maneuvers drew attention from GEN George Marshall, who in 1940 established a General Headquarters (GHQ) to oversee the Army's mobilization and preparation for impending war with European powers.

In August 1940, Major General (MG) Lesley McNair took the reigns as Chief of Staff of the newly formed GHQ.²⁵ The organization was responsible for preparing the rapidly mobilizing

²² Schifferle, *America's School for War: Fort Leavenworth, Officer Education, and Victory in World War II*, 6-8, 172-175. Schifferle identified that the Command and General Staff School at Fort Leavenworth was the only US Army School that fully integrated the principles of combined arms warfare developed from the American Expeditionary Force experiences in 1917-18. As a result, its graduates were able to form a critical link from WWI experience during their service in WWII. Fortunately, there were enough of them to ensure a majority of the WWII division commanders, assistant commanders and division chiefs of staff were graduates of the Fort Leavenworth courses.

²³ Moenk, "History of Large-Scale Army Maneuvers in the United States, 1935-1964," 23.

²⁴ Moenk, "History of Large-Scale Army Maneuvers in the United States, 1935-1964," 23-41.

²⁵ Mark T. Calhoun, *General Lesley J. McNair: Unsung Architect of the US Army* (Lawrence, KS: University of Kansas Press, 2015), 214.

US Army for combat operations before any declaration of war. Despite his role as the commander of GHQ, GEN Marshall delegated responsibility for training US Army forces to MG McNair.²⁶ MG McNair identified the main objective of GHQ as setting the stage for bringing units “to maximum readiness for combat before they left the US.”²⁷ With authority delegated from GEN Marshall and the overall objective being a combat-ready US Army, MG McNair issued training guidance to Army commanders in January 1941. In this guidance, GHQ directed units to conduct combined (arms) training and additional unit training for three to four months.²⁸ That training was to culminate from August to November of that year in a set of maneuvers run by GHQ designed to simulate combat operations at the field army level.²⁹ The purpose of the 1941 GHQ Maneuvers was to avoid issues present in 1918 when US Army units deployed to the front only having conducted exercises at the division level.³⁰ In addition to providing an opportunity for corps and field army commanders to test the command of their organizations, the GHQ maneuvers provided the opportunity to validate concepts.

Within the overall main objective, the sub-objectives MG McNair desired to achieve were manifold. MG McNair wanted to give US Army leaders the experience of operations at the division, corps, and field army level. MG McNair understood US Army doctrine presented the

²⁶ Calhoun, *General Lesley J. McNair: Unsung Architect of the US Army*. 215.

²⁷ Greenfield, Palmer, and Wiley, *The Army Ground Forces: The Organization of Ground Combat Troops*. 7. The authors discuss the overall objective and purpose of the 1941 GHQ field maneuvers, primary sources from GHQ explicitly delineating training objectives were not available to the author of this report. However, Greenfield, Palmer and Wiley cite primary sources in their discussion of this objective.

²⁸ FM 21-5 defines combined training as “Unit tactical training will be conducted by appropriate teams. Thus, a company field exercise should include appropriate battalion and regimental weapons. Field exercises involving an infantry battalion should include supporting artillery and regimental weapons. Regimental field exercises will, when possible, include artillery, engineers, tanks or armored units, and aviation.” US Army (FM) 21-5, *Military Training*, 46. Author added the parenthetical to illustrate the terms current evolution.

²⁹ Moenk, “History of Large-Scale Army Maneuvers in the United States, 1935-1964,” 42-43.

³⁰ Gabel, *The US Army GHQ Maneuvers of 1941*, 19.

division as the “paramount combat team and chief fighting unit of the [US] Army.”³¹ He saw these maneuvers as an opportunity to give leaders a better understanding of what combat looked like between groups of six or more divisions. MG McNair also understood the maneuvers would provide them with the ability to codify best practices for use as the Army expanded at an exponential rate, and officers who operated at the battalion level found themselves commanding much larger formations.³² He also wanted to validate several new configurations and concepts. Specifically, MG McNair sought to confirm the benefits of the triangular compared to the square division, verify the soundness of the armor division table of organization and equipment, identify methods to employ new tank and anti-tank technologies, and continue to refine the relationships between air and ground forces.³³ All of these items and more were tested during two multi-phase maneuvers between August and November 1941, the first taking place in west Louisiana and east Texas, and the second across the Carolinas.

Having illustrated why US Army leaders preferred live maneuvers over other forms of training, and the objectives GHQ sought to achieve, it is logical to provide analysis of training doctrine. During the Interwar Period, the US Army had limited doctrine compared to its current counterpart. The most notable manual, the Field Service Regulation, originally published as the

³¹ Greenfield, Palmer, and Wiley, *The Army Ground Forces: The Organization of Ground Combat Troops*. 41.

³² Forrest C. Pogue, *George C. Marshall: Ordeal and Hope, 1939-1942* (New York: The Viking Press), 89-90. GEN Marshall saw the maneuvers as an opportunity to learn and improve, chastising a critical senator by saying “My God, Senator, that’s the reason I do it. I want the mistake down in Louisiana, not over in Europe, and the only way to do this thing is to try it out, and if it doesn’t work, find out what we need to make it work.”; Gabel, *The US Army GHQ Maneuvers of 1941*, 50-51. Gabel includes the lengthy justification Brigadier General Harry Twaddle, GEN Marshall’s operations officer, gave congress for spending 28 million dollars on Louisiana maneuvers. “The expansion of the Army, which has occurred since last fall (1940) has produced numerous new headquarters... staffed with officers who... have had little opportunity to acquire by firsthand experience the knowledge necessary in moving, supplying, and controlling large concentrations of troops and maneuvering them in the field.” The examples demonstrate the manifold objectives of the GHQ Maneuvers, and though they were shared with political representatives, it’s likely that MG McNair and his staff were acutely aware of them as well.

³³ Gabel, *The US Army GHQ Maneuvers of 1941*, 10-12, 24-33, 53-60.

keystone doctrinal publication in 1905, underwent revision in 1923, and again in 1941.³⁴ While the Field Service Regulation provided helpful guidance on the tactical employment of army units, it did not contain procedures on how to plan and administer training. In light of this shortfall, the War Department developed Training Regulation 10-5 *Military Training* that outlined the methods by which units should plan training. First published in 1921, and updated in both 1928 and 1935, Training Regulation 10-5 provided the US Army with three training fundamentals; decentralization, progressive training, and applicatory exercises.³⁵ In July 1941, the Army replaced Training Regulation 10-5 with Field Manual (FM) 21-5 *Military Training*, which added further clarity to the planning and conduct of map exercises, problems, and maneuvers, and field exercises and maneuvers. Though codified in the same year, the methodology laid out in FM 21-5 is likely what GHQ planners used to prepare for the 1941 maneuvers.

