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**RISK MITIGATION AND LEADERSHIP IN TACTICAL
U.S. ARMY INFANTRY TRAINING**

by

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December 2017

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**RISK MITIGATION AND LEADERSHIP IN TACTICAL U.S. ARMY
INFANTRY TRAINING**

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ABSTRACT

Despite the prevalence of irregular wars, the U.S. Army must also be prepared for the possibility of a high-intensity conventional war. The training required for this war must simulate the expected conditions, those of high-intensity conflict, as closely as possible. As U.S. strategic leaders look to the future and prepare the U.S. Army for the next conflict, they prepare for a war with a level of violence that resembles that of the Korean War. While conditions that simulate combat are dangerous and present inherent risks, the mitigation of that risk prevents the adequate simulation of a high-intensity combat situation. Therefore, this thesis studied how risk mitigation practices in U.S. Army tactical infantry training affect Soldiers' preparedness for high-intensity combat operations. By examining U.S. Army infantry training at the tactical level, U.S. Army safety and risk mitigation doctrine, cognitive and perceptual biases, and historical case studies, this thesis suggests that U.S. Army risk management practices neither hinder nor help combat preparedness. Instead, the abdication of a commander's authority to execute risk mitigation in the training environment affects combat readiness.

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LIST OF ACRONYMS AND ABBREVIATIONS

1SG	First Sergeant
2IC	Second in Command
AAR	After Action Review
AC	Attack Cargo
ACOG	Advanced Combat Optical Gunsight
ADRP	Army Doctrine Reference Publication
AH	Attack Helicopter
APC	Armored Personnel Carrier
ARFORGEN	Army Force Generation
ARTEP	Army Training and Evaluation Program
ATP	Army Technical Publication
AUSA	Association of the United States Army
BFV	Bradley Fighting Vehicle
CAS	Close Air Support
COL	Colonel
CPT	Captain
FEC	Far East Command
FM	Field Manual
GBU	Guided Bomb Unit
GFC	Ground Force Commander
HEAT	High Explosive Antitank
HMMWV	High Mobility, Multi-Wheeled Vehicle
HQ	Head Quarters
ICV	Infantry Carrying Variant
IED	Improvised Explosive Device
JDAM	Joint Direct Attack Munition
JTAC	Joint Tactical Air Controller
KIA	Killed in Action
LFX	Live Fire Exercise
LMTV	Light Medium Tactical Vehicle
LTC	Lieutenant Colonel

LZ	Landing Zone
MEDEVAC	Medical Evacuation
MET	Mission Essential Task
METL	Mission Essential Task List
MGS	Mobile Gun System
MOUT	Military Operations on Urbanized Terrain
MRAP	Mine Resistant Ambush Protected
MSD	Minimum Safe Distance
NCO	Noncommissioned Officer
NVA	North Vietnamese Army
OC	Observer/Controller
O/C/T	Observer/Coach/Trainer
OIC	Officer in Charge
OPFOR	Opposing Force
P	Practiced
PDF	Panamanian Defense Force
PLF	Parachute Landing Fall
PPE	Personal Protective Equipment
PT	Physical Training
PZ	Pickup Zone
ROE	Rules of Engagement
ROK	Republic of Korea
RPG	Rocket Propelled Grenade
RSO	Range Safety Officer
RWS	Remote Weapon System
SDZ	Surface Danger Zone
T	Trained
TRADOC	United States Army Training and Doctrine Command
U	Untrained
UH	Utility Helicopter
USABAAR	United States Army Board for Aviation Accident Research
WIA	Wounded in Action
XO	Executive Officer

EXECUTIVE SUMMARY

As U.S. strategic leaders look to the future, their advice is to prepare for a war with “violence on the scale that the U.S. Army has not seen since Korea,” despite the prevalence of recent irregular wars.¹ The training required for a major conventional war must simulate high-intensity conflict as closely as possible. While conditions that simulate combat are dangerous and present inherent risk to Soldiers’ personal safety, an aversion to this risk prevents the adequate simulation of a high-intensity combat situation. The concept of simulator fidelity suggests that increased realism in training results in increased combat readiness; however, current military training exercises deliberately decrease training fidelity in order to mitigate risk.² After defining the friction between realistic training and safety, this thesis examined how risk mitigation in U.S. Army tactical Infantry training affects Soldiers’ preparedness for combat operations. A study of three distinct categories established the framework for answering this question. The first section details how Infantry companies train and the role of the commander. The second section studies both how risk is managed and how risk is perceived. The third section examines Infantry units in their “First Battles” to better understand how training effects combat performance.³ This thesis concludes by asserting that U.S. Army’s risk mitigation doctrine is both sound and effective, but its employment is inconsistent and environment specific. More specifically, the problem is that this doctrine is not implemented in concert with the U.S. Army’s philosophy of mission command.

First, the training of U.S Army Infantry companies demands an understanding of their Mission Essential Task List (METL), and the role of the company commander in establishing a unit training plan (UTP) that achieves his vision. This training plan must account for the company and higher mission, and then balance the mobility, lethality, and

¹ William C. Hix, “General Bernard W. Rogers Strategic Issues Forum” (speech. AUSA Conference and Events Center in Arlington, VA, February 7, 2017).

² Dave Grossman, and Loren W. Christensen. *On Combat: The Psychology and Physiology of Deadly Conflict in War and in Peace* (Belleville, IL: PPCT Research Publications, 2007) 80.

³ Charles E. Heller and William A. Stofft, eds. *America's First Battles, 1776-1965*. Lawrence, KS: University Press of Kansas, 1986.

protection provided by the weapons and delivery platforms assigned to that company. The goal of the UTP is the creation of what LTC (ret.) Dave Grossman correctly labeled as “Pre-Battle Veterans:” Soldiers that understand their enemy, comprehend the effect of their weapon systems, and will fight like seasoned veterans.⁴

Second, an evaluation of risk management and safety doctrine, when aligned with the warfighting philosophy of mission command, identifies inconsistencies between the training environment and the operational environment. In training, the outsourcing of risk mitigation and safety responsibility to an agency outside the chain of command, Range Control, negates the commander’s training assessment, ignores the technological advances made to increase accuracy and limit weapons’ effects, and stifles the innovation of junior officers. More importantly, this centrality encourages organizational complacency and a “this is how we’ve always done it” mentality. As a result, Infantry units do not train for their combat mission; they train whatever the Range Control allows.

Furthermore, the abdication of command authority to Range Control allows cognitive and perceptual biases to infect the entirety of the U.S. Army training environment with an inflated perception of risk. At present, U.S. doctrine frames severity in terms of loss. This frame of reference allows loss and feelings of disadvantage to have a more significant effect on one’s preference than does the feeling of gain or advantage.⁵ Additionally, the paradox of risk mitigation, which states that as people become safer, they become more concerned about risk and they feel more vulnerable to is, compounds the existing “safety first” culture.⁶ Cognitive and perceptual biases further exaggerate this paradox and continually influence decision-making. Once an activity is labeled “unsafe,” gradual changes that decrease the risk and make the activity safer go unnoticed.⁷ Unfortunately, the bureaucracy built around safety doctrine and the abdication of risk

⁴ Grossman, and. Christensen, *On Combat*, 74-80.

⁵ Amos Tversky and Daniel Kahneman, "Loss Aversion in Riskless Choice: A Reference-Dependent Model," *The quarterly journal of economics* 106, no. 4 (1991): 1039.

⁶ Paul Slovic, “Risk Perception and Trust” in *Fundamentals of Risk Analysis and Risk Management*, ed. Vlasta Molak (Boca Raton: Lewis Publishers, 1996), 233.

⁷ Richards J. Heuer, “Chapter 2: Cognitive Factors in Deception and Counterdeception,” In *Strategic Military Deception*, ed. Donald C. Daniel and Katherine L. Herbig, (New York, NY: Pergamon Press Inc., 1981), 31-69. 36-37.

mitigation authority permit these factors to inflate the perception of risk well beyond its actuality. The centrality of the system allows this inflated perception of risk to metastasize and infect the entirety of the training environment. Employing mission command and empowering junior leaders with the ability to assume and mitigate risk would prevent this and improve the realism required for sustained combat readiness.

Third, the study of three U.S. Army Infantry units during the Korean War, the Vietnam War, and Operation JUST CAUSE, when viewed through the lenses of leadership, training, and technology, reveals that common shortfalls in training cost lives. Furthermore, each of these cases detail the training and combat performance of infantry units engaged in conventional, high-intensity combat. First, Task Force Smith and the 34th Infantry Regiment spearheaded the American effort during the Korean War. Their defeat later served as a rallying cry for combat readiness with the slogan “No More Task Force Smiths.”⁸ Second, a study of 1st Battalion, 7th Cavalry during some of fiercest conventional fighting in the Ia Drang Valley of Vietnam highlights how a technological advantage is multiplied when combined with empowered leadership and realistic training. Last, the participation of the 75th Ranger Regiment in Operation JUST CAUSE, specifically, the seizure of Rio Hato Airfield, demonstrates how realistic training and effective employment of mission command can produce the simulator fidelity necessary to create “Pre-Battle Veterans” and determine victory or defeat before the battle takes place.

While the U.S. Army’s risk mitigation doctrine, as written, is both sound and effective, the failure to employ this doctrine in concert with mission command in training withholds the authority from junior leaders to manage risk and hinders the unit’s combat preparation. The calculation of risk and its assumption is most effective when delegated to the appropriate command level. Maintaining safety as an inflexible trump card leads to the misalignment of the perception of risk and its genuineness. To correct this, the U.S. Army should take four steps to facilitate the proper employment of risk management doctrine. First, the U.S. Army must clarify the role of Range Control. This agency should not be the authority for determining shift fire lines, enforcing Minimum Safe Distances, or directing

⁸ Raymond M. Longabaugh, *Task Force Smith and the 24th Infantry Division in Korea, July 1950*, Number ADA612249 (Fort Leavenworth, KS: Army Command and General Staff College School of Advanced Military Studies, 2014), 48.

training scenarios. These are tasks that U.S. Army Infantry units execute overseas as part of the risk management process and should belong to the appropriate commander. Second, the U.S. Army should streamline the Safety Waiver process. The current process is plagued with inefficiency such that junior leaders are forced into integrity-compromising positions. These officers want to do the right thing, but require the ways and means to do so. Third, leaders involved in the U.S. Army risk management process require education on the effects of risk perception and inflation. Recognizing this phenomenon is the first step in avoiding it. Last, senior leaders must commit to the mission command philosophy in training. The current centralized system of training discourages innovation, undermines realism, and promotes a “zero-defect” mentality in the Army. The U.S. Army’s Infantry leaders will be more prepared and more lethal in combat if they are empowered learn, to think and fight through problems in training.

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I. IS THE U.S. ARMY PREPARED FOR THE NEXT WAR?

A. INTRODUCTION

The U.S. Army is charged to be “the world’s dominant land force” in an increasingly complex strategic environment.¹ As U.S. strategic leaders look to the future and prepare the U.S. Army for the next conflict, their advice is to prepare for a war with “violence on the scale that the U.S. Army has not seen since Korea.”² The Korean War was a “limited war,” but fought with such intensity that over 33,000 Americans lost their lives to combat engagements, while another 2,800 died of non-battle injuries.³ Further, in the Korean War, the destruction of Task Force Smith is still a reminder of the necessity for realistic training that simulates the expected combat environment. The men of Task Force Smith were the first to engage in combat with North Koreans on land. They fought in conditions “opposite to what American troops had become accustomed to expect” and were destroyed in three days of fighting.⁴ Since 2003, the U.S. Army fought and trained for wars of low-intensity conflict, not the high-intensity wars of World War II and Korea, the high-intensity battles of Vietnam, or for the intensity projected for the next war.

The training required for the next conventional war must simulate the expected conditions, those of high-intensity conflict, as closely as possible. On the one hand, conditions that simulate combat are dangerous and present inherent risk. On the other hand, the mitigation of that risk prevents the adequate simulation of a high intensity combat situation. Under live fire conditions, Soldiers of the U.S. Army Infantry practice closing with and destroying their enemies. Members of the Airborne Infantry conduct personnel airdrop operations. Forward observers and joint tactical air controllers (JTACs)

¹ Department of the Army, *The Army*, ADP 1, Change 1 (Washington, DC: Department of the Army, 2012), Forward.

² Major General William C. Hix, “General Bernard W. Rogers Strategic Issues Forum” (speech, AUSA Conference and Events Center in Arlington, VA, 07 February 2017).

³ Kathleen T. Rhem, “Korean War Death Stats Highlight Modern DOD Safety Record,” *American Forces Press Service*, 8 June 2000, <https://web.archive.org/web/20120114121831/http://www.defense.gov/news/newsarticle.aspx?id=45275>.

⁴ Bevin Alexander, *Korea: The First War We Lost* (New York, NY: Hippocrene Books, 1986), 55–67.

control the release of aerial delivered munitions, artillery, and mortars. However, the execution of these events in the training environment is susceptible to unrealistic employment because of the controls implemented to mitigate the risk. Furthermore, the company and battalion commanders responsible for training do not have the authority to assume the training risk. That authority belongs to a system of rules or to an agency outside the chain of command.