FM 21-5 specified that the critical components of field exercises and maneuvers were preparation, direction and control, and realism.³⁶ Units prepared through deliberate planning of an overall training program that began with classroom instruction and culminated with field exercises and maneuvers that allowed individuals and units to apply US Army doctrine. Direction, control, and realism became the realms of exercise umpires. The manual stated that all officers and non-commissioned officers should receive umpire training to provide flexibility to units as they trained.³⁷ According to the FM, every training event required umpires to provide

³⁴ Schifferle, *America's School for War: Fort Leavenworth, Officer Education, and Victory in World War II*, 53, 68; Kretchik, *US Army Doctrine from the American Revolution to the War on Terror*. (Lawrence, KS: University of Kansas Press, 2011), 132, 148. The Army released a "tentative" version of the field service regulation in 1939. The document mirrored much of what had been issued in 1923 but did add significant material regarding mechanized forces and air power. Due to the fact that various agencies within the approving chain did not concur, the Army rescinded many of the tactical changes it incorporated.

³⁵ United States War Department, Training Regulation (TR) 10-5, *Military Training* (Washington, DC: Government Printing Office, 1935), 6.

³⁶ US Army FM 21-5, *Military Training*, 53.

³⁷ US Army FM 21-5, *Military Training*, 55.

unbiased realistic feedback to the trainees, ensure the training remained inside the limits of its stated objectives, and prevent disputes between adversarial forces. In concept, umpires were not a novelty in 1941; however, previous exercise reports were full of examples of poor umpiring and the detrimental effect it had on training.³⁸ As a result, when preparing for the 1941 GHQ maneuvers, MG McNair personally oversaw the writing of a new umpire manual to enhance realism.³⁹ The new manual provided instructions regarding how umpires were to adjudicate simulated combat action between all types of army forces. Though not free of shortfalls of its own, the umpire manual was one of the first documents that incorporated rules for air to ground, ground to air engagements, and anti-tank on tank engagements.⁴⁰ Regardless of the completeness, the updated manual allowed GHQ to move on to the next important task in preparation, selecting umpires.

To control the maneuvers and log observations, GHQ selected over 2000 umpires from across the US Army from units not identified to participate.⁴¹ Following the instructions put forth in *Umpire Manual*, GHQ ensured the umpires received training on the latest in US Army doctrine.⁴² This familiarity was a necessity for the umpires to be able to evaluate a given units application of doctrinal principles. Additionally, many of the senior umpires were WWI veterans; as such, they would be able to provide quality control on the realism of the maneuvers. Despite the great attention paid to selecting umpires, and rewriting the *Umpire Manual*, control of the

³⁸ Greenfield, Palmer, and Wiley, *The Army Ground Forces: The Organization of Ground Combat Troops*. 44.

³⁹ Gabel, *The US Army GHQ Maneuvers of 1941*, 45.

⁴⁰ Clyde Hyssong, *Umpire Manual* (Washington, DC: General Headquarters, US Army, 1941), 16-18, 21, Aviation Supplement, 3-12; Greenfield, Palmer, and Wiley, *The Army Ground Forces: The Organization of Ground Combat Troops*. 44.

⁴¹ John G. D'Antoni, "The Home Front: The Experience of Soldiers and Civilians in the Louisiana Maneuvers of 1940 and 1941" (master's thesis, University of New Orleans, 2018), 10.

⁴² Hyssong, *Umpire Manual*, 29-31

maneuvers had inherent issues, specifically regarding the use of aviation and mechanized formations. Lack of efficient technology to communicate made it difficult for ground and air umpires to assess effects on either element. Also, tank and anti-tank engagements proved challenging to evaluate due to rules written without a thorough understanding of the effect tanks have on dismounted infantry or the repair timelines for notionally damaged or destroyed vehicles.⁴³ Regardless of these issues, many of the participants testified that the 1941 maneuvers were the most realistic to date.

LTG McNair saw the 1941 maneuvers as an overall success. Part of that success was the fact that they exposed shortfalls and failures in the training, doctrine, and leadership of the units that participated.⁴⁴ The maneuvers brought forth the idea that given the right anti-tank system, dismounted troops could defend against armored units, although they also exposed that the US Army still needed to develop suitable methods to employ the anti-tank weapons. Training in Louisiana and Carolina also convinced the US Army to abandon horse cavalry for the introduction of armored cars. Also, the maneuvers exposed weaknesses regarding the coordination between ground and air elements, and friction regarding how the US Army could best employ its air forces.⁴⁵ As a result of these shortfalls, LTG McNair developed a remedial training plan that never saw implementation. Four days after he presented his findings and recommendations to GEN Marshall, Japan attacked Pearl Harbor and brought the US into WWII. Within the following year, the US Army would add two million men to its ranks.⁴⁶ Despite the abandonment of LTG McNair's remedial training, this meant the experiences gained in late 1941 would be all the more critical.

⁴³ Gabel, *The US Army GHQ Maneuvers of 1941*, 48.

⁴⁴ Promoted in June of 1941.

⁴⁵ Gabel, *The US Army GHQ Maneuvers of 1941*, 170-172

⁴⁶ Gabel, *The US Army GHQ Maneuvers of 1941*, 185-186.

With rapid expansion underway GHQ implemented a plan that required existing divisions to provide experienced cadre to assist with the organization, training, and administration of new units.⁴⁷ Due to the success of the maneuvers, GHQ continued them on a slightly smaller scale in 1942, 1943, and 1944 as a method to test divisions before they departed the US for either the Pacific, Mediterranean, or European theaters.⁴⁸ The legacy of the maneuvers lived on through the small posts they created. Places like Camp Beauregard, Camp Claiborne, and Fort Polk, Louisiana, and communities like Fort Bragg, and Hoffman, North Carolina as well as Camden, South Carolina commemorate them. The 1941 maneuvers also laid a foundation that the US Army carried forward through the 20th and into the 21st century on how to train large-scale units in simulated combat. The next section examines how similar the current models of training divisions are to the ones used during the interwar period.

Planning and Administration of Current Large-Scale Exercises

The US Army currently uses Warfighter Exercises (WFX) and Joint Warfighting Assessments (JWA) to provide unbiased third-party feedback to divisions and corps. The Mission Command Training Program (MCTP), a subordinate of Training and Doctrine Command (TRADOC), conducts WFXs and the Joint Modernization Command, recently added to the AFC organization, executes JWAs.⁴⁹ Both WFXs and JWAs carry on the legacy of large-scale training exercises from the Interwar Period, and as a result, have many similarities. However, even with their numerous similarities, a few key differences become apparent through the evaluation of

⁴⁷ Gabel, *The US Army GHQ Maneuvers of 1941*, 186.

⁴⁸ John Sloan Brown. *Draftee Division: The 88th Infantry Division in World War II* (Lexington, KY: The University Press of Kentucky, 1986), 45.; Ben Sobieck. "1941 Louisiana Maneuvers: The Big One," *Military Trader News*, January 7, 2009, accessed October 30, 2019, https://www.militarytrader.com/military-trader-news/1941_louisiana_maneuvers-the_big_one.

⁴⁹ US Army TRADOC, Regulation (REG) 350-50-3, *Mission Command Training Program* (Washington, DC: Government Printing Office, 2018), 5; "The Joint Warfighting Assessment," Joint Modernization Command, accessed December 8, 2019, <https://home.army.mil/bliss/index.php/units-tenants/joint-modernization-command>.

planning doctrine used in their conception and control mechanisms used during execution. Of note, critical differences between Interwar Period and current exercises are that the US Army has whole organizations dedicated to the planning and administration of large-scale exercises and that they conduct those exercises in an increasingly virtual and constructive environment.