B. THE PROBLEM

Broadly speaking, training under conditions that do not simulate combat creates a false sense of preparedness among U.S. Army Infantry units. On the contrary, realistic training, under conditions that mirror those in combat, creates a foundation for a unit's success in combat. As stated, training U.S. Army Infantry Soldiers under live fire conditions is inherently dangerous. To mitigate this danger, U.S. Army Risk Management demands that leaders identify and control the hazards associated with training to protect both human life and military equipment. However, many of the controls implemented to mitigate the identified hazards of training change the environment such that the conditions no longer simulate combat and the habits formed in training maybe invalid.

More specifically, the concept of simulator fidelity suggests that increased realism in training results in increased combat readiness, however, current military training exercises deliberately decrease training fidelity in order to mitigate risk.⁵ In *On Combat*, retired Army Officer and psychologist, Dave Grossman states: "Whatever is drilled in during training comes out the other end in combat—no more, no less."⁶ Thus, if in combat, a low-level assault, as conducted in Grenada, requires a personnel airdrop at 500 feet in elevation, then that is what should be executed in training.⁷ Similarly, the authorization for the employment of fires assets differ drastically from training to combat. In combat, an aerial delivered GBU-38 may be employed within 200 meters of a

⁵ Dave Grossman, and Loren W. Christensen. *On Combat: The Psychology and Physiology of Deadly Conflict in War and in Peace* (Belleville, IL: PPCT Research Publications, 2007), 80.

⁶ Grossman and Christensen, *On Combat*, 75.

⁷ David T. Rivard, "An Analysis of Operation Urgent Fury," (master's thesis, Air Command and Staff College Air University, 1985).

friendly covered position. However, in training this munition is restricted to the Minimum Safe Distance (MSD) of 1,100 meters.⁸ Additionally, the Surface Danger Zones (SDZs), zones centered on the gun-target line used to protect a friendly flanking or maneuvering element, have grown from 15 degrees to 23.6 degrees without a change in ammunition type, and during the wars in Iraq and Afghanistan. These examples provide evidence that the controls implemented to mitigate the identified hazards of realistic training serve to avoid risk rather than mitigate it. Training conceived by the risk averse and validated by range-safety restrictions and regulations only change the training environment so that it no longer simulates combat.

C. RESEARCH QUESTION

How does risk mitigation in U.S. Army tactical Infantry training affect Soldiers' preparedness for conventional combat operations?

D. EXISTING ARGUMENTS: THE DICHOTOMY OF RISK IN TRAINING

Fight and Win. These words summarize the expectation placed upon the U.S. Army when the interests of the nation demand conflict in the land domain. U.S. Army doctrine charges ground Soldiers to “close with and destroy the enemy—room to room, face to face,” so that the Army can win, and win decisively.⁹ This form of combat is chaotic, personal, and permanent. In order to win, U.S. Soldiers are charged to “train as [they] fight,” with the implication that training environments will mirror combat environments as closely as possible.¹⁰ However, no training environment can, nor should, directly mirror combat.

The question then becomes, how realistic should the training environment be, and how much risk should the U.S. Army leaders assume to ensure Soldiers are prepared to “close with and destroy the enemy?” There are two strong views on this question, and

⁸ U.S. Department of Defense, *JFIRE: Multi-service Tactics, Techniques, and Procedures for the Joint Application of Firepower* (Washington, DC: Department of Defense, 2016), 137.

⁹ Department of the Army, *The Army*, 52.

¹⁰ Department of the Army, *Training for Full Spectrum Operations*, FM 7-0 (Washington, DC: Department of the Army, 2008), 2-5.

they are in direct conflict with one another. Either assume the physical risk in training to simulate the combat environment or avoid the risk to prevent the injury or death of a Soldier. Although, this is an over simplification of the competing arguments, it communicates the genesis of the disagreement. First, the concept of training fidelity when applied to combat is well documented, especially in the fields of aviation, medicine, and psychology. Authors such as Dave Grossman, Bruce Siddle, Rory Miller, Kenneth Murray, Loren Christensen, and Michael Askin document the necessity to train as realistically as possible and the affect training has on the human psychology of killing. Grossman is famous among military and law enforcement for saying “You do not rise to the occasion in combat, you sink to the level of your training. Do not expect ... [to be] capable of doing things that you never rehearsed before. It will not happen.”¹¹

Grossman and other supporters of “Killology” believe in the ability to create “pre-battle veterans” by training individuals in scenarios sufficiently realistic and stressful, that they are prepared for the rigors of combat.¹² The argument for Killology stresses training scenario specificity and realism; however, the focus of this argument is on the individual, not on the group. Further, it does not adequately address inherent dangers in a training environment such as personnel airdrops operations and live fire training exercises involving maneuver and fires.

Opposing arguments to Killology do not dispute the need for realistic training; however, they contest the level of realism and stress required. Authors such as aerospace engineer Nicklas Dahlstrom and experimental psychologist Stanley Hamstra, in their studies of the aviation and medical communities, believe that the aspect of simulator fidelity is flawed because it is situation specific.¹³ Further, they believe less specific scenario-based training would increase emphasis on task alignment, thus improving the trainee’s resilience.¹⁴ This argument is also valid; however, the training documented in

¹¹ Grossman and Christensen, *On Combat*, 77.

¹² Grossman and Christensen, *On Combat*, 74–80.

¹³ Nicklas Dahlstrom, et al., “Fidelity and Validity of Simulator Training,” *Theoretical Issues in Ergonomics Science* 10, no. 4 (2009), 305.

¹⁴ Stanley J. Hamstra, et al. “Reconsidering Fidelity in Simulation-Based Training,” *Academic Medicine* 89, no. 3 (2014), 389.

the aviation community is largely done with a flight simulator and the training conducted by the medical community is done on manikins and in groups. In these environments, there is very little risk to one's life, limb, or eye sight as seen in the training of military personnel, specifically, the U.S. Army Infantry.

Attempting to define the balance between these two arguments authors accept that combat is inherently risky and the training to prepare for combat must also be inherently risky if the training environment is to resemble the combat environment.¹⁵ Matthew Myer and Steven Lojka, two former Infantry company commanders, compare the risk in combat to the risk in training in their 2012 master's degree thesis. They use game theory to argue that the risk assumed in the training environment should equal the risk of the operational environment, plus the addition of risk imposed by the enemy.¹⁶ This argument closely mirrors that of Killology while considering the specific application to a military group. However, the work of Meyr and Lojka does not address the Army risk management process in its current form, nor does it address the psychological aspect of risk perception.

Beyond the contemporary arguments, U.S. Army risk management, historically, is an afterthought, provoked by an unnecessary loss of life or equipment. In 1995, four students at the U.S. Army Ranger School died due to hypothermia in training.¹⁷ The resulting National Defense Act of 1996 required that the U.S. Army formalize risk management process into U.S. Army doctrine.¹⁸ In 1998, the U.S. Army published FM 100-14, *Risk Management*, with the intent to "decentralize decision making and push it down to the lowest level," officially making risk management all leaders' responsibility.¹⁹ In today's Army, much more responsibility is placed on organizational

¹⁵ Matthew Meyr and Jason Lojka, "On Risk: Risk and Decision Making in Military Combat and Training Environments" (master's thesis. Naval Postgraduate School, 2012), 28-29.

¹⁶ Meyr and Lojka, "On Risk," Abstract.

¹⁷ Mark E. Gebicke, *Army Ranger Training: Safety Improvement Need to be Institutionalized*, NSIAD-97-29 (Atlanta, GA: General Accounting Office, 1997), <https://www.gpo.gov/fdsys/pkg/GAOREPORTS-NSIAD-97-29/html/GAOREPORTS-NSIAD-97-29.htm>, 2-6.

¹⁸ Mobbs, Mike. "Above the Danger: Army Aviation and the Development of Risk Management Doctrine." *Army History*, PB 20-17-01. Winter 2017, 33.

¹⁹ Mobbs, "Above the Danger," 35.

procedures and on the individual to identify hazards and implement safety controls.²⁰ On maneuver live fire training ranges, a civilian “Range Control” determines whether the training event meets established standards for safety.²¹ Although the commander and Officer in Charge (OIC) determine what the training objectives are, they do not have the authority to overrule a safety organization that exists outside their chain of command.

Another influence on the argument justifying the perception of risk aversion is ever changing technology. Advances in technology can provide advantages on the battlefield and often increase the distance between service members and the dangers of combat. The observation airplane gave way to the bomber and the unmanned persistent strike assets of today. The musket led to the development of the rifle and machine gun increasing both the range and precision with which ground forces can engage the enemy. Additionally, advances in body armor and combat medicine have drastically reduced the numbers of combat fatalities. The effect of these technological advances directly impact military activity in both training and combat. The wounded-to-fatality rate during Operation Iraqi Freedom was 16:1, compared to 3:1 in the Vietnam conflict, and 2:1 during the Korean War.²² However, these changes in technology have not changed the necessity to assume and mitigate risk in training. Success in warfare is not a matter of superior weapons; the advancement of weapons is cyclical.²³

As one combatant implements a superior technology, the adversary adapts either advancing the technology or defeating it.²⁴ This is adversarial adaptation cycle is evident in the procurement of armored vehicles and the lethality of the Improvised Explosive Device (IED) in the Global War on Terror. Vehicles such as the Mine-Resistant Ambush

²⁰ Department of the Army, *Risk Management*, ATP 5–19 (Washington, DC: Department of the Army, 2014), 2-1.

²¹ Department of the Army, *U.S. Army Range Safety Manual*, DA PAM 385–63 (Washington, DC: Department of the Army, 2014); the United States Marine Corps also adheres to this manual.

²² Matthew S. Goldberg, “Death and Injury Ranges of U.S. Military Personnel in Iraq,” *Military Medicine* 175, No. 4 (April 2010), 221.

²³ Harry Holbert and Turney High, “The Form and Function of Weapons” in *Primitive War: Its Practices and Concepts*. 5–38. (Princeton, NJ: University of South Carolina Press, 1971) 10–15.

²⁴ The Red Queen Hypothesis, proposed by Leigh Van Valen, suggests that species adapt to gain an advantage and survive, when competing with other evolving organisms; Leigh Van Valen, “A New Evolutionary Law.” *Evolutionary Theory*, 1–30. 1973.

Protected (MRAP) were fielded to decrease casualties, but created new risks.²⁵ The MRAP is a defensive vehicle with a V-shaped hull to deflect the blast of the IED away from the passengers inside the troop compartment. It has one machine gun mounted on top and the troop ramp takes seven seconds to descend, an eternity in combat. Another option would have been the Stryker Infantry Combat Variant. It has a double V-shaped hull, has one mounted remote weapon system (RWS), and the ability to mount an additional three machine guns. The Stryker holds 11 personnel, large enough for an entire Infantry squad of nine, and the troop ramp drops in two seconds. It is offensive, built to protect the passengers, as they close with and destroy the enemy.²⁶ Despite the offensive nature of Stryker, the MRAP was the vehicle selected for employment in both Iraq and Afghanistan. Instead of fighting the enemy, the U.S. Army used technology to increase protection and avoid the fires of the enemy, a denial of ground Soldiers' core mission—offensive operations.²⁷ This approach to risk management, reducing exposure to risk, increases risk aversion, decreases Soldier resiliency, and contravenes the core mission of the U.S. Army.²⁸ These advances in technology and efforts to avoid the risks of combat are evidence of the increasing value on human life and increased risk aversion.

The paradox of risk mitigation is that as people become safer, they become more concerned about risk and more vulnerable to risk.²⁹ Unfortunately, the more vulnerable people feel to risk, the more difficult realistic training becomes because improper training or training void of risk increases the risk in combat.³⁰ Political scientist, Yaacov Vertzberger, in *Risk Taking and Decision Making* writes, "Risk avoidance in the short

²⁵ Robert Gates (former U.S. Secretary of Defense), in public discussion with Dr. John Arquilla, Naval Postgraduate School, Monterey, CA, 05 January 2017.

²⁶ The author served 25 months in Iraq and 16 in Afghanistan as U.S. Army Infantry platoon leader and Infantry company commander. He conducted combat operations with both MRAPs and Strykers.

²⁷ Lawrence Basha, "An Examination of Overt Offensive Military Operations Outside of Combat Zones." (master's thesis, Naval Postgraduate School, 2006), 42.

²⁸ Simon Wessely, "Risk, Psychiatry and the Military." *The British Journal of Psychiatry* 186, no 6 (2005), 459.

²⁹ Slovic, "Risk Perception and Trust," 233.

³⁰ Meyr and Lojka, "On Risk," 27.

run may turn out to be a very risky decision.”³¹ His point, when applied to military training, is that the act of avoiding risk in training only incurs risk in combat. As previously stated, the training environment must simulate the combat environment as closely as possible if the military is going to “train as [it] fights.” When Soldiers and their leaders face risk in training, and mitigate that risk during the execution of their mission, the trust between leader and Soldier is fostered and developed increasing the efficiency of an organization.

Despite the significant volume of literature addressing the balance between safety and realism in training, a gap remains between the authority to assume risk and the effect current risk mitigation practices have on combat preparation for the U.S. Army’s tactical units in the next war. The following chapters examine the training practices and procedures for a U.S. Army Infantry company, the current doctrine used to analyze and mitigate risk, existing safety regulations, and historical examples of U.S. Army Infantry unit’s effectiveness in their “First Battles.”³² This report concludes with recommendations to improve the training of U.S. Army Infantry companies as they prepare for the nation’s next war.

³¹ Yaacov Vertzberger, *Risk Taking and Decision Making: Foreign Military Intervention Decisions* (Palo Alto, CA: Stanford University Press, 1998), 25.