Similar to FM 21-5 (1941), FM 7-0 (2016) covered how the US Army trains individual Soldiers and units.⁵⁰ FM 7-0 (2016) offered ten training principles that Army Doctrine Publication 7-0 *Training* (2019) later reduced to four: “Train as you fight, Train to standard, Train to sustain, and Train to maintain.”⁵¹ FM 21-5 (1941) does not offer named principles like the current manuals do, however, states that training must focus on offensive action and build “morale; discipline; health, strength, and endurance; technical proficiency; initiative; adaptability; leadership; teamwork; and tactical proficiency.”⁵² The conceptual underpinning of FM 7-0 (2016) is almost entirely similar to that of FM 21-5 (1941), both documents dictate that training is driven by command determined objectives, progressive, and externally evaluated and controlled.⁵³ Both manuals also recognized the paramount value of US Army training present in the culmination of a unit training plan with live maneuvers, now represented by an external evaluation.⁵⁴ Even with

⁵⁰ TRADOC Regulation 350-50-3, *Mission Command Training Program* (2018) governs the planning and administration of MCTP WFXs, however, because of this focus is not analogous to FM 21-5 (1941). Since the goal of FM 21-5 (1941) was to provide “basic instructions for the training of the Army of the United States” FM 7-0 (2016) offers a better comparison.

⁵¹ US Army Field Manual (FM) 7-0, *Training to Win in a Complex World* (Washington DC: Government Printing Office, 2016), 1-1; US Army, Army Doctrine Publication (ADP) 7-0, *Training* (Washington DC: Government Printing Office, 2019), vi. The six principles eliminated between 2016 and 2019 were: “Training is commander driven, Training is led by trained officers and noncommissioned officers, Train using appropriate doctrine, Training is protected, Training is resources, and Training is multiechelon and combined arms.” These principles still underpin the themes of ADP 7-0, the Army likely chose to remove them from doctrine for the sake of simplicity.

⁵² US Army FM 21-5, *Military Training*, 1-2.

⁵³ The documents employ the same overall concepts of command driven, progressive, and externally evaluated and controlled training. The language they use to describe and define these concepts is related, however, both manuals use fitting contemporary definitions and terms.

⁵⁴ US Army FM 7-0, *Training to Win in a Complex World*, 1-1, 2-15-2-16, 3-12-3-14, A-2. Page 3-13 discussed the role of the EXEVAL as the culmination of a unit training plan. Similar to live maneuvers of the Interwar Period, the EXEVAL tests unit proficiency against Department of the Army

the incorporation of technological developments over the seventy-five years between the publication of each document, ideas that seem modern in FM 7-0 (2016) have conceptual ties with those present in FM 21-5 (1941).

One example of this is presented in FM 7-0's (2016) discussion of training environments, categorized as live, virtual, or constructive. FM 7-0 defined training environment as "comprised of conditions, supporting resources, and time that enables training tasks to proficiency." Chapter two elaborated on the need for units to use a combination of live, virtual, and constructive training environments to enhance realism and maximize the use of time. That section went on to define live training as "executed in field conditions using tactical equipment. It involves real people operating real systems." Units conduct virtual training "using computer-generated battlefields in simulators with the approximate characteristics of tactical weapon systems and vehicles." Lastly, constructive training "uses computer models and simulations to exercise command and staff functions. It involves simulated people operating simulated systems." The manual explicitly stated units from the platoon to corps echelon can use all three methods.⁵⁵ The notions behind these environments are present in the discussion of CPXs and map exercises offered in FM 21-5 (1941).⁵⁶ It is not difficult to recognize that while the technology that allows for digital simulation, or the synchronization of Master Selection Event List injects in the current era may seem astonishing to an Interwar Period Soldier, the ideas they represent are not.

approved metrics evaluated by third party observers. Though not required, EXEVALs typically incorporate live opponents, unless the evaluated unit conducts them as a live-fire exercise.

⁵⁵ US Army FM 7-0, *Training to Win in a Complex World*, 1-10, 2-16 – 2-18.

⁵⁶ See page 16 for the FM 21-5 (1941) definition of command post exercise. FM 21-5 (1941) defines map exercise as "exercises in which a series of military situations are stated and solved on the map. All students solve the requirements individually, after which the solutions are discussed in a general conference." US Army FM 21-5, *Military Training*, 45. The language in the manual implies that the US Army intended map exercises to be used as practical applications in academic settings.

Much like doctrine, there are significant similarities regarding the administration of large-scale exercises. The latter half of Chapter 3 of TRADOC Regulation 350-5-3, covers the procedures for execution of US Army WFXs. Similar to the Interwar Period umpires, the US Army now uses Observer-Controller, Trainers (OC/Ts) to provide external oversight, evaluation, and feedback during training events. Unlike FM 21-5 (1941), FM 7-0 (2016) stipulated that only certain events warrant OC/Ts, typically these events are transitional between echelons; this departure implies that units can internally evaluate some events.⁵⁷

Another difference between the administration of the Interwar Period and current era large-scale exercises resides in the force structure that supports them. Given the re-emergent nature of Interwar Period large-scale maneuvers, GHQ had to create superficial organizational infrastructures to support their execution. Over the eighty years between the Interwar Period and current era, the Army formalized these organizations based on the desire to conduct large-scale exercises on a rotational basis that offers optimized throughput.⁵⁸ Specifically, full-time OC/Ts comprise the majority of personnel in organizations like MCTP, Joint Modernization Command, and the Operations Groups of the National Training Center, the Joint Readiness Training Center, and the Joint Multinational Readiness Center. These organizations go to great lengths to provide the highest quality feedback and assessment of the units they train, in some cases conducting up to ten or eleven exercises in a given year. In addition to providing the infrastructure necessary to plan and administer training events, these organizations allow the Army better fidelity in the selection and education of OC/Ts. The Army selects Officers and NCOs for OC/T duty following

⁵⁷ US Army FM 7-0, *Training to Win in a Complex World*, 2-13.

⁵⁸ During the Interwar Period, divisions held maneuvers annually as part of their progressive training plans. Despite calling them “division maneuvers” the largest element they exercised were brigades or regiments. As illustrated by Moenk, the overall strength of the US Army prior to 1938 did not allow commanders to conduct exercises above the brigade level. Unlike 1920s and 1930s era maneuvers, the current model balances operational and training requirements in a manner that ensures they attend a combat training center rotation on a biennial basis unless precluded by real-world missions.

key and developmental assignments, which give them relevant experience from which to provide feedback. Once on station, these new OC/Ts must undergo a period of certification, much like their Interwar Period counterparts.⁵⁹ However, because of the more permanent nature of their assignment, current OC/Ts periodically revisit the certification tasks to ensure they maintain awareness on current doctrine and, therefore, can provide better feedback.