³² Charles E. Heller and William A. Stofft, eds. *America’s First Battles, 1776–1965*. Lawrence: University Press of Kansas, 1986.

II. TRAINING A U.S. ARMY INFANTRY COMPANY FOR COMBAT

In a speech to the Association of the United States Army (AUSA), Major General William Hix stated that the Army must train to win the first battle of the next war.³³ However, an observer/coach/trainer (O/C/T) at the Joint Multinational Readiness Center believes U.S. Army Units are not as prepared for combat as some multinational partners because of a failed emphasis on training.³⁴ U.S. Army Colonel (Ret.) Douglas Macgregor, a decorated combat veteran and military historian believes that America is “going to lose the first battle of the next war,” and supports this assertion.³⁵ In the twenty-first century, “America may not get a chance to fight a second battle.”³⁶ Historically, the U.S. Army’s record of first battles is mixed and certainly not without loss. Task Force Smith is an example of a unit destroyed in the first American engagement of the Korean War due, in large part, to a lack of training and preparation.

A. LEADERSHIP, PERSONNEL, AND TRAINING TASK DEVELOPMENT

Training and preparing for future combat are contingent upon understanding what the next fight will look like. Major General Hix also stated in his speech to the AUSA that “we should expect levels of violence and lethality ... at a tempo unseen in history.”³⁷ Training an Infantry company is a daunting task that attempts to understand the next conflict through in-depth analysis of the mission, the environment, the tasks necessary to train, and of current training proficiency. Failure to sufficiently predict what the next conflict holds may result in catastrophic defeat. Moreover, the responsibility to accomplish the aforementioned and prepare a company to win the first battle of the next

³³ William C. Hix, “General Bernard W. Rogers Strategic Issues Forum” (speech, AUSA Conference and Events Center in Arlington, VA, February 7, 2017), <https://www.ausa.org/rogers-forum-mg-hix>.

³⁴ Scott Metz, “Overtasking and Its Effect on Platoon and Company Tactical Proficiency: An Opposing Forces and Observer/Coach/Trainer Perspective,” *Armor* (Spring 2017), <http://www.benning.army.mil/armor/earmor/content/issues/2017/Spring/2Metz17.pdf>.

³⁵ Douglas Macgregor, “Why America’s Army Is Falling Apart,” *The National Interest*, 17 July 2017, <http://nationalinterest.org/feature/why-americas-army-falling-apart-21546>.

³⁶ Macgregor, “Why America’s Army Is Falling Apart.”

³⁷ Hix, “Strategic Issues Forum.”

war belongs to one individual in the company—the commander. The following chapter examines the training of a U.S. Army Infantry company within the confines of leadership, organization, and technology to provide a better understanding of the process used to prepare U.S. Army infantrymen for combat.

1. The Role of the Company Commander

While the hierarchy is leadership in the U.S. Army is extensive, the company commander is the highest-ranking member and prescribed leader of the Infantry company. He is responsible for “everything the Infantry company does, or fails to do.”³⁸ However, leadership and command are not synonymous. Rather, they necessarily complement one another, especially in an Infantry company. Leadership is instilling the motivation, determination, and discipline in subordinates to accomplish the litany of tasks for which the commander is responsible. Leadership allows the commander to establish an atmosphere of trust where subordinates feel empowered to exercise initiative within the confines of the commander’s intent; a concept the army calls mission command.³⁹ Command provides the authority to issue orders, but it is leadership that combines personal attributes and competencies that inspire Soldiers to exercise initiative while following orders.⁴⁰ To command without leadership is captured in the “Do as I say, not as I do” mantra.⁴¹ Personal presence, subject matter expertise, and the integrity to acknowledge one’s limitations are essential aspects of leadership that propel one’s ability to command.

In the peacetime environment, the Commander is responsible for unit training.⁴² Further defined, unit training is the “deployment and execution of progressive,

³⁸ Department of the Army, *SBCT Infantry Rifle Company*, ATP 3–21.11 (Washington, DC: Department of the Army, 2016), 1–16.

³⁹ Department of the Army, *Mission Command*, ADP 6–0 (Washington, DC: Department of the Army, 2014).

⁴⁰ Department of the Army, *Army Leadership*, ADP 6–22 (Washington, DC: Department of the Army, 2012), 4–8.

⁴¹ Kenneth E. Lloyd, “Do as I say, not as I do” *The Behavior Analyst* 17, no. 1 (1994): 131.

⁴² Department of the Army, *Training Units and Developing Leaders*, ADP 7–0 (Washington, DC: Department of the Army, 2012), 1–1.

challenging, and realistic training.”⁴³ Through dialogue with the chain of command, analysis of the mission, and consultation with doctrine, the commander must determine the Mission Essential Tasks (METs) required to be successful in conducting the mission and supporting the mission of the higher headquarters. The mission analysis and commander’s dialogue result in a finalized Mission Essential Task List (METL) that guides the unit training plan. Next, the commander must plan, resource, and execute training events that ultimately result in the preparation of the Infantry company for future combat. Finally, the commander is responsible for assessing the company and gauging whether or not the company is trained, practiced, or untrained.⁴⁴ The number and weight of these responsibilities can be onerous; perhaps this is why a company commander in his late 20s or early 30s is referred to as “the old man.”⁴⁵

While the mantle of command is burdensome, it is also rewarding. The aforementioned responsibilities and excerpts from doctrine dictate those things company commanders must do, but they do not suggest why they do it. Certainly, some officers that know that command is a rung on the ladder to the next promotion and pay raise. However, U.S. Army Colonel (Ret.) Keith Nightengale, the commander of four Infantry companies and a veteran of both Vietnam and Grenada, suggests that commanders assume this responsibility for “their love of their troops.”⁴⁶ Nightengale believes good commanders establish a pseudo-family dynamic, where the love of troops manifests itself in the demand for performance and shared hardship because this provides the Soldiers the best opportunity to survive the dangers of combat.⁴⁷ This assertion is supported by journalist Ernie Pyle’s essay, “The Death of Captain Waskow,” which artfully conveys

⁴³ Department of the Army, *Training Units and Developing Leaders*, 1–4.

⁴⁴ Department of the Army, *Train to Win in a Complex World*, FM 7–0 (Washington, DC: Department of the Army, 2016), 1–2.

⁴⁵ Douglas V. Johnson II, *This is Not Your Father’s, or Mother’s Army* (Carlisle, PA: Strategic Studies Institute, 2004). <https://ssi.armywarcollege.edu/pubs/display.cfm?pubID=665>.

⁴⁶ Keith Nightengale, “How Can A Commander Love His Troops and Yet Send Them To Their Deaths?,” *Foreign Policy*, 3 February 2017, <https://foreignpolicy.com/2017/02/03/how-can-a-commander-love-his-troops-and-yet-send-them-to-their-deaths?/>.

⁴⁷ Nightengale. “How Can A Commander Love His Troops.”

the impact a company commander can have when the leader proves worthy of the led.⁴⁸ Soldiers will not put their lives on the line for a PowerPoint slide or some computer text. Nor will they respect an officer who does not share in their hardship and give them the best possible chance to both fight and win. While the burden of command is heavy, a good commander appreciates the indescribable reward of serving at the head of a high performing organization where the Soldiers would die before they fail.

2. Company Organization and Information Flow

Despite the Commander's sole responsibility for the Infantry company, he is far from alone in the everyday leadership of the company. First, the company First Sergeant (1SG), usually a seasoned veteran with 16–18 years of military service, is responsible for the health, morale, and welfare of the enlisted Soldiers. Moreover, he is the senior warfighter and the company will look to him for example and advice. Next, the company Executive Officer (XO), a senior Lieutenant or junior Captain with just enough experience as an officer to serve as a sounding board for the company commander, serves as the second in command (2IC). Additionally, the XO is often tasked with oversight of company property and resource procurement to support the commander's training plan. The strength of this leadership triad may determine the effectiveness of an Infantry company.

Efficiency in an Infantry company demands delegation and trust to ensure the integrity of information feedback. The commander must trust the advice and opinion of the 1SG regarding the training proficiency of the company. This training assessment determines the training plan the XO must resource. Following training events, the adjustments to the training plan occur when subordinate leaders in the company provide their own feedback in the form of an After Action Review (AAR). The Commander's ability to set a course with a training endstate and adjust course based of the information received from his senior enlisted counterpart and his subordinate leaders lays the

⁴⁸ Ernie Pyle, "The Death of Captain Waskow" in *Ernie's War: The Best of Ernie Pyle's World War II Dispatches*, ed. David Nichols, 1944, pp. 195–197, http://isite.lps.org/ngeiken/web/documents/USH2_Ch18_Sec2_Death_of_Captain_Waskow_000.pdf.

foundation for trust. The necessity of trust in combat units is well documented; however, this trust relationship is not forged in combat. It is forged in training.

3. Mission Essential Task List Development

Effective Infantry training is determined with measurement against the unit's Mission-Essential Task List (METL). A mission-essential task (MET) is "a task a unit could perform based on its design, equipment, manning, and table of organization."⁴⁹ The METL is the compilation of the METs. According to Army Training Network, all Infantry companies have a standardized METL that dictate five METs necessary to accomplish the mission of "close with the enemy by means of maneuver to destroy or capture him, or to repel his assault by fire, close combat, and counterattack."⁵⁰ The five standardized tasks associated with this mission are Conduct an Area Defense, Conduct a Movement to Contact, Conduct an Attack, Conduct Area Security, Conduct Expeditionary Deployment Operations in Support of the Offense, Defense, Stability and defense support of civil authorities (DSCA).⁵¹ These tasks are broad, and their accomplishment requires the completion of a number of subordinate tasks called "battle tasks which are trained and evaluated using the standardized Army Training and Evaluation Program (ARTEP)."⁵² The Infantry unit cannot train every subordinate task, therefore, the commander is responsible for considering the higher unit's mission, the METL, and specific guidance on the selection of collective tasks to choose those that are most important and/or are subordinate tasks of multiple METs.⁵³ This process is the METL "crosswalk," and the outputs are a METL with supporting battle tasks, and a draft unit-training plan that describes how the unit will become proficient on each of the METs.

⁴⁹ Department of the Army, *Training Units and Developing Leaders*, 3–2.

⁵⁰ Department of the Army, *Infantry Platoon and Squad*, ATP 3–21.8, Change 1 (Washington, DC: Department of the Army, 2016) 1–1.

⁵¹ "Standardized METL," Army Training Network, accessed 28 September 2017, https://atn.army.mil/dsp_DA_Standardized_METL.aspx.

⁵² Department of the Army, *Train to Win in a Complex World*, 1–44.

⁵³ Department of the Army, *Training Units and Developing Leaders*, 3–3.

While the U.S. Army dictates METL for the Infantry brigade and above and provides a standardized METL for Infantry companies, METL is neither dictated nor standardized at the Infantry battalion or Infantry company. The result is significant variety in both METL and company training plans across Infantry companies. This lack of standardization places a premium on the company commander's mission analysis and understanding of the operational environmental. Further, the Infantry company commander must maintain an open dialogue with the Infantry battalion commander to ensure the non-standard METL properly supports the battalion's METL.

In addition to nonstandard METLs, Infantry companies must exercise tasks specific to their type of Infantry—Airborne, Air Assault, Mechanized, Light, and Stryker. These METs are a byproduct of the mission dictated to the higher HQs and the delivery platform used to get Soldiers to the fight. As a result, Airborne Infantry companies will add METs such as “Conduct Airborne Operations” and “Conduct Airfield Seizure” with supporting battle tasks such as “Conduct an Airborne Assault” and “Conduct Airborne Insertion.”⁵⁴ Similarly, a Stryker Infantry company will add METs such as “Execute Gunnery,” “Execute MGS (Mobile Gun System) Gunnery.” These tasks are specific to the Remote Weapon System (RWS) on Infantry Carrying Variants (ICVs) and MGS variants. Additionally, each of the METs, standard and non-standard, will have the supporting battle tasks specific to the delivery platform such as Driver's Training. The same is true for a Mechanized Infantry company where additional METs and battle tasks are added to ensure collective training specific to M2A3 Bradley Fighting Vehicle and its weapon systems.

Similar to previous METs, tasks such as “Conduct Air Assault” are specific to a platform, but no longer specific to an Infantry type. The Soldiers of the 101st Airborne at Fort Campbell, Kentucky, pride themselves on being Air Assault Infantry. However, every Infantry company can add “Conduct Air Assault” as a company MET. An understanding of and a proficiency with rotary-wing transportation is necessary for all Infantry units. The helicopter is the primary form of MEDEVAC and resupply in denied

⁵⁴ “Combined Arms Training Strategies,” Army Training Network, accessed 09 July 2017, https://atn.army.mil/dsp_CATSviewer01.aspx#.

terrain. Further, it can increase mobility, and protection, by bypassing restricted or enemy held terrain.

However, every MET and its associated battle tasks requires resources, time, and expertise if it is to be trained to standard. Commanders will seldom have the time required to train every necessary task to proficiency. Therefore, the commander must analyze the mission, dialogue with the higher unit, and provide his unit the battle focus necessary to accomplish the mission. The Mission Essential Task and follow-on METL along with the higher HQs mission, includes a focus on the unit's delivery platform, and provides a framework on which the commander builds the unit training plan. When the METL is complete, the commander must, again, reassess the proficiency of the company on each task, and determine the level of proficiency the company must achieve.⁵⁵ Doctrinally, the commander assesses each MET as a variation of T (trained), P (practiced), or U (untrained).⁵⁶ This projected assessment forms the basis of the commander's vision for training.

4. The Army Force Generation Model

Achieving the commander's vision is done through unit training management, another one of the Commander's responsibilities. However, steadiness in the manning process is a product of the Army Force Generation Model. In 2006, the Army transitioned from a linear system that emphasized "tiered readiness" to circular system that emphasized "progressive readiness."⁵⁷ The current model, the Army Force Generation (ARFORGEN), restructured Army manning to accommodate for recurring deployments in support of conflict in Iraq and Afghanistan. In theory, the life cycle of a unit is divided into three phases: Reset, Trained/Ready, and Available. During the Reset period, the unit focuses on manning, repairing and fielding equipment, individual training, and limited collective training. The intent is for the unit to be fully manned, fully equipped, and

⁵⁵ Department of the Army, *Train to Win in a Complex World*, 2-16 – 2-18.

⁵⁶ Department of the Army, *Train to Win in a Complex World*, 2-17.

⁵⁷ "Army Force Generation (ARFORGEN) Overview," Army Training Network, 08 February 2011, accessed 09 July 2017, <https://atn.army.mil/Media/fouodocs/ARFORGEN%20%20Overview.pdf>.

proficient on the individual level tasks before the end of the Reset period.⁵⁸ During the Trained/Ready phase, units focus on platform specific training, collective training, and mission rehearsal exercises. Following the Trained/Ready phase, units enter the Available phase and either deploy in support of a combatant commander's requirements or remain postured to support contingency operations.⁵⁹

The ARFORGEN cycle is important to an Infantry company commander because it provides the generic timeline and manning stabilization to achieve higher collective training. During the Reset period, it is expected that key leaders will leave the unit, seasoned Soldiers will complete their time in service, and the overall combat experience and effectiveness of the unit will drop. Therefore, a commander must reset the company with the arrival of new leaders, the promotion of high performing Soldiers, and the training of new Soldiers recently arrived from basic training. The company uses the reset period to training individual tasks such as rifle marksmanship, medical proficiency, communications, and physical training. Toward the end of the reset period, the commander will progress training to include crew, and team level training on key weapon systems and mobility platforms. In theory, the manning and equipment shortages are rectified by the start of the Train/Ready phase. This allows the commander to advance both the frequency and intensity of training with the goal of achieving the commander's vision for training prior to the Available Phase. Although the ARFORGEN cycle does not dictate the unit training plan or timeline, it provides and sets the personnel and equipment necessary for the commander to advance an Infantry company from individual training proficiency to collective training proficiency.

5. Training—Creating “Pre-Battle Veterans”

Training proficiency, whether individual or collective, must be realistic if the endstate is a deployment or contingency operation. Through realistic training, Infantry company commanders can incorporate “the human, cultural, and political aspects of armed conflict” and simulate the stress of persistent threat associated with the

⁵⁸ Army Training Network, “Army Force Generation (ARFORGEN) Overview.”

⁵⁹ Army Training Network, “Army Force Generation (ARFORGEN) Overview.”

environment.⁶⁰ U.S. Army Lieutenant Colonel (Ret.) Dave Grossman, a combat psychologist, believes in the ability to create “pre-battle veterans” by designing training that is both sufficiently realistic and stressful.⁶¹ Overcoming this stress and achieving training objectives, under conditions that mirror the operational environment, is what establishes Soldiers’ attitudes and behavior such that skills and practices developed in training are applicable to combat. As mentioned previously, Infantry companies cannot immediately conduct large-scale, collective training events due to limitations of the ARFORGEN cycle, and the need to build individual training proficiency before progressing to collective level training.

Collective training requires a progression referred to as the “Crawl-Walk-Run” methodology with a series of Force-on-Force and Live Fire Exercises with increasing Fires and enabler integration to achieve the realism expected of the operational environment. The implementation of the Crawl-Walk-Run methodology is contingent upon the Commander’s assessment of MET proficiency. The higher the unit’s proficiency in a task, the less time it will spend in the crawl and walk phase, and the more time it will spend in the run phase. The crawl phase of training is marked by leader explanation and demonstration of the task. Systematically, unit leaders highlight the performance measures required for the task to be accomplished according to a prescribed standard.⁶² The walk phase is the practice phase, where the unit executes the task, often one-step at a time, with increasing pace.⁶³ This phase is usually accomplished without the stress of an opposing force, or combat effects, so that units can build proficiency on the task without the added distractions.

⁶⁰ Department of the Army, *Train to Win in a Complex World*, A-1.

⁶¹ Dave Grossman, and Loren W. Christensen, *On Combat: The Psychology and Physiology of Deadly Conflict in War and in Peace* (Belleville, IL: PPCT Research Publications, 2007), 74–80.

⁶² Department of the Army, *Train to Win in a Complex World*, E-30-E-33.

⁶³ Department of the Army, *Train to Win in a Complex World*, E-34.

Combat is often chaotic, and it is possible to “be scared speechless.”⁶⁴ Therefore, rehearsing all aspects of a task is necessary, including what to say and when. This will increase the Soldiers’ confidence and limit the potential for chaos to affect the mission. The run phase is the time to test the unit at “combat speed” and under realistic conditions.⁶⁵ The run phase should mirror combat as closely as possible to increase simulator fidelity and better prepare Soldiers for combat. Finally, no army training is complete without reflection and retraining. The AAR permits a unit to review the task performance and identify how to improve future performance.⁶⁶ Retraining ensures the unit meets the established standard prior to concluding training.⁶⁷ The Crawl-Walk-Run methodology applies to all training events. Further, it emphasizes proficiency with individual skills, and the basics of collective action as the foundation upon which realistic training is possible. At the conclusion of training cycles, infantry companies are tested under both force-on-force and live fire conditions designed to simulate combat environments. Failure to build proficiency from the individual through the collective risks failure during these validation exercises.

Force-on-Force Training provides the opportunity to train METs against a freethinking opposing force (OPFOR), increasing the realism and simulator-fidelity of the training event. Training that is more realistic results in better preparation. However, there is disagreement regarding how realistic training must be. Force-on-Force training provides U.S. Army Infantry companies the ability to train command and control mechanisms and stress responses in realistic scenarios and in a realistic environment. The training is non-lethal, therefore the risk to personnel and infrastructure is extremely low. Further, the lack of munitions creates a variety of training options because Force-on-Force training can occur anywhere troops are allowed. While beneficial for executing realistic and stressful scenarios, the lack of munitions creates a significant gap in the

⁶⁴ Sam McKinney, a Book Summary of “On Combat: The Psychology and Physiology of Deadly Conflict in War and Peace,” Beyond Intractability. George Mason University, December 2012. http://willingness.me/wp-content/uploads/2014/08/On-Combat_-The-Psychology-and-Physiology-of-Deadly-Conflict-in-War-and-Peace.pdf.

⁶⁵ Department of the Army, *Train to Win in a Complex World*, E-35.

⁶⁶ Department of the Army, *Train to Win in a Complex World*, E-38.

⁶⁷ Department of the Army, *Train to Win in a Complex World*, E-38.

training. This method does not evaluate marksmanship, and poorly evaluates individual, crew, and team drills. This deficiency was first highlighted by S.L.A. Marshall in his study *Men Against Fire* when he concluded that “less than 25 percent of our infantry line employed hand weapons effectively when under fire.”⁶⁸ Further, Force-on-Force may advance bad training habits because a lack of munitions creates room for the misunderstanding of weapons effects and capabilities. What constitutes enemy suppression and target destruction? What rounds will penetrate an eight-inch adobe wall? Although doctrine provides definitions, an understanding of weapons’ effects and capabilities gained through experience in the training environment is essential if an Infantry unit is preparing for combat.

Live Fire Training Exercises (LFXs) provide the means to evaluate marksmanship and understand weapons’ effects; however, the lethality of live munitions severely restricts the realism and the role of unit leadership. Live Fire Exercises are often the “run” event as a platoon and/or company progresses through its training plan, further, these exercises may serve to certify or validate a unit for combat. Units are able to evaluate the marksmanship and weapons proficiency of its Soldiers, while assessing the effect of the different weapons systems on various targets.

However, restrictions administered during a LFX severely hinder its training value. Most targets are stationary, the direction of the attack is usually scripted, and Observer/Controllers (OCs) move with each maneuver element and crew served weapon system often dictating how the execution should go. Moreover, each unit must execute the same scenario, with the same target placement, six times to be considered trained. As a result, the live fire exercise is often an unrealistic portrayal of a combat situation and a poor evaluation of a unit in both planning and execution.

Given the aforementioned, realistic training is necessary for U.S. Army Infantry units that desire “pre-battle veterans” prior to the Trained/Ready phase of the ARFORGEN cycle. However, both the degree of realism and the ability to make training

⁶⁸ S.L.A. Marshall, *Men Against Fire: The Problem of Battle Command in Future War* (Gloucester, MA: Peter Smith, 1947), 9. Marshall’s reputation has suffered in recent decades, but his observation that training and combat are inextricably linked remains supported by combat psychologists and proponents of Killology.

realistic provide hurdles to achieving this goal. Force-on-Force training allows for the evaluation of subordinate leaders and command and control mechanisms in realistic situations, but the cost of is the inability to evaluate marksmanship, assess weapons' effects, or synchronize fires. Live fire exercises are the opposite. They assess marksmanship, weapons effects, and fires synchronization, but often lack the necessary realism. While the lethality of using live munitions limits realism, the restrictions placed on the conduct of live fire exercises further reduces the simulator fidelity by adding controls and procedures that do not exist in the combat environment. The result is unrealistic scenarios and untested leaders. Despite this reality, the live fire exercise often serves as the "run" event of an Infantry company's training cycle. Infantrymen are certified and validated for combat using live fire events, when in fact these Soldiers have only endured a scripted scenario six times in a row. These obstacles to effective training requires address so that training cycles produce leaders and Soldiers prepared to fight and win the nation's next war.

B. TECHNOLOGY—"THE INFRASTRUCTURE OF WAR": BALANCING LETHALITY, MOBILITY, AND PROTECTION

The need to understand and master new technology augments the aforementioned training progression, Crawl-Walk-Run, during the Reset phase of the ARFORGEN cycle. Historian Martin van Creveld in *Technology and War* maintains that technology, as the "infrastructure of war," not only permeates war, but it also governs it.⁶⁹ Presently, the different forms and uses of technology define the branches of the U.S. Army Infantry. The following section examines three aspects of Infantry equipment—delivery platforms, optics and night vision, and personal protective equipment—and how these aspects affect the combat preparation of an Infantry company. Delivery platforms are the ways and means infantrymen close with, and in many cases, destroy the enemy. Optics and night-vision devices increase the precision of enemy engagement, during all hours of the day, without a decrease in lethality. Personal protective equipment affects the Soldiers' load and performance, while increasing his chances for survival. While technology is always

⁶⁹ Martin van Creveld, *Technology and War: From 2000 B.C. to the Present* (New York, NY: The Free Press, 1989), 312, 1.

advancing, it is not always advantageous. Van Creveld is correct in saying that technology permeated war; however, his implication that the technological advantage determines the victor is not correct. It is the responsibility of the commander to determine how to employ technological advances such that the balance between lethality, mobility, and protection remains tipped in his favor.

1. Ground Delivery Platforms

The iconic infantryman is the Soldier with a helmet on his head, a rifle in his hand, and a rucksack on his back—the light infantryman. However, the Infantry branch diversified to create niche capabilities that mitigate enemy strengths and capitalize on weaknesses using a variety of delivery platforms.⁷⁰ The platforms require specific training and, to some extent, specify the type of enemy the different forms of Infantry—Mechanized, Motorized, Air Assault, Airborne, and Stryker—must train to combat.

The Mechanized Infantry fight with the M2A3 Bradley Infantry Fighting Vehicle (BFV), which provides the means for infantrymen to fight alongside the Abrams tank.⁷¹ The Bradley's advantages includes the lethality to engage armored vehicles, cross-country mobility in all weather conditions, and reactive armor that provides protection against both anti-armor and small arms threats. The disadvantages include an undersized troop compartment, and its considerable weight of 27 tons. As a result, the BFV only transports seven combat equipped infantrymen, limiting either the control mechanisms or organic firepower of the transported squad. Additionally, its heavy weight prevents its mass transport by air such that it cannot readily aid Infantry units with global response assignments. The training for Mechanized infantrymen demands proficiency with driving the BFV, operating the 25mm chain gun and anti-armor missiles, dismounting and maneuvering this vehicle in concert with ground troops, and maintaining this platform in austere conditions. These platform specific tasks, in addition to the individual and

⁷⁰ Stephen Miller, "Light Infantry vs Special Operations," *Military Technology* 49, no. 3 (2017): 6.

⁷¹ "United States – Army: M2/M3 Bradley Armoured Fighting Vehicle," Jane's by IHS Markit, last modified 17 October 2017, <https://janes.ihs.com.libproxy.nps.edu/Janes/Display/1319328>.

collective tasks that all Infantry units must train, require realistic training that simulates a combat environment.