Much like the umpires of the Interwar Period, current OC/Ts use a standard operating procedure (SOP) to govern their adjudication of battlefield effects per exercise rules. Unlike the *Umpire Manual* (1941), OC/T SOPs are now training center-specific, and though doctrinally based, contain rules and methods that are specific to the training center that developed them. For example, the MCTP OC/T SOP contains different terms and methods for assessing casualties following an indirect fire attack than the SOP used at Fort Polk's Joint Readiness Training Center. Some of this differentiation is because different training centers have different focuses (MCTP trains divisions and corps and the Joint Readiness Training Center trains infantry BCTs); however, in many cases, it is the result of decentralization on the part of US Army Forces Command and TRADOC. Also, like the 1941 *Umpire Manual*, these SOPs are oft-criticized by training units who believe they detract from the realism of the simulation or favor the enemy forces.⁶⁰ Regardless of these opinions, the SOPs provide a doctrinally based known point of

⁵⁹ US Department of the Army, Army Regulation (AR) 350-50, *Combat Training Center Program* (Washington DC: Government Printing Office, 2018), 8, 16. On page 8, this regulation mandates that the US Army G-1 provides "high-quality, highly experienced, and branch qualified cadre, in accordance with current year RA manning guidance, to all combat training center operations groups that support combat training center requirements in accordance with the combat training and MCTP OC/T coverage." These specifications ensure that officers and NCOs assigned as OC/Ts have relevant experience to help them coach and train US Army units. Multiple references are made to the need for OC/T certification training. Such training is delineated as the responsibility of a given combat training center Commander on page 16. "Train and certify OC/Ts and augmentation OC/Ts to TRADOC-established standards."

⁶⁰ These manuals are actually written deliberately to provide advantage to neither friendly or enemy forces. In many cases OC/Ts are biased towards harsher adjudication on the opposing force because as units that operate within the exercise rules more routinely, they should have more familiarity.

departure that support the OC/Ts ability to control crucial aspects of training and ensure units meet their objectives.

The organizations previously mentioned also provide permanent party opposing forces (OPFOR) for current large-scale exercises. The idea of externally provided OPFOR was present during the Interwar Period; however, like umpires, the Army did not permanently assign units to that role. The idea of a permanent OPFOR for large-scale training exercises came along with the creation of Combat Training Centers in the early 1980s, a result of the US Army's desire to reinvigorate realistic training following Vietnam, and GEN William DePuy's vision of a "training revolution" interpreted by MG Paul Gorman.⁶¹ The US Army's shift to using permanent OPFOR organizations allowed them to "fight" training units using adversary tactics and doctrine, as opposed to the Interwar Period exercises where both opponents "fought" using US tactics and doctrine. While it is arguable, which is better in terms of doctrine development, this denotes a significant departure regarding the conduct of US Army training exercises between the Interwar Period and current era.

Another significant change to large-scale exercises over the past eighty years is the amount to which they are virtual and constructive. The 1941 GHQ Maneuvers pitted two live Field Armies against one another.⁶² As of 2019, MCTP conducts Division WFXs without a single subordinate brigade in the field. Instead, they feature digitally simulated brigades represented by response cells of "puckers."⁶³ This approach means that current WFXs are more similar in

⁶¹ Anne W. Chapman, *The Origins and Development of the National Training Center 1976-1984* (Fort Monroe, VA: Office of the Command Historian, US Army TRADOC, 1992), 13-24.

⁶² Gabel, *The US Army GHQ Maneuvers of 1941*, 64.

⁶³ US Army TRADOC, REG 350-50-3, *Mission Command Training Program*, 39-40. The regulation defines response cells as groups that "replicate division and corps subordinate formations that cross talk and plan with training audiences." The section further implies that the cells do not require a full representation of a unit staff, but must be able to conduct basic levels of staff analysis and resultant production. They typically provide higher control to a work cell which "replicated the subordinate battalions and brigades of a training audience." The individual battalions subordinate to the response cells are manipulated by "puckers" in the virtual simulation. Though not defined in the TRADOC Reg, it is

concept to map and CPXs conducted during the Interwar Period than live maneuvers. While current simulation software and the use of response cells increase the amount of realism compared to a map exercise or CPX, they still leave gaps that do not allow for divisions to fully appreciate the friction and fog inherent on the battlefield. The JWA program has attempted to provide an alternative approach to the idea of response cells and digital simulation.

Partnering with US Pacific Command and US European Command on alternating years, JMC hosts an annual JWA.⁶⁴ During JWA 2018, the US Army's 1st Infantry Division commanded three US maneuver brigades (2nd Cavalry Regiment, 173rd Airborne Brigade, and 2nd Brigade, 1st Infantry), and other US and multinational enablers took to the field in Germany in an attempt to validate the concepts of the US Army's current operations manual (FM 3-0, 2017).⁶⁵ This model represented a significant change from the MCTP WFX construct, and proved that the US Army could again execute live exercises at the Division, and potentially Corps echelons. JWA 2018 also demonstrated the ability for the US Army to incorporate Joint and Multinational partners in a live exercise. MCTP routinely integrates these kinds of units virtually, or constructively, for the most part, in WFX, and most Interwar Period exercises failed to incorporate the joint force aspect.⁶⁶

As the US Army has progressed into the 21st century, it has kept similar concepts and methods regarding how it trains Soldiers and units. Under the most recent construct, JWAs are

implied that the "puckers" are individual soldiers who manipulate at a minimum one battalion in a digital system.

⁶⁴ "The Joint Warfighting Assessment," Joint Modernization Command, accessed December 8, 2019, <https://home.army.mil/bliss/index.php/units-tenants/joint-modernization-command>.

⁶⁵ Michael J. Lawson, foreword to *CALL Newsletter 19-03 Multinational Joint Forcible Entry Operations: Blue Flag/Joint Warfighting Assessment 2018*, edited by Center for Army Lessons Learned (CALL) (Fort Leavenworth, KS: Army University Press, 2018), iii. The last time the US Army put an entire division in the field prior to 2018 was before September 11, 2001.

⁶⁶ There were a handful of joint exercises during the interwar period that aimed to test amphibious landing doctrine, specifically whether the Army could conduct a landing.

the most similar US Army training event to Interwar Period large-scale exercises. The JWAs embody the legacy of the 1941 GHQ Maneuvers just as much as the physical memorials and historical markers across Louisiana and the Carolinas. However, as demonstrated previously, these and other large-scale training exercises are bound conceptually to the Interwar Period. The US Army recognized the requirement to maintain a ready force following the 1973 Yom Kippur War and does so through a model similar to the one used to prepare units for combat in 1941. Technological advances have changed how the US Army executes these exercises, but the reality persists that the overall concept is unchanged. Even so, it is possible that changing the overall concept behind US Army training is not necessary. The methods in use are proven; they build proficiency in both individual and unit tasks and provide an arena that allows for the application of doctrine as it currently exists. The question moving into the next decade is whether the shift to a new doctrine of MDO requires a similar shift in how the US Army conducts large-scale unit exercises.

Is MDO Different?

As previously mentioned, the US Army officially unveiled its future operating concept, MDO in December 2018. Framed as a significant change from the previous concept, Unified Land Operations, MDO incorporated five domains of warfare, land, air, sea, space, and cyber, whereas Unified Land Operations focused solely on land.⁶⁷ In the foreword to TRADOC PAM 525-3-1 (2018), then Chief of Staff of the Army, GEN Mark Milley, stated the US Army developed the concept as a response to the strategic competitors of Russia and China, and that MDO represented an evolutionary step in how the US Army wages warfare.⁶⁸ Many critical

⁶⁷ A domain is defined as “An area of activity within the operational environment (land, air, maritime, space, and cyberspace) in which operations are organized and conducted. (modified joint definition).” US Army TRADOC, PAM 525-3-1, GL-4.

⁶⁸ Mark A. Milley, Foreword to PAM 525-3-1, *The US Army in Multi-Domain Operations 2028* by US Army TRADOC (Washington DC: Government Publishing Office, 2018), i. The foreword goes on to

discourses, as of early 2020, have dissected and analyzed the methods suggested in TRADOC PAM 525-3-1 (2018).⁶⁹ As with any new theory, there is little consensus on whether or not MDO is the best mechanism to counter emergent threats. Regardless of its critics, the US Army has committed to the MDO concept, and as a result, must start to build proficiency through its application in training events. It's not necessary to understand whether or not the tenets of MDO represent a replacement for combined arms maneuver, or merely a set of conditions for its application to identify if it is truly an evolutionary approach to warfare. As a result, analyzing what changes, if any, the MDO concept does represent, provides evidence that the US Army should alter its large-scale exercises in pursuit of mastering MDO.

The MDO concept does represent a significant change in the US Army's approach to warfare from the concepts employed over the preceding twelve years.⁷⁰ Unlike previous concepts, TRADOC's presentation of MDO assumes the US Army must prepare for LSCO, must integrate

state that as part of an evolution, the 2018 version of TRADOC PAM 525-3-1 represented the first step in force modernization and intended to spark discourse across the force.

⁶⁹ Grant S. Fawcett, "History of US Army Operating Concepts and Implications for Multi-Domain Operations." (SAMS Monograph, US Army Command and General Staff College, 2019); Alex R. Garn, "Multi-Domain Operations: The Army's Future Operating Concept for Great Power Competition." (SAMS Monograph, US Army Command and General Staff College, 2019); Jonathan, W. Bott, "What's after Joint? Multi-Domain Operations as the Next Evolution of Warfare." (SAMS Monograph, US Army Command and General Staff College, 2017); Matthew W. Brown, "Toward Multi-Domain Battle: Combined Arms Precedents to Inform Today's Joint Force." (Master's Thesis, National Defense University, 2017); Matthew W. P. Burgoon, "Multi-Domain Operations: The Historical Case." (SAMS Monograph, US Army Command and General Staff College, 2019); David G. Perkins, "Multi-Domain Battle: Driving Change to Win in the Future," *Military Review* (July-Aug 2017): 6-12; David G. Perkins, "Preparing for the Fight Tonight: Multi-Domain Battle and Field Manual 3-0," *Military Review* (September-October, 2017): 6-13; David G. Perkins, "Multi-Domain Battle: The Advent of Twenty-First Century War," *Military Review* (November-December 2017): 8-13. These papers represent a small sampling of the ongoing professional discussions that are trying to define how to best conduct MDO at present.

⁷⁰ Fawcett, "History of US Army Operating Concepts and Implications for Multi-Domain Operations." 21-22. Per Fawcett's research, TRADOC PAM 525-3-1 *The United States Army Operating Concept, 2016-2028* (2010) and TRADOC PAM 525-3-1 *Win in a Complex World* (2014) were the previous two US Army concept documents. Both documents focused on tactical maneuver as a result of the US Army's involvement in limited conflicts in the Middle East. Combined Arms Maneuver and Wide Areas Security were the central tenets of both concepts.

and synchronize capabilities across domain and joint services, and must modernize itself to attain the previous two goals.

Though not explicitly stated, the US Army wrote TRADOC Pamphlet (PAM) 525-3-1 (2018) with LSCO in mind. Army Doctrine Publication 3-0 *Operations* (2019) identified that “large-scale ground combat operations are sustained combat operations involving multiple corps and divisions.”⁷¹ When combined with the description of field armies, corps, and divisions roles in MDO presented by TRADOC PAM 525-3-1 (2018) this definition illustrates the conceptual links between MDO and LSCO. This is a shift from previous concepts that the US Army wrote at a time where it either; could not visualize a threat that demanded multiple corps, or was required to focus on limited scope contingency operations in which corps served as joint task force headquarters and divisions as resource providers, not tactical units. Both of the prior operating concepts acknowledged some of the factors on which MDO and LSCO are based, such as adversary anti-access/area denial, cross-domain effects, and calibrated force posture.⁷² With that acknowledgement came the recognition that Joint Force effects enabled the US Army’s ability to conduct combined arms maneuver to destroy an enemy. However, while previous concepts understood the US Army’s role as a member of the joint force, they did not attempt to provide a wholly joint concept, like MDO.

The US Army in MDO 2028 also presented the first US Army operating concept to receive support of the remaining Joint Forces. As of February 2020, the US Navy, US Air Force, and US Marine Corps all recognize MDO as the paradigm under which the US Department of Defense intends to fight its future engagements. As mentioned above, MDO was not the first US

⁷¹ US Department of the Army, Army Doctrine Publication (ADP) 3-0, *Operations* (Washington DC: Government Printing Office, 2019), 1-2.

⁷² Fawcett, “History of US Army Operating Concepts and Implications for Multi-Domain Operations,” 21-23.

Army operating concept to understand and articulate the need for other elements of the joint force to enable successful combined arms maneuver in the land domain. However, even though previous concepts encompassed this understanding, the US Army failed to generate the consensus necessary to synchronize joint concepts. The outspoken acceptance of the three other sister services indicates that MDO broke that trend.⁷³ Additionally, the creation of US Space Force in early 2020 further denoted not only the US military's acceptance of the concept, but also that of the US government. Despite its widespread acceptance within the US military, MDO is not a replacement for joint operations, merely an addition to them. The two terms are not synonymous, for example, the US Army and US Marine Corps can execute a joint attack exclusively on the land domain, meanwhile a US Navy carrier strike group can conduct simultaneous operations in the sea, air, and cyber domains without another joint partner. The distinction between joint and multi-domain operations is inherently confusing. Even more so when the US military attempts to conduct joint-MDO using platforms that are not interoperable with one another, highlighting the need for modernization across the US Department of Defense.

In its preface, GEN Stephen Townsend, Commander TRADOC, identified that the MDO concept was the first of a four step concept to “evolve we organize and integrate the (US) Army as part of the Joint Force.”⁷⁴ The second step of the methodology spelled out by GEN Townsend is to “develop a comprehensive Army modernization strategy linked to this concept and

⁷³ Grant J. Smith, “Multi-Domain Operations: Everyone’s Doing It Just Not Together,” *OTH Journal*, June 24, 2019, accessed January 20, 2020, <https://othjournal.com/2019/06/24/multi-domain-operations-everyones-doing-it-just-not-together/>; Will Spears, “A Sailors Take on Multi-Domain Operations,” *War on the Rocks*, May 21, 2019, accessed January 17, 2020, <https://warontherocks.com/2019/05/a-sailors-take-on-multi-domain-operations/>. These two articles, written by members of the US Ari Force and US Navy, respectively, demonstrate that the MDO concept has permeated both their forces. Ostensibly, inclusion within them both, denotes tacit acceptance within the US Space Force and US Marine Corps.