While Mechanized Infantry is often called “heavy” because of the Bradley Fighting Vehicle, the “light” infantry doctrinally do not have dedicated delivery platforms, but rely on foot mobility to close with the enemy. A Light Infantry unit is authorized three vehicles—two High Mobility, Multi-Wheeled Vehicles (HMMVWs) and one Light Medium Tactical Vehicle (LMTV). The two HMMVWs are command and control platforms and the LMTV is a resupply platform.⁷² The lack of vehicles allows Light Infantry units to move through extremely restrictive terrain and avoid the natural canalizing of roads. However, foot movement, especially in rough terrain, is slow, approximately two miles per hour. Moreover, the only weapons and ammunition immediately available to a Light Infantry unit is what the Soldiers can carry. While dismounted mobility has its advantages, long distances, minimal supplies, or superior enemy weapons can negate this advantage. Examples of this phenomenon are the contingency operations in Iraq and Afghanistan. These operations required Light Infantry units move faster and conduct prolonged operations, therefore, Light Infantry, as well as Airborne and Air Assault Infantry, became Motorized Infantry and used HMMVWs as their delivery platform.

The Motorized Infantry concept germinated from the World War II Armored Personnel Carrier (APC) concept.⁷³ A defensive concept, the APC served to increase the protection of the Infantry force during its transport, but did little to increase its lethality. Unlike World War II, the Improvised Explosive Device (IED) threat in Iraq and Afghanistan exposed the vulnerability of the HMMVW and resulted in the procurement of the Mine-Resistant Ambush Protected (MRAP) vehicle.⁷⁴ Secretary of Defense Robert Gates was the main proponent for MRAPs, citing the safety they provided for their

⁷² Department of the Army, *The Infantry Rifle Company* FM 3–21.10 (Washington, DC: Army Publishing Directorate, 2006).

⁷³ Stephen Miller, “Restoring Armored Vehicle Lethality to Infantry Combat Teams,” *Military Technology* 49, no. 3 (2017): 30.

⁷⁴ “United States – Army: Mine Resistant Ambush-Protected Vehicles,” *Jane’s* by IHS Markit, 17 October 2017, <https://janes.ihs.com.libproxy.nps.edu/Janes/Display/1319328>.

passengers against roadside bombs.⁷⁵ MRAPs featured a raised V-shaped hull designed to deflect the blast of IEDs, mines, and fragmentation.⁷⁶ Though the MRAP significantly reduced casualties, it also reduced both the mobility and lethality of the Motorized Infantry. The MRAP was a temporary procurement for wars in Iraq and Afghanistan, as a means to minimize the casualties inflicted by roadside bombs. Despite the reasons for procurement, the requirement for training remained. Motorized Infantry requires driving proficiency, a mastery of convoy operations, and gunnery training. In both Iraq and Afghanistan, most of this training occurred after arrival in the theater of conflict and on-the-job.

Whereas the APC concept was too defensive and the mechanized concept too heavy, the U.S. Army shot the gap with the development of the Stryker Infantry Carrier.⁷⁷ The Stryker was an eight-wheeled answer to the considerable weight of the tracked Bradley and the lethality limitations of the APC/MRAP concept, providing a new “rapidly air-deployed force to meet distant contingencies.”⁷⁸ The Stryker maintained the protection against IEDs with a dual-V-hull, and improved on the APC design with the adoption of the Remote Weapon System (RWS). It transports an entire Infantry squad, and has the armament to destroy lightly armored vehicles.⁷⁹ Moreover, like the Bradley, the Stryker has an offensive capability. Air guard hatches allow the transported infantrymen to provide additional armament and 360-degree security. For all of its advantages, however, the Stryker is not a fighting vehicle and cannot protect against the anti-armor attacks expected from a near-peer military in a conventional conflict situation. Like all delivery platforms, the Stryker demands specific training requirements. Unlike the Motorized Infantry, by way of contrast, Stryker Infantry units maintain access to their

⁷⁵ Robert M. Gates, *Duty: Memoirs of a Secretary at War* (New York, NY: Vintage Books, 2015), 119–126.

⁷⁶ “Mine Resistant Ambush-Protected Vehicles.”

⁷⁷ “United States – Army: Stryker Armored Vehicle,” Jane’s by IHS Markit, 17 October 2017, <https://janes.ihs.com.libproxy.nps.edu/Janes/Display/1319328>.

⁷⁸ Stephen Miller, “Restoring Armored Vehicle Lethality,” 31.

⁷⁹ Stephen Miller, “Restoring Armored Vehicle Lethality,” 31.

vehicles throughout the training cycle providing the time to build proficiency on tasks specific to employment of the platform.

The final two Infantry types—Air Assault and Airborne Infantry—prioritize mobility over protection using the helicopter and the parachute as delivery platforms. Air Assault Infantry, formerly Air Mobile Infantry, use the utility helicopter (UH-60) and cargo helicopter (CH-47) for insertion and extraction. These platforms demonstrated such versatility in the wars in Iraq and Afghanistan that all Infantry now train insertion, extraction, and close combat air (CCA) with rotary-wing aviation. The helicopter provides point-to-point transportation with the ability to avoid roads and enemy controlled ground. Additionally, the helicopter inserts the assault force assembled and task organized so that it can immediately achieve a fighting formation. The disadvantage is the vulnerability provided by the lack of protection. Helicopters lack the armor to protect against small arms and rocket attacks. The increased mobility, decreased protection, and minimal armament makes the helicopter a prime target for both advanced and rudimentary air defense systems during friendly insertion, extraction, and resupply. During the Vietnam War, more than 3,000 UH-1 helicopters were destroyed resulting in nearly 3,000 U.S. casualties.⁸⁰ More recently, EXTORTION 17, an MH-47 shot down by a Rocket Propelled Grenade (RPG) in Wardak, Afghanistan in 2011, killing all 38 service members on board.⁸¹ Training with helicopters is more than getting on and off the aircraft. At the individual level, tactical units require sling load, air assault, and pathfinder experts to understand the nuances of each aircraft and how to use it for insertion, extraction, medical evacuation, and resupply. Training collective tasks in support of security at the Landing Zone (LZ) and Pickup Zone (PZ) is essential to protect the aircraft from enemy effects when it is most vulnerable. Finally, training the air to ground integration of fires is essential to support the security of the aircraft and the ground force.

⁸⁰ Gary Rouch, “Helicopter Losses During the Vietnam War,” Vietnam Helicopter Pilots Association, Last Modified 31 July 2017, <https://www.vhpa.org/heliloss.pdf>.

⁸¹ Ed Darack, “The Final Flight of Extortion 17,” *Air & Space Magazine*, March 2015, <http://www.airspacemag.com/military-aviation/final-flight-extortion-17-180953947/>.

Similar to the helicopter, the parachute provides the means to deliver Airborne Infantry after overflying enemy controlled territory. Airborne insertions provide commanders the flexibility to place infantrymen behind enemy lines or onto key enemy infrastructure such as an air field. Once paratroopers exit the aircraft, their only armament is their personal weapon attached to their harness, and the only protection is the body armor in their rucksack. Paratroopers land on the drop zone scattered and must first assemble prior to assaulting their objectives. Paratroopers and aircraft are most vulnerable during the execution of the airborne insertion. The aircraft must drop in elevation to the jump height, usually 800–1200 feet, and it must slow to a speed of 130 knots. The slow moving aircraft at low altitude is a target for air defense systems. In addition, the paratroopers must trust that their parachute is sound, that it was rigged properly, and that the jumpmaster controls the exits to minimize mid-air collisions.⁸² The paratrooper lands at a speed between 19–22ft per second and conducts a parachute landing fall (PLF) to avoid injury. Finally, the unit must assemble into a fighting formation before it can continue its mission. Airborne Infantry is the most similar to Light Infantry; however, there are both individual and collective tasks that require distinct training proficiency. At the individual level, every paratrooper must be parachutist qualified; only achieved by graduation of the U.S. Army Airborne School at Fort Benning, Georgia. At least four personnel in each aircraft load must be qualified as jumpmasters, achieved through graduation from the U.S. Army Jumpmaster School. Additionally, each paratrooper must make a parachute jump at least once every three months, and a minimum of four times each year, to maintain his qualification. Collectively, every Airborne Unit must familiarize their troops on all aircraft that serve as jump platforms. Airborne Infantry units train to seize and secure hostile airfields.

While each delivery platform defines an Infantry role, each also provides a niche capability that provides a balance between mobility, lethality, and protection and provides a set of advantages and disadvantages. Thorough analysis of the enemy's capabilities determines how to mitigate his strengths and capitalize on his weaknesses with available technologies. Mechanized Infantry are essential in the fight against an

⁸² Rick Adams, "Modern Paratrooper Essentials," *Military Technology* 49, no. 3 (2017): 54.

armored force. The increased protection and lethality of the BFV platform, combined with the flexibility of a dismounted element, is essential to reconnaissance and anti-tank capabilities in a near-peer conflict, as demonstrated during Israel's Yom Kippur War.⁸³ Stryker Infantry and Air Assault Infantry provide significant advantages over weaker enemies and hostile populations. The helicopter provides a mobility advantage that bypasses enemy IEDs and inserts an assault force in positions of advantage over the enemy. The Stryker provides both protection against IEDs, and increased lethality engaging lightly armored vehicles. However, it is not a well-armored fighting vehicle and it is vulnerable to anti-armor attacks of a near-peer armored force. Finally, the Airborne Infantry serve to fight long range mobility is essential in order to breach or bypass enemy defenses. Each delivery platform emphasizes the technological balance between lethality, mobility, and protection; however, each demands extensive and specific training so that infantrymen can employ each platform with maximum effectiveness.

2. Optics and Night Vision

Similar to the balanced technological advantages provided by various delivery platforms, advances in optics and night vision capability also provide advantages in mobility, lethality, and protection. The ability to see an enemy at night and accurately engage him from distances at which he cannot engage provides advantages to both the individual Soldier and the collective fighting unit. To provide sight advantages, every infantryman is equipped with a rifle sight and a night-vision device. The rifle sight may provide magnification and/or faster target acquisition. The Advanced Combat Optical Gunsight (ACOG) affords "enhanced target identification and hit probability out to 800m."⁸⁴ Similarly, sights with a parallax lens or "red dot sight," such as the EO-Tech and the M68, reduce the need for a strict sight picture when engaging, and allow the

⁸³ George W. Gawrych, *The 1973 Arab-Israeli War: The Albatross of Decisive Victory*, Combat Studies Institute, U.S. Army Command and General Staff College, 1996, 20.

⁸⁴ "TA31RCO-M4CP: Trijicon ACOG 4x32 BAC Rifle Combat Optic (RCO) Scope with Red Chevron Reticle for the USMC's M4 and M4A1 with Thumbscrew Mount," Trijicon, accessed 02 August 2017, https://www.trijicon.com/na_en/products/product3.php?pid=TA31RCO-M4CP.

shooter to engage near targets faster and with increased accuracy.⁸⁵ The advantage provided by superior optics is such that the U.S. Army continues to invest in this technology. At a 2016 defense conference, the U.S. Army expressed interest in an optic that could “digitally tag” a target such that an entire unit would be able to see and engage the tagged target.⁸⁶ These advances in individual optics are amplified on crew served weapons and delivery platforms. Optics and sights on the Stryker and Bradley vehicles increase the range of small arms beyond 2000 meters.

The night vision capability enjoyed by U.S. infantrymen allows Soldiers to identify objects and enemy during conditions of limited visibility thus changing the diurnal/nocturnal nature of conflict. The ability to see at night provides a mobility, protection, and lethality advantage.⁸⁷ Infantrymen can move on foot or by vehicle without the use of light in the visible spectrum. This capability simultaneously increases protection by allowing Soldiers to identify enemy personnel or hazards without compromise. Additionally, night vision provides a unique control mechanism. The use of infrared strobes and lasers offers leaders the ability to identify friendly forces, indicate direction, and communicate maneuver limits. Finally, night vision allows concealment. Leaders can do map checks and medics can provide lifesaving care in darkness. However, the once significant advantage that propagated the U.S. military saying “We own the night” has eroded to a position of “we share the night” or “Maintain the night” due to the proliferation of night-vision technology to adversaries.⁸⁸

The use of night vision and optical enhancement technology demand additional training because the mobility, lethality, and protective advantages secured with their use are neither automatic nor lasting. To retain their advantage, Soldiers must train with

⁸⁵ “M68 Close Combat Optic,” Military.com, accessed 02 November 2017, <http://www.military.com/equipment/m68-close-combat-optic>, “AIMPOINT COMPM2: Technical Specifications,” Aimpoint, accessed 02 August 2017, <https://us.aimpoint.com/product/aimpointR-compm2/>.

⁸⁶ Brendan McGarry and Matthew Cox, “US Army Wants Smart Optics for Infantry Squads, Sources Say,” *Military.com*, 19 January 2016, <http://www.military.com/daily-news/2016/01/19/us-army-wants-smart-optics-for-infantry-squads-sources-say.html>.

⁸⁷ Timothy Garden, *The Technology Trap: Science and the Military* (New York, NY: Brassey’s Defense Publishers, 1989), 30.

⁸⁸ Scott R. Gourley, “Night Vision: Conquering the Night, Maintaining the Edge,” *Army* 49, no.4 (April 1999): 43.

multiple optics and select the one best suited for the mission at hand. Additionally, Soldiers must certify with all of these aids to ensure they are capable of both identifying and accurately engaging an enemy with them. The increased training requirement inevitably causes something else to go untrained. Moreover, most optics and night-vision devices require a power source. The unpredictability of power generation in the field environment requires Soldiers to train mechanisms and methods that do not require batteries. In addition to the training required for the optics, laser, and night-vision devices, Soldiers retain qualification with iron sights, and control techniques that allow combat operations to continue when batteries die, especially in times of limited visibility.