⁷⁴ US Army TRADOC, PAM 525-3-1, iii.

synchronized with a joint approach to force development.”⁷⁵ While this objective and path provided by GEN Townsend is not the first of its kind, it’s manifested in new ways. Simultaneous with the development of the MDO concept was the creation of AFC, a peer organization to US Army Forces Command and TRADOC. The US Army established AFC to focus solely on modernizing the force to execute MDO by 2035.⁷⁶ This represented the first time that the US Army has a major command generated solely to help realize an operating concept. For the achievement of executing previous operating concepts, the US Army relied on a combination of organizations within TRADOC as well as the Army Staff to identify and validate requirements, generate options, and pursue their acquisition and fielding. Based on the previously identified joint nature and acceptance of MDO, this impetus to modernize cannot remain solely an US Army effort. Joint capability to provide command and control in multiple domains requires interoperable systems that can generate a joint common operating picture at senior tactical echelons, like divisions and corps. This way commanders can anticipate when cross-domain synergy achieves convergence, thus enabling combined arms maneuver to close with and destroy their enemies. The US Army and the Joint Force must continue the effort to modernize in line with their shared vision of MDO, to ensure they are able to meet its demands.

⁷⁵ US Army TRADOC, PAM 525-3-1, iii.

⁷⁶ Jen Judson, “Army Futures Command is Ready for Primetime,” *Defense News*, July 17, 2019, accessed January 17, 2020, <https://www.defensenews.com/land/2019/07/17/army-futures-command-is-ready-for-prime-time/>; Joe Lacdan, “Establishment of Army Futures Command Marks a Culture Shift,” *Army News Service*, August 27, 2018, accessed January 20, 2020, https://www.army.mil/article/210371/establishment_of_army_futures_command_marks_a_culture_shift.; Jen Judson, “Army Future Command is Leading a Cultural Shift Much to the Delight of Industry,” *Defense News*, October, 16, 2019, accessed January 17, 2020, <https://www.defensenews.com/digital-show-dailies/ausa/2019/10/16/army-futures-command-is-leading-a-cultural-shift-much-to-the-delight-of-industry/>.; Neil Hollenbeck and Benjamin Jensen, “The US Army Needs a Futures Command,” *War on the Rocks*, December 6, 2017, accessed January 20, 2020, <https://warontherocks.com/2017/12/army-needs-futures-command/>. These articles and press release outline the intent and purpose of US Army Futures Command, specifically highlighting its link to not only technology acquisition and development, but its pursuit of those as part of the realization of new concepts.

MDO provides a theory for the US Army, and its sister services to operate within as they prepare for the complexity the future holds. And though its application through the tenets of calibrated force posture, multi-domain formations, and convergence remain debated, the concept is different from the past two concepts. Especially when viewed as one that assumes the future demands capability for LSCO executed within a dynamic and interoperable joint force, that must modernize to fully prepare for either of the former requirements. As a result, the US Army must dedicate effort to evaluate if its large-scale training exercises meet what it anticipates the future entails.

Conclusion

Having successfully analyzed the supplemental research questions identified on page four, it is now possible to synthesize the findings to provide an answer to the primary research question addressed by this study. As the US Army begins its journey down the path to realizing MDO capability it must evaluate whether or not current training methodologies provide the appropriate opportunities for units and individuals to learn and develop the skills necessary to be successful applying the concept on the battlefield. Based on research conducted on Interwar Period exercises, current exercises, and if MDO is truly something different, a few conclusions are apparent. First, the US Army is currently in a situation similar to its Interwar Period counterpart, especially when considered through the lenses of reorganization, modernization, and changes in operating concepts. Also, conceptually training exercises follow the same path they did almost eighty years ago. Despite this similarity in framework, reliance on technology and necessities of limited conflict fought by modular teams have led current exercises to become reduced in scope than those of the Interwar Period. Additionally, the MDO concept, though still the topic of much debate, is built with different underlying assumptions than previous operating concepts, and therefore is something not quite revolutionary, but definitely a significant

evolution. When compiled, these conclusions make an obvious case for the US Army to adjust certain aspects of their large-scale exercises to provide the right catalyst for true learning organizationally and individually.

Some critics may argue that MDO is a flawed concept, and therefore the US Army should not pursue learning its application. The future may prove them right, the next conflict the US Army partakes may not require, or may even invalidate the idea of MDO. Similar critics existed during the Interwar Period, and in some instances, they were also correct. However, the US Army's success in WWII did not come from the fact that it entered the fight with the right concept of how it could be won. Instead the fact that it had units trained to learn from their mistakes, however painful, and resilient in the face of battlefield fog and friction underpinned total victory.⁷⁷ The US Army still values units and individuals that learn from their mistakes and adapt based on their situation. Ultimately that is what waging any kind of war requires, the ability to adapt to destroy an enemy who is also learning and adjusting. It is much easier to do that when an army understand its own doctrine and operating concepts, for one cannot improvise without first understanding their own theory. The US Army has identified MDO as the theory from which they wish the ability to adapt, it is now up to them to master its application.

Given the reduction in scope of current large-scale exercises compared to those of the Interwar Period, the US Army is in a position where it must adjust their construct, or risk failing to achieve its goal of MDO capable divisions and corps by 2028. By creating large-scale exercises that serve as educational opportunities for their participants (both units and individuals) the US Army provides mid-career leaders the foundations of understanding, experience, and knowledge necessary to command at higher echelons. Men like President Dwight Eisenhower, GEN George Patton, GEN Walter Kreuger, and LTG J. Lawton Collins learned immensely from

⁷⁷ A large military industrial complex unaffected by enemy contact, mobilized economy and populous, and early preparation also helped.

their experiences in Louisiana and the Carolinas in 1941. It is imperative, that if the US Army believes MDO is the wave of the future, that they provide the same opportunity for the current generation of leaders like MAJ(P) Bob Garcia.

The question hung somewhere between Bob's brain and his gut for about three minutes as he evaluated his answer. He thought back to his first assignment after his year at the School of Advanced Military Studies, as a member of the 1st Cavalry Division staff, he participated in a WFX, where his division "invaded" a hostile nation that had mixed Russian and Chinese capabilities. Bob spent most of the exercise planning what happened between the arrival of the entire division in country and its relief on the front lines about two months later. Because of his assignment as a School of Advanced Military Studies graduate, Bob was one of few individuals who had seemingly unfettered access to the Division Commander, so he had been able to witness what questions the general asked of her staff, and how she used the information they provided to make timely, and relevant decisions. Though the exercise only focused on the first four weeks of combat, Bob was able to see how the division commander had successfully blended the Corps Commander's guidance with the reality her subordinate brigades faced to accomplish the Division's mission nested within the Corps, Field Army, and Theater Commander's intent. He took part in similar exercises during his time on the Eighth Army staff in Korea. Though he had only had a few repetitions with those types of training, he felt comfortable.

But then he thought back even farther through his career, he had always felt comfortable working at echelons above his rank. Not because he thought himself a superior officer, Bob had worked arduously to gain the status he now held, but rather because the Army had deliberately prepared him for the mantle of increased responsibility. When he was a student in the Reserve Officer Training Corps, Bob remembered some of his instructors complaining about exercises, and how they never had time to learn from their mistakes, try new techniques, experiment with how to integrate new technology, or how the computer simulation programs made large formation

movements seem so easy. Fortunately, that had not been Bob's experience. His first division-level exercise, in which he was a Company Executive Officer, had been almost entirely live, though dispersed, with realistic indirect fires simulations, and sustainment friction. His company spent about six weeks of actual time in the field, broken into intervals to facilitate equipment maintenance, and allowing himself, the Company Commander, and the First Sergeant to try different methods and see which ones worked best. It was this new approach to large-scale exercises that helped Bob feel comfortable rising through the ranks. He knew that no matter what crazy climb up the chain of command his career was about to make as a result of the horrible news from Pyeongtaek that he stood prepared.

There is no doubt that the US Army faces a great challenge in revising how it trains divisions and corps. However, much like MDO as an operational concept the changes do not have to be revolutionary. The concept of command driven, objective based progressive training does build task proficiency for both individuals and units, as the US Army has continuously proved for the last eighty years. As a result, the US Army only has to look for changes to how they conduct such training.

Recommendations

As mentioned in the introduction, the US Army entered this decade (2020-2030) intending to transition to MDO as an operating concept. Additionally, as highlighted in the section titled "Is MDO Different?", MDO is different from how the US Army has operated over the past ten years. With these facts in mind, it is possible to offer potential changes to the planning and conduct of large-scale exercises to ensure the US Army meets its goals. Though not stated explicitly in TRADOC PAM 525-3-1 *The US Army in MDO* (2018), the document implies the inherent large-scale nature of MDO throughout. Often outlining that it is conceptual

underpinnings that exist at the division level or higher.⁷⁸ As a result of, the inherent large-scale nature of Multi-Domain Operations, the key differences between previous concepts and MDO already established, and the earlier discussed ideas that US Army training has not conceptually changed since the Interwar Period, it is evident that to prepare for MDO, the Army must make changes to how it plans and conducts large-scale exercises. Three potential areas of improvement are: increasing the use of the live environment, extending exercise duration, or conducting “interval” exercises⁷⁹ to allow units more opportunities to learn, and providing commanders more flexible authorities to allow units to gain experience operating within the space and cyber domain.

The US Army has already initiated increases in the use of the live environment during large-scale exercises. DEFENDER 2020, aligned under both US European Command and US Indo-Pacific Command, is scheduled to run through the spring and summer of 2020 and has identified a training audience that ensures a division equivalent each to marshal and deploys from home station to the US European Command area of responsibility.⁸⁰ Subordinate brigades have

⁷⁸ US Army TRADOC, PAM 525-3-1, 15-46. Chapter 3 outlines how the army intends to conduct MDO in pursuit of Joint Force objectives. The document discusses the application of the tenets of MDO across time and space, outlining in detail how echelons from Theater Army down to Brigade converge, or leverage the convergence of multi-domain effects. The paragraph that discusses brigade convergence emphasizes their ability to converge is limited, and rather they exploit opportunities at points in time or space where larger units have achieved convergence

⁷⁹ “Interval” exercises are a concept proposed by this monograph. Similar to a track workout, they consist of an exercise iteration followed by a “recovery” or “rest” period of similar duration. The intent is for the “recovery/rest” period to enable unit after-action reviews, reflection on those reviews, identification of solutions to address shortfalls or exploit on success. Additionally, this period provides units the opportunity to re-fit their personnel and equipment as well as rehearse to fine tune any changes to their SOPs prior to beginning another exercise iteration, of equal duration and scale to the first. For elaboration see figure 1 and description on page 41.

⁸⁰ Jen Judson, “Reforger Redux? Defender 2020 to be 3rd largest exercise in Europe since Cold War,” *Defense News*, October 7, 2019, accessed January 7, 2020, <https://www.defensenews.com/land/2019/10/07/reforger-redux-defender-2020-exercise-to-be-3rd-largest-exercise-in-europe-since-cold-war/>; Jen Judson “US Army’s ‘Defender Pacific’ drill to focus on South China Sea scenario,” *Defense News*, March 27, 2019, accessed January 7, 2020, <https://www.defensenews.com/digital-show-dailies/global-force-symposium/2019/03/27/defender-pacific-to-focus-on-south-china-sea-scenario/>. Though both exercises are slated for 2020, these articles do not state nor imply they are linked in time, or through scenario. Also, to clarify, there are two separate division sized training elements; one that is slated for Defender 2020 in Europe, the other for Defender Pacific.

subsequent objectives that ensure the exercise is of a tactical, vice, an administrative nature. The increased number of units participating in the exercise heightens its realism, ensuring conditions are closer to actual combat operations. Budgetary and space constraints prevent the US Army from doing this more routinely and explain why WFXs feature the virtual and constructive environments more heavily. However, given the nature of modern command and control systems, and the notion (inherent within MDO) that the modern battlefield is going to feature increased geographic dispersion, it is possible that the US Army could link exercises across home stations to grow the number of participants in the live environment. This approach requires concurrent alterations to the planning and administration of large-scale exercises. This sort of change requires increased synchronization to develop a linked training scenario, and augment any organization(s) that might provide the third-party OC/Ts and OPFOR.⁸¹ Additionally, if the US Army pursues this option, they must update how they exercises sustainment and fires to increase realism. All this is not to say that the US Army should eliminate virtual and constructive environments. It is necessary to continue to leverage and develop technology within those realms. Nevertheless, to ensure realism, it is necessary to maximize the amount of live participation in large-scale exercises.

The increase in training audience size and the corresponding size of exercise support organizations is likely to have significant fiscal, physical, and emotional impacts on the US Army. It is not feasible, based on current active strength and competing operational requirements to put a full division in the field every month for ten out of the twelve months in a year, as done with the current MCTP WFX throughput. Instead, with increased live participation, the US Army must also decrease the frequency of large-scale exercises. The fact that the Army only conducts

⁸¹ A potential source for OC/Ts is the 1000+ majors and captains attending the resident Command and General Staff Officer Course at Fort Leavenworth. The school is focused on educating officers on current doctrine, and if timed correctly could integrate students as OC/Ts as both an academic requirement and educational opportunity.

JWAs once a year signifies that the US Army already recognized this reality. However, by conducting fewer large-scale exercises, the US Army can extend their duration. Transitioning from a ten-day-long exercise to a three or four-week exercise allows for greater exposure to the cascading effects of friction and enemy presence on the battlefield. Extending the duration of current exercises continuously is but one of the methods by which the US Army could expose their higher-level staff to increased friction and enemy presence.