3. Personal Protective Equipment

The technological balance between mobility, lethality, and protection affects personal protective equipment (PPE) just as it does vehicles and optical enhancements. On the one hand PPE alone increases Soldiers' survivability during an explosion, enemy small arms engagement, and the falls necessary for Individual Movement Techniques while under fire.⁸⁹ On the other hand, when in body armor, Soldiers are slower and their movements more cumbersome.⁹⁰ Researchers from 2000 to the present contend that combat task performance degradations are from 30% to 60%.⁹¹ This means Soldiers climb walls and ladders and half the speed, low crawl at half the pace, and move half the distance in a given time period. While PPE are essential for saving Soldiers lives in combat, specifically, in countering the IED threat, leaders must understand that the associated degradation to mobility and lethality associated with body armor also presents a hazard to both the mission and the men.

This performance hazard is first identified in training with body armor. Individuals must train in full PPE to know that there are inherent degradations to

⁸⁹ Philip J. Belmont Jr., Adnrew J. Schoenfeld, Gens Goodman, "Epidemiology of Combat Wounds in Operation Iraqi Freedom and Operation Enduring Freedom: Orthopedic Burden of Disease," *Journal of Surgical Orthopaedic Advances* 19, no.1, 2-7, <http://www.wheelsonline.com/userfiles/19-1-1.pdf>; Brianna Larsen, Kevin Netto, and Brad Aisbett, "The Effect of Body Armor on Performance, Thermal Stress, and Exertion: A Critical Review," *Military Medicine* 176, no. 11 (2011). 1265.

⁹⁰ Larsen et al. "The Effect of Body Armor on Performance," 1268.

⁹¹ Larsen et al. "The Effect of Body Armor on Performance," 1265.

performance associate with it. The ballistic eye protection that keeps fragmentation away from one's eye will fog over preventing target identification. Fire retardant gloves limit dexterity; ear protection can force adjustments to an individual's sight picture and his ability to accurately engage targets. This list is not inclusive of the many limitations induced by PPE, however, it serves to emphasize that only once individuals and leaders understand the degrading effects PPE has on performance, can they adequately prepare for these effects when presented with them in combat.

C. OBSTACLES TO EFFECTIVE TRAINING

U.S. Army doctrine states that realistic training increases combat performance and reduces casualties; conversely, the opposite is just as true.⁹² The following obstacles to training decrease combat performance and increase the likelihood of casualties. First, company commanders must prepare their Infantry companies for the next war, but are not afforded the time to do so. Second, when the commanders are executing training, the existing regulations decrease the realism of the training such that the event poorly replicates the operational environment and minimizes the simulator fidelity achieved with the training. Last, the previously mentioned time constraints on tactical leaders force organizational complacency and a “this is how we’ve always done it” mentality. While the list of obstacles to effective training is significant, this section will analyze the aforementioned three—time and task saturation, restrictive training regulations, and organizational complacency—that appear to have the most negative impact on combat preparation.

1. Time and Task Saturation—“The Deluge of Requirements”

Infantry company commanders do not have the time to execute all of the directed training requirements to the prescribed standard. A 2002 study conducted by the Army War College concluded that company commanders “have to fit 297 days of mandatory

⁹² Department of the Army, *Train to Win in a Complex World*, 1–2.

requirements into 256 available training days.”⁹³ Moreover, a 2012 Inspector General (IG) report indicated that “At none (0 of 16) of the locations inspected were companies in the ARFORGEN process able to complete all mandatory training and administrative tasks.”⁹⁴ Then in 2017, the Training Management Directorate at Fort Leavenworth published a document emphasizing the need for company commander’s to use web-based training aids and doctrine to “make unit training more efficient and more effective.”⁹⁵ While web-based resources may be helpful, the most significant problem with training is that company commanders do not have the time to execute training because of the additional tasks assigned. U.S. Army Armor Captain Scott Metz highlighted the effect of over tasking when he wrote, “U.S. Army tactical proficiency at company level and below is lower than many of our multinational partners due to a lack of emphasis on collective training and tactical proficiency at home station.”⁹⁶ Captain Metz continued that company commanders do not have the time or training opportunity to train those METL-related items.⁹⁷ This task saturation when combined with the “we’ll get it done” military mentality, erodes the commander’s integrity, but more importantly, it prevents an Infantry company from supporting the military’s number one priority: combat readiness.

At present, senior political and military leaders seem to understand that combat readiness as a priority was only receiving lip service. A recent memorandum from the Secretary of Defense James Mattis indicated that the “U.S. [is] unprepared for combat” and that military training needs to be overhauled so that service members can spend more

⁹³ Leonard Wong, *Stifling Innovation: Developing Tomorrows Leaders Today*, Number ADA631454 (Carlisle, PA: U.S. Army War College and Strategic Studies Institute, 2002), <http://www.dtic.mil/get-tr-doc/pdf?AD=ADA631454>, 9.

⁹⁴ Department of the Army Inspector General, *Disciplined Leadership and Company Administrative Requirements Inspection* (Washington, DC: Department of the Army, Officer of the Inspector General, 2012).

⁹⁵ William Brosnan and Charles Bergman, “FM 7–0: The Company Commander’s Training Primer,” *Infantry Magazine*, January-March 2017. 1.

⁹⁶ Scott Metz, “Overtasking and Its Effect on Platoon and Company Tactical Proficiency: an Opposing Forces and Observer/Coach/Trainer Perspective,” *eArmor*, Spring 2017, <http://www.benning.army.mil/armor/eARMOR/content/issues/2017/Spring/2Metz17.pdf>.

⁹⁷ Metz, “Overtasking and Its Effect on Tactical Proficiency.”

time “on the art and science of warfighting.”⁹⁸ Secretary Mattis understands that military units will not be successful by simply declaring that readiness is the top priority. Infantry company commanders want to train; however, they need the time and opportunity, free from what Dr. Leonard Wong, a professor at the U.S. Army War College, calls “The Deluge of Requirements,” so that they can train their men for war.⁹⁹

2. Peacetime Control Mechanisms / Range Regulations

Combat readiness is forged during realistic training, and done in accordance with predetermined METs. However, controls placed on units may degrade the realism in training and erode the simulator fidelity necessary for the combat readiness of the unit. The surface danger zones (SDZs) of small arms are intended to minimize fratricide within the friendly element. However, the restriction of existing SDZs prevents tactical units from executing fire and maneuver at the squad and platoon level. Department of the Army Pamphlet 385–36 states “For the [small arms] SDZ, there must be an angle of 15 degrees or 100m (whichever is greater) between the limit of fire and the near flank of the closest individual or unit and all impact are beyond the individual or unit.”¹⁰⁰ Restated, a supporting element must shift off their target or cease fire when the assaulting element is over a football field away.

Even more alarming is the SDZ for Bangalore torpedoes SDZ in training: “Personnel will be in a missile-proof shelter 100m from the charge, or 200m away in defilade. For unprotected personnel in the open, the minimum safe distance (MSD) is 1,000 m at right angles to axis of the Bangalore torpedo.”¹⁰¹ It is unrealistic to assume that a tactical leader would authorize sending a breaching element 200 meters forward of the supporting element, and no flank security within 1,000 meters. Further, it is ridiculous

⁹⁸ Cited In Cristina Silva, “Will Trump Send the U.S. To War? Defense Secretary Wants to ‘Enhance Warfighting Readiness,’” *Newsweek*, 26 July 2017, <http://www.newsweek.com/politics-us-war-defense-spending-642522>.

⁹⁹ Leonard Wong and Stephen J. Gerras, *Lying to Ourselves: Dishonesty in the Army Profession*, Number ADA615274 (Carlisle, PA: U.S. Army War College and Strategic Studies Institute, 2015) <http://www.dtic.mil/get-tr-doc/pdf?AD=ADA615274>, 4.

¹⁰⁰ Department of the Army, *Range Safety*, DA PAM 385–63 (Washington, DC: Department of the Army, 2014), 17–4.

¹⁰¹ Department of the Army, *Range Safety*, 15–4.

to expect conveniently placed “missile-proof shelters” when breaching an enemy’s obstacle belt. The final example refers to the incorporation of indirect or aerial fires. When calling fires, the JFIRE manual implies that close-in fire missions may be executed in combat, but provides specific distances for “training use only.”¹⁰² In training a GBU-38 500lb JDAM has a minimum safe distance of 1100m. In combat, this same bomb is authorized for a danger close drop of 185m, a difference of 1,015m.¹⁰³ In contrast to the JFIRE manual, the Army Field Manual 3–21.10 *The Infantry Rifle Company*, which provides guidance and direction for an Infantry company in combat states, “[i]f required, the company commander can even call for artillery fires right on his company position using proximity or time fuses for airbursts.”¹⁰⁴ This report does not suggest a need to call for fire on one’s position in training. However, it does highlight the self-induced disparity between the combat a training environment. While this is only one of many examples, the conflicting nature of doctrine highlights both the serious dangers of combat and the avoidance of risk in training. Moreover, the aforementioned examples are only a few where the standards in training differ from those in combat because of peacetime control mechanisms.

3. Organizational Complacency—“This Is the Way We’ve Always Done it”

The Mission Essential Task List determines the training necessary to prepare an Infantry company for its combat mission. However, a lack of task understanding and organizational complacency justify leaders and subordinates embracing the historic norms because that is how training was done before. At a minimum, this mentality leads to a standardized bureaucracy where the training proficiency of the company, as assessed by the commander, is irrelevant. The company will execute the same training cycle that was executed previously in a form of rinse and repeat. The result is a lack of innovation and a failure of mission analysis. Moreover, this organizational complacency serves to

¹⁰² U.S. Department of Defense, *JFIRE: Multi-service Tactics, Techniques, and Procedures for the Joint Application of Firepower* (Washington, DC: Department of Defense, 2016), 137–140.

¹⁰³ U.S. Department of Defense, *JFIRE*, 137.

¹⁰⁴ Department of the Army, *The Infantry Rifle Company* FM 3–21.10 (Washington, DC: Army Publishing Directorate, 2006), 10–21 - 10–83.

reinforce and solidify bad habits. The enemy is always changing and adapting, therefore, it is incumbent upon leaders to engage in thorough and constant analysis of the enemy so that the training environment mimics the combat environment as closely as possible. In the same way, the rinse and repeat method of training ignores friendly weapon advancements and/or concerns to Soldier health and welfare. Advances in munition lethality change this safe distance for friendly personnel. Advances in parachute technology changed the time of freefall and the altitude at which paratroopers may safely exit the aircraft. Advances in night-vision technology increase Infantry maneuverability and simultaneously the effectiveness of combat medics in hours of limited visibility. A “this is how we’ve always done it” approach to training retards an Infantry company’s innovation and mission analysis while preventing an increase in its lethality and survivability.

4. Conclusion—The Effect of Training Obstacles

The effect of these training obstacles is a reduction in simulator fidelity and an increase in the likelihood of casualties during an Infantry unit’s first combat engagement. Individually and collectively, combat readiness suffers because of the lack of time provided to train combat tasks and the existing range regulations that misalign actions in training with the execution of these same actions in combat. Despite the demand to “Train as [we] fight,” leaders resort to a “this is how we’ve always done it” mentality, symptomatic of the organizational complacency that accompanies the “deluge of requirements.”¹⁰⁵ Senior political and military leaders see the erosion of combat readiness and correctly attribute it to unrealistic number of directed training tasks a company must complete. However, without changes to existing regulations that undermine the realism of Mission Essential Task training, the organizational complacency that currently saturates the training environment will endure and combat readiness will continue to erode.

¹⁰⁵ Department of the Army, *Training for Full Spectrum Operations*, 2-5; Wong and Gerras, “Lying to Ourselves,” 4

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III. RISK MITIGATION, MISSION COMMAND, AND ERODING COMBAT READINESS

U.S. Army infantrymen are expected to fight and win when the nation calls. Winning requires training in environments and scenarios that most closely resemble the future combat situation. To this point, does the U.S. Army Infantry, at the tactical level, train as they fight? Does the training environment provide the simulator fidelity necessary to create “pre-battle veterans” prior to commitment to a combat or contingency operation? This chapter will attempt to answer this question in three sections. First, an examination of U.S. Army risk management and safety doctrine will highlight how commanders identify hazards and assume risk. The second section will analyze the perception of hazards and the influence of perception on risk assumption. Finally, this chapter will conclude with a study of the application of the U.S. Army’s warfighting philosophy, mission command, and its current relevance in both training and combat. In the end, this chapter will suggest that the priority afforded to safety or risk mitigation, and the misalignment of mission command in the training environment enabled the certification and validation of unprepared units and a degradation in combat readiness.

A. RISK AND SAFETY DOCTRINE

Formal risk mitigation, as a matter of doctrine, is relatively new among the U.S. Army Infantry. However, an increased emphasis on safety in training started in 1958.¹⁰⁶ Three years following the establishment of the U.S. Army Aviation Center, in 1955 the death rate in aviation units spiked. The U.S. Army attributed these casualties to a lack of guidance on properly managing risk.¹⁰⁷ This phenomenon led to the establishment of the U.S. Army Board for Aviation Accident Research (USABAAR), which ultimately resulted in Army Regulation 95–5 and Army Regulation 385–10, which detailed accident reporting procedures and the Army Safety Program.¹⁰⁸ Until 1995, safety doctrine

¹⁰⁶ Mike Mobbs, “Above the Danger: Army Aviation and the Development of Risk Management Doctrine.” *Army History* (Winter 2017): 28.

¹⁰⁷ Mobbs, “Above the Danger,” 28.

¹⁰⁸ Mobbs, “Above the Danger,” 29.

progressively matured in the Army. High-accident probability became equated with high risk; leaders focused on the early detection of hazards rather than accident reporting; Training and Doctrine Command (TRADOC) implemented a “risk assessment worksheet” that reduced training accidents by 60%.¹⁰⁹ However, the 1995 deaths of five students at the U.S. Army Ranger School caught the attention of the U.S. Congress, which required that the U.S. Army formalize risk management in doctrine. Field Manual 100–14, *Risk Management*, published in 1998, was the U.S. Army’s answer to Congress.

1. Risk Management Doctrine

U.S. Army risk management and safety doctrine may be progressing toward a “zero-defect” training environment and a mentality that all loss is preventable. More importantly, if all loss is preventable then behind every accident is a culpable leader. Risk Management should be the process defined in joint doctrine, “the process of identifying, assessing, and controlling risks arising from operational factors and making decisions that balance risk cost with mission benefits.”¹¹⁰ While Risk Management in the training environment should be an enduring activity, the reality is that it lies somewhere between risk aversion and the aforementioned process.¹¹¹ U.S. Army Lieutenant General (Ret.) David Barno and U.S. defense policy expert Nora Bensahel believe “the Army’s overweening approach to safety has created a widespread culture of near-total risk aversion when troops are not in combat.”¹¹² While this report does not maintain that the U.S. Army Infantry is completely risk averse, it does suggest that the management of risk in training violates the doctrinal risk management process by deprioritizing mission benefits when calculating risk costs.

The principles of Risk Management, stated in ATP 5–19 Risk Management, highlight the need to identify hazards and risks during all phases of a mission, to

¹⁰⁹ Mobbs, “Above the Danger,” 30–32.

¹¹⁰ Joint Chiefs of Staff, *Joint Operations*, JP 3–0 (Joint Chiefs of Staff, 2017), 213.

¹¹¹ Risk aversion is the “desire to avoid risk at virtually any cost.” Brendan Gallagher, “Managing Risk in Today’s Army,” *Military Review* (January-February 2014), 94.

¹¹² David Barno and Nora Behsahel, “Six Ways to Fix the Army’s Culture,” War on the Rocks, 06 September 2016, <https://warontherocks.com/2016/09/six-ways-to-fix-the-armys-culture/>.

decentralize the process so the appropriate commander is assessing mission risk, to avoid unnecessary risk, and to use feedback to improve risk mitigation.¹¹³ It is a cyclical process of risk assessment and risk management, as depicted in Figure 1. Leaders must identify and assess the hazards then manage those hazards with the development and implementation of controls and measures of effectiveness.¹¹⁴ Moreover, the assessment of the hazards involves some prediction as to the likelihood and severity of the risk associated with them. Thus, an identified hazard is higher risk if it has a higher probability of occurrence and higher severity in terms of the consequences.¹¹⁵ This determines the overall risk level.

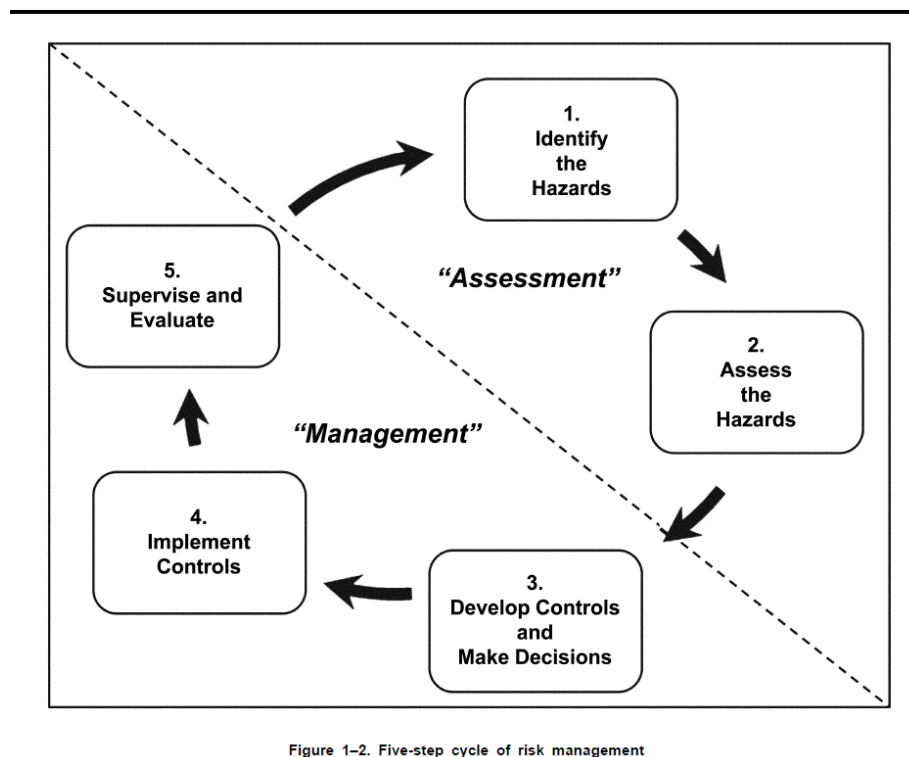


Figure 1. The Cycle of Risk Management in U.S. Army Doctrine¹¹⁶

¹¹³ Department of the Army, *Risk Management*, ATP 5-19, C1 (Washington, DC: Department of the Army, 2014), 1-1.

¹¹⁴ Department of the Army, *Risk Management*, ATP 5-19, C1, 1-4.

¹¹⁵ Department of the Army, *Risk Management*, ATP 5-19, C1, 1-6.

¹¹⁶ Department of the Army, *Risk Management*, DA PAM 385-30 (Washington, DC: Department of the Army, 2014), 4.

Risk level is assessed on a scale from Low to Extremely High, and determines the level of authority required to assume risk.¹¹⁷ Commanders determine risk tolerance, “the level of risk the responsible commander is willing to accept.”¹¹⁸ To assume risk, a commander must have the authority and resources to implement the controls necessary to mitigate the risk. In keeping with the concept of mission command, the intent of the aforementioned process is to provide the appropriate command level with both the authority and the resources to identify and mitigate risk.¹¹⁹ In training, the installation commander is responsible for all risk on the installation. Understanding that one individual cannot oversee every training event, accepted safety standards allow delegation to subordinate commanders based on the level of risk and the duration of the training event. An Infantry company commander may assume the risk for an event deemed low risk and lasting less than one month.¹²⁰ Risk management doctrine provides a framework for commanders to identify hazards, determine risk, and then delegate risk assumption authority to an authority that can ensure the implementation of controls without detracting from the training value.

2. Safety Doctrine and Regulation

While Risk Management doctrine is designed to mitigate risk to the mission, the Soldiers and to equipment, Army Safety doctrine is focused on loss of people and equipment. Safety doctrine takes a comprehensive approach to safety, encompassing all activities of the service member both on and off duty.¹²¹ Further, safety doctrine specifies that the risk management process cannot justify disregarding laws, policies, and regulations.¹²² The inflexibility of this doctrine is such that any deviation to regulation requires approval from garrison and mission safety offices, a legal review, and an

¹¹⁷ Department of the Army, *Risk Management*, ATP 5–19, C1, 1–6.

¹¹⁸ Department of the Army, *Risk Management*, ATP 5–19, C1, 1–2.

¹¹⁹ Department of the Army, *Risk Management*, ATP 5–19, C1, vi.

¹²⁰ Department of the Army, *Risk Management*, DA PAM 385–30, 3.

¹²¹ Department of the Army, *The Army Safety Program*, AR 385–10 (Washington, DC: Department of the Army, 2017, 27 & 50–51.

¹²² Department of the Army, *Risk Management*, DA PAM 385–30, 11.

environmental and public affairs office review prior to consideration from the appropriate authority.¹²³ The mandate to prevent loss within the U.S. Army permeated the culture such that company grade officers are often held to “impossible standards in a misguided, centralized attempt to limit every imaginable accident or error.”¹²⁴ Consequently, U.S. Army safety messages now advise Soldiers on the hazards of “crossing streets while playing Pokémon Go.”¹²⁵ Despite, the philosophy of mission command, and a need to delegate risk management to the appropriate authority, the U.S. Army fails to do so in training. Instead, it remains a centrally controlled bureaucracy that undermines its own warfighting philosophy.¹²⁶

B. THE PSYCHOLOGY OF RISK PERCEPTION

Paradoxically, the U.S. Army has adopted a warfighting philosophy that advocates the empowerment of junior leaders, but concurrently espouses a doctrine that erodes initiative and discourages judgement. To understand this dichotomy, it is imperative to consider some of those factors that affect the perception of risk. Loss aversion, vulnerability, and emotion are three influences that affect how decision makers view hazards and how they associate risk with them. These factors, individually and cumulatively result in the application of the “precautionary principle,” commonly associated with the saying “better to err on the side of caution.”¹²⁷ The first influence, loss aversion, suggests that loss and feelings of disadvantage have a more significant effect on one’s preference than does the feeling of gain or advantage.¹²⁸ Next, the perception of vulnerability and the paradox of risk mitigation suggest that as people become safer, they become more concerned about risk and they feel more vulnerable to

¹²³ Department of the Army, *Range Safety*, DA PAM 385–63 (Washington, DC: Department of the Army, 2014), 1.

¹²⁴ Barno and Bensahel, “Six Ways to Fix the Army’s Culture.”

¹²⁵ Barno and Bensahel, “Six Ways to Fix the Army’s Culture.”

¹²⁶ “Commanders Series Event with Chief of Staff of the Army General Mark Milley,” YouTube video, 56:25, Atlantic Council, 4 May 2017, https://www.youtube.com/watch?v=mjPX_FH5qns.

¹²⁷ Timothy O’Riordan and James Cameron, *Interpreting the Precautionary Principle* (New York, NY: Earthscan, 1994), 12-13.

¹²⁸ Amos Tversky and Daniel Kahneman, “Loss Aversion in Riskless Choice: A Reference-Dependent Model,” *The quarterly journal of economics* 106, no. 4 (1991): 1039.

it.¹²⁹ Last, the emotional and rational aspects of risk assumption can lead to a misalignment between the perception of risk and the reality of it.¹³⁰ The effect of psychology on risk perception provides some possible explanation for the emphasis on and centrality of U.S. Army Safety doctrine.

Loss aversion asserts that preference is based on a frame of reference rather than real empirical data.¹³¹ Therefore, the language used to communicate in U.S. Army doctrine and regulation provides the reference upon which the loss aversion is instilled. Figure 2, which shows Table 3–2 from DA PAM 385–30 *Risk Management*, displays how the U.S. Army determines severity in the evaluation of hazards. The severity is measured in terms of what is lost. A catastrophic event is one where one or more lives are lost. Conversely, in an Infantry company of 150 Soldiers, an event where 149 Soldiers’ lives are retained communicates the same data, but not in terms of loss.

Table 3–2.
Risk management severity categories

Severity	Symbol	Quantitative value — Injury or Illness ¹	Quantitative value — Dollars ¹	Definition
Catastrophic	I	1 or more death or permanent total disability	Loss equal to \$2 million or more	Death, unacceptable loss or damage, mission failure, or unit readiness eliminated
Critical	II	1 or more permanent partial disability or hospitalization of at least 3 personnel	Loss equal to or greater than \$500 thousand but less than \$2 million	Severe injury, illness, loss, or damage; significantly degraded unit readiness or mission capability
Moderate	III	1 or more injury or illness resulting in lost time	Loss equal to or greater than \$50 thousand but less than \$500 thousand	Minor injury, illness, loss, or damage; degraded unit readiness or mission capability
Negligible	IV	1 or more injuries or illnesses requiring first aid or medical treatment	Loss less than \$50 thousand	Minimal injury, loss, or damage; little or no impact to unit readiness or mission capability

Notes:
¹ Quantitative values are based on definitions for Class A through D accidents. See AR 385–10.

Figure 2. Risk Management Severity Categories Communicate Loss¹³²

¹²⁹ Paul Slovic, “Risk Perception and Trust” in *Fundamentals of Risk Analysis and Risk Management*, ed. Vlasta Molak (Boca Raton: Lewis Publishers, 1996), 233.

¹³⁰ “Hazard, Risk & Safety—Understanding Risk Assessment, Management, and Perception,” YouTube video. 5:30. Posted by GreenFacts.org, 24 November 2014, <https://www.youtube.com/watch?v=PZmNZi8bon8>.

¹³¹ Tversky and Kahneman, “Loss aversion in riskless choice,” 1047.

¹³² Department of the Army, *Risk Management*, DA PAM 385–30, Table 3–2.

According to psychologists, people feel the pain of loss at two times the magnitude of the happiness felt of a similar gain. Thus, the desire to avoid an amount of loss is greater than the desire to achieve the same amount of gain.¹³³ This asymmetry between feelings of loss and gain manifest themselves in risk mitigation procedures and safety doctrine. Because of this psychological phenomenon, leaders will perceive and quantify risk as greater than it actually is because doctrine and the units of measurement reference hazards and risk in terms of loss.