Another approach to this concept is rather than a continuous longer duration exercise, have the same training audience conduct multiple linked iterations within the same scenario. For example, a division could conduct operations for two weeks, followed by two weeks to recover, conduct a thorough assessment, introspective reflection, rehearse functions in which they were deficient, and potentially develop new methods to create effects on the enemy. Following this pause, send the division back into the field, picking up where they left off for another two weeks of exercise. The training unit could adjust the number and duration of iterations as required based on the operational requirements and training objectives of the organization. However, leaders must keep in mind that too many or too-lengthy intervals may be just as detrimental as too few. This “Interval” exercise would require the training audience and exercise support units to remain singularly focused for an extended period compared to the more conventional continuous style model currently employed in large-scale exercises. Figure 1, An “Interval” Exercise, on page forty-one delivers further clarification on the design of the “interval” exercise model. This approach to large scale-exercises would come at odds to the US Army’s proclivity to try and do everything simultaneously.⁸² This additional time and space for deliberate reflection would,

⁸² The US Army self imposes many “training distractors” that prevent it from achieving readiness goals within current exercise models. Extending the amount of time an entire division is singularly focused on one event would have second and third orders effects on other units who would fulfill the “distractor” requirements. The other option to alleviate this friction is to re-prioritize some of the self-imposed “training distractors” in so allowing units to meet both training and operational requirements.

however, likely enhance learning both individually and organizationally.⁸³ A key reason to break these exercises into intervals to facilitate learning is that the US Army limits tactical unit command to two years, and only guarantees individual assignments for almost the same duration. As a result, most units conduct WFXs biannually, thus creating a system where individuals do not remain in the same positions for multiple large-scale training exercises. Increasing the amount of learning per exercise, through a model like “interval” exercises, would be of great benefit to individuals who would then gain more experience earlier in their career, preparing them for positions of greater responsibility. This additional experience could also assist them in positions of authority teaching their junior officers how to cope with new responsibilities, as is often the model found in unit run leader professional development programs. Regardless of the method used to lengthen large-scale exercises, the US Army must also ensure the exercises help units develop new and sound tactics, techniques, and procedures under the conditions of the anticipated operating environment.

⁸³ Donald A Schön, *Educating the Reflective Practitioner* (San Francisco: Jossey-Bass, 1987), 114-117. Schön argues that to fully take advantage of learning through coaching individuals must imitate what their coach demonstrated, who then provides critical feedback. Following this feedback students must reflect then reflect on their initial reflection, using a “ladder of reflection.” Schön further argues with more iterations of a given practice students eventually gain the ability to reflect in action and as a result self-correct. Schön’s work is meant specifically for instruction on design, but his theory is transposable to the application of military arts.

An “Interval” Exercise

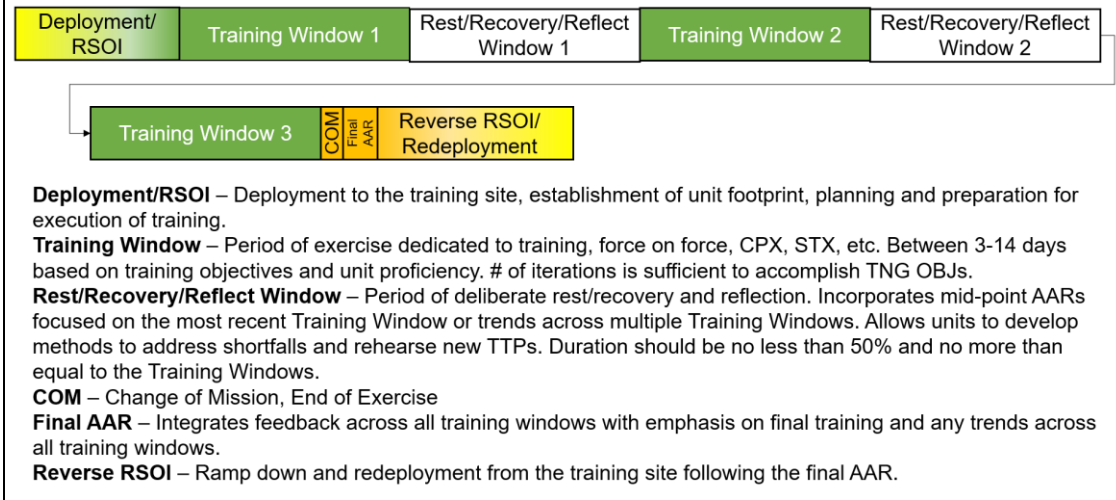


Figure 1. An “Interval” Exercise. Generated by the Author.

A certain amount of experimentation is necessary as the US Army further refines how it intends to conduct MDO across different organizations. Much like interwar period use of armored divisions, the best method to identify sound tactics, techniques, and procedures for employment is to put new technologies and organizations into a simulated combat environment. As previously mentioned, the most rapidly growing of the five recognized domains are space and cyber. As the US Army fields new equipment, personnel, and units that operate within those domains, they must also integrate them into their large-scale exercises. By involving these capabilities in the exercises, the US Army is underwriting experimentation in their employment. In the spirit of experimentation, the US Army should also vary the extent to which these capabilities are involved, in quantity, and authorization for their employment. By allowing commanders of different echelons to employ and control effects in the cyber and space realm, the US Army can create leaders who understand the impact those capabilities have. This experimental model allows for a better understanding of how to employ those systems in actual combat scenarios, and allow planners to anticipate better the actual effects they possess. Armed with that knowledge, US

Army planners can more effectively determine at what level different authorities need to reside at any given time, based on strategic context. This methodology and mindset are similar to what the US Army employed during the interwar period to determine how to employ mechanized vehicles, aviation forces, and the vast amounts of other technologies developed before WWII.⁸⁴ By incorporating the mindset of experimentation with equipment, personnel, and units into large-scale exercises, the US Army can enhance subsequent training exercises to ensure they realistically simulate combat.

The 21st century is already one of turmoil for the US. The first year of the new millennium brought an attack that provided the genesis for America's "forever wars." These conflicts in the Middle East and Southwest Asia demonstrated a character of war that was markedly different from what the US experienced in the previous century. Regardless of the many things the wars in Iraq, Syria, and Afghanistan were, one thing they were not is large-scale. As a result, the US Army is currently attempting to discern what LSCO looks like in the information age. Simultaneous to this aim, the US Army is amidst the transition from the BCT to the division as their "chief fighting unit." As they identify the latest character of warfare, they must also evaluate the methods by which they prepare divisions for it. In the context of these current Army initiatives, leaving large-scale training exercises unaltered may be a case of doing the same thing and expecting different results.⁸⁵

⁸⁴ In this instance, the interwar period denotes the more common usage, between 1919 and 1941, that better encapsulates the timeframe during which the US Army sought ways to employ the listed capabilities.

⁸⁵ Christina Sterbenz, "12 Famous Quotes that Always Get Misattributed." *Business Insider*, October, 7, 2013, accessed December 10, 2019, <https://www.businessinsider.com/misattributed-quotes-2013-10>. Though often attributed to Albert Einstein, Rita Mae Brown first published this definition of insanity in her 1983 novel *Sudden Death*.

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