Another reason people misperceive risk is the paradox of risk mitigation: as one becomes safer, one becomes more concerned about risk and one's vulnerability to it. U.S. Soldiers are safer today, in both training and combat, than at any other point in military history. A 2016 assessment of the Army Safety Program concluded that the U.S. Army's safety culture continued a decade-long record of reducing injuries, fatalities, and loss of equipment.¹³⁴ The advances in personal protective equipment and combat medical care, specifically in the first hour following injury, "The Golden Hour," saved lives that would have been lost in previous wars. Casualties in the Korean War totaled 36,000 killed in action (KIA) and 103,000 wounded in action (WIA).¹³⁵ In the Vietnam War, casualty estimates were 58,000 KIA and 153,000 WIA.¹³⁶ As of 2015, casualties in the wars of Iraq and Afghanistan resulted in the deaths of 6,800 and the wounding of 52,000 Soldiers, a significant decrease in numbers, especially considering the length of these conflicts.¹³⁷ This trend in decreasing combat casualties is reflected in training accidents

¹³³ John Kageleiry, "What Does It Really Mean to Be Risk Averse?," *Investopedia*, 27 July 2017, http://www.investopedia.com/advisor-network/articles/what-does-it-really-mean-be-risk-averse/?utm_campaign=rss_applenews&utm_medium=referral&utm_source=apple_news.

¹³⁴ "Annual Assessment of the Army Safety Program: Fiscal Year 2016," Director of Army Safety, 2016, <https://safety.army.mil/Portals/0/Documents/MEDIA/Standard/Master-2016-Annual-Assessment-7-Feb-2017.pdf?ver=2017-02-09-084650-633>.

¹³⁵ Eliot A. Cohen, *The Big Stick: The Limits of Soft Power and The Necessity of Military Force* (New York, NY: Basic Books, 2016), 41.

¹³⁶ Cohen, *The Big Stick*, 41.

¹³⁷ Cohen, *The Big Stick*, 41; The author acknowledges that post-2001 wars displayed more irregularity and asymmetry than the wars in Korean and Vietnam.

and casualties as well.¹³⁸ Without question, the current U.S. Army is the safest army in U.S. history. It follows that this increase in safety is paired with an increase in perceived vulnerability. As stated, safety doctrine progressed from accident reporting in the 1960s to the present form where Soldiers receive orders on how to cross streets, where reflective belts are mandatory, and where commanders split their focus between off-duty incidents and preparation for combat (this final point will be discussed in depth in a follow-on section). The safety culture in the current U.S. Army is a product of a “better to err on the side of caution” mentality, but called risk mitigation when it is not.

Cognitive and perceptual biases compound the paradox of risk mitigation, and continually influence decision-making. Once an activity is perceived or labeled as unsafe, gradual changes that decrease the risk and make the activity safer go unnoticed.¹³⁹ Moreover, initial impressions, even when incorrect, persist because “the amount of information necessary to invalidate a perception is considerably greater than the amount of information required to form an initial impression” in the first place.¹⁴⁰ This explains why advances in the accuracy of rifles, the precision of optics, the progression of night vision, and the improvement of body armor have not resulted in decreased sensitivity to surface danger zones and minimum safe distances in the training environment. On the contrary, the surface danger zones of explosives and small arms either remained unchanged or increased such that friendly force maneuver is more restricted than it was before such advancements. While these surface danger zones exist as a centralized form of risk mitigation, they demonstrate the paradox of risk mitigation when considered with the aforementioned biases.

Risk mitigation is both rational and emotional, and therefore, the element of emotion is another risk perception factor often manipulated by bias. Generally, people

¹³⁸ Directorate of Communication and Public Affairs, “New Commanding General at the U.S. Army Combat Readiness/Safety Center,” U.S. Army Combat Readiness/Safety Center, 22 August 2014. https://www.army.mil/article/132409/new_commanding_general_at_the_us_army_combat_readinesssafety_center.

¹³⁹ Richards J. Heuer, “Cognitive Factors in Deception and Counterdeception,” In *Strategic Military Deception*, ed. Donald C. Daniel and Katherine L. Herbig (New York, NY: Pergamon Press Inc., 1981), 31–69. 36–37.

¹⁴⁰ Heuer, “Cognitive Factors in Deception and Counterdeception,” 40.

consider flying a greater risk than driving a car, despite all statistics indicating that driving a car is a much riskier endeavor.¹⁴¹ The estimation of probabilities, the evaluation of evidence, and the attribution of causality are factors often reinforced and/or manipulated by biases.¹⁴² Catastrophic plane crashes are easier to recall than car crashes; therefore, they seem more likely to occur. Additionally, human beings have a natural tendency toward consistency and the assumption that because something happened before, it is likely to happen again.¹⁴³ The rational and objective aspect of estimating probability and evaluating facts is manipulated by these cognitive and perceptual biases such that perceived risk is inflated.

Military Range Safety Officials also fall victim to the effect of the aforementioned biases. The apprehension associated with fratricide and unintended demolitions effects is unfounded when considering recent safety statistics, yet this anxiety manipulates the alignment of risk and risk perception. Injuries sustained during sports and physical training far outnumber the injuries sustained during combat training and preparation.¹⁴⁴ Moreover, almost all fatalities in training are aviation or vehicle related when compared to fatalities due to maneuver or demolitions fratricide.¹⁴⁵ While Range Control officials argue with company commanders over the risk of a training event, the reality is that the unit is more likely to sustain injuries during morning PT or while driving to the training event, rather than during the training event itself. Although the severity associated with military training casualties, when endured, exceeds that of morning PT, the likelihood of such injuries is misrepresented and exaggerated because they are easy to imagine and thus seem more likely to occur.

The manifestations of vulnerability, loss aversion, and perceptual bias are not confined to casualties in training; rather, they permeate the psychology of decision

¹⁴¹ GreenFacts.org, “Hazard, Risk & Safety.”

¹⁴² Heuer, “Cognitive Factors in Deception and Counterdeception,” 44–59.

¹⁴³ Heuer, “Cognitive Factors in Deception and Counterdeception,” 52–53.

¹⁴⁴ “Annual Assessment of the Army Safety Program: Fiscal Year 2016,” Director of Army Safety, 2016, <https://safety.army.mil/Portals/0/Documents/MEDIA/Standard/Master-2016-Annual-Assessment-7-Feb-2017.pdf?ver=2017-02-09-084650-633>, 7.

¹⁴⁵ Director of Army Safety, “Annual Assessment of the Army Safety Program: Fiscal Year 2016,” 8.

makers and determine what is considered safe. In a message to the Army, the Director of Army Safety and Commanding General stated that, “Accidents are preventable losses” and that “Loss prevention begins with engaged leaders and the safety culture.”¹⁴⁶ Statements such as this reinforce the misalignment between risk and risk perception. When risk is referenced and evaluated in terms of loss, decision makers fall victim to loss aversion and tend to evaluate the risk at almost twice its realistic level. The Sergeant Major of the Army reinforced this when he said, “most fatal accidents, within the U.S. Army, occur when the Service Member is off-duty.”¹⁴⁷ This results in a belief that the most dangerous thing a leader can do is release Soldiers from duty for the day or weekend. In practice, the acceptance that accidents are preventable, and leaders are responsible for “everything their unit does or fails to do” enabled the belief that an off-duty accident is a leadership failure.¹⁴⁸ Notions like these negate the monumental strides already taken to instill the mission command philosophy. Moreover, holding leaders accountable for events over which they have no control, justifies the centralizing of authority in order to prevent accidents. The need to avoid accidents and loss catalyzes biases that distort pragmatic and calculated risk mitigation measures and encourage leaders to “err on the side of caution” when the perceived risk is unfounded and inflated. The resulting misalignment between risk perception and risk manifests itself as an incompatibility between the training environment and the combat environment.

C. MISSION COMMAND AND RISK IN THE COMBAT ENVIRONMENT

The senior leadership of the U.S. Army understands that the combat environment is both dangerous and risky. ADRP 6–0 *Mission Command* and ATP 5–19 *Risk Management* dictate the necessity to “enable discipline initiative,” “empower...leaders,”

¹⁴⁶ U.S. Army Combat Readiness Center, “Accidents down in first quarter of 2015,” U.S. Army Combat Readiness Center, 23 January 2015, https://www.army.mil/article/141629/Accidents_down_in_first_quarter_2015/.

¹⁴⁷ “SMA Minute - Safety First” YouTube video, 0:58, Posted by Soldiers Mag, 20 August 2015, <https://www.youtube.com/watch?v=vDvQFBjumCQ>.

¹⁴⁸ Department of the Army, *SBCT Infantry Rifle Company*, ATP 3–21.11 (Washington, DC: Department of the Army, 2016), 1–16. Department of the Army, *The Army Safety Program*, AR 385–10 (Washington, DC: Department of the Army, 2017).

and “accept prudent risk.”¹⁴⁹ Born out of the German concept of *Auftragstaktik*, translated to mean mission-type orders and tactics, mission command delegates the responsibility to calculate risk, assume risk, and act down to the appropriate authority.¹⁵⁰ Company commanders are both empowered and expected to act when the situation demands it. Moreover, the responsibility to take initiative is not confined to those with command authority; all leaders are expected to take disciplined initiative in support of a higher mission. This decentralization of authority requires both the communication of a higher mission and the empowerment of the appropriate subordinate authority. Using mission orders and dialogue, commanders communicate the Who, What, When, Where, How, the purpose, and the endstate expected for operations.¹⁵¹ This knowledge allows subordinate leaders to conduct their own mission analysis, perform their own enemy analysis, and devise a course of action that meets their higher commander’s intent. Moreover, because this course of action was devised and not dictated, both buy-in and mission understanding increase.

Taking disciplined initiative also requires delegation of command authority. Orders must be enforceable, and if lower level leaders are going to issue orders then they need the ability to enforce those orders. According to U.S. doctrine, the Ground Force Commander (GFC) is responsible for the completion of the mission and the protection of the force.¹⁵² Military rank does not trump command authority in combat. Senior Lieutenants and junior Captains will issue orders to senior ranking personnel expecting that those orders are followed. This authority is restricted to the confines of the mission at hand; however, it is a necessity for mission success. In combat, the GFCs are responsible for enforcing necessary safety procedures and adhering to established standard operating procedures so long as they support mission success and mitigate the risk to the force as

¹⁴⁹ Department of the Army, *Mission Command*, ADRP 6–0 (Washington, DC: Department of the Army, 2015), 1-1–1-4.

¹⁵⁰ William DePuy, *Generals Balck and von Mellenthin on Tactics: Implications for NATO Military Doctrine*, Report No. BDM/W-81-077-TR (McLean, VA: BDM CORP, 1980), <http://www.dtic.mil/docs/citations/ADA097704>; Department of the Army, *Mission Command*, v.

¹⁵¹ Department of the Army, *Mission Command*, 2-4–2-5.

¹⁵² Department of the Army, *Operations*, ADP 3–0 (Washington, DC: Department of the Army, 2016), 4; Department of the Army, *The Operations Process*, ADRP 5–0 (Washington, DC: Department of the Army, 2012), 4-1 – 4-2.

best as possible. In combat, the priority is always the mission; the protection of the men comes second, followed by the protection of one's self. This is the nature of command and it is essential to leadership in the U.S. Army Infantry. Junior officers, when acting as GFCs, are charged and trusted to lead and weigh risk against mission benefits, then to act decisively using their best judgement.

1. Training Misalignment with Mission Command

In spite of the U.S. Army's warfighting philosophy, the responsibility of the GFC in the training environment and in not consistent with the U.S. Army's concept of mission command. During a collective live fire exercise, the senior lieutenant or junior captain is often in the shadow of the battalion operations officer or battalion commander. Observer-controllers stand behind or adjacent to every maneuver element and crew-served weapon system, evaluating them, ensuring they are safe, and often telling the Soldiers what targets to engage and when to do so. Moreover, the iteration designed to mimic combat and certify the unit for combat, the night time—live fire iteration, is the sixth repetition for that unit. Centralizing the execution of an exercise, then repeating the same exercise six times in row prevents the subordinate freedom of action and initiative that are essential to the mission orders and tactics philosophy.

This strict and centralized management of training exercises does not support mission command, and actually undermines the concept. Leaders do not learn to analyze a mission and work through a tactical problem if the exercise scenario dictates a course of action. Squad Leaders and Team Leaders do not practice disciplined initiative in moving, emplacing, or reacting. In reality, initiative is discouraged because the location from which an individual can employ a weapon system is predetermined and often overtly marked with flags or engineer tape. More importantly, this system of training degrades the trust and confidence of the Soldiers and leaders. The Soldiers see "that they're considered bumbling incompetents and that their leaders are considered worse."¹⁵³ While mission command promotes decentralization to appropriate authorities and empowering

¹⁵³ Thomas P. Kratman, "Concerning 'Safety,'" *Infantry Magazine*. May-June, 1985, <http://www.benning.army.mil/infantry/magazine/issues/1985/MAY-JUN/pdfs/MAY-JUN1985.pdf>, 10.

disciplined initiative, the current training practices undermine this philosophy by adhering to a safety first, mission second mentality.

In training, the range officer in charge (Range OIC) and the range safety officer (RSO) are responsible for safety during training. They perform the risk management process and submit their recommendation through a bureaucratic system based on rank.¹⁵⁴ Furthermore, the approval of target placement, munitions used, and maneuver limitations is delegated to an agency outside the chain of command - Range Control.¹⁵⁵

Range Control is the installation commander's representative, charged to manage the installation's range facilities and enforce existing safety doctrine.¹⁵⁶ However, the enforcement of safety doctrine takes precedence over the employment of risk management.¹⁵⁷ This last point creates significant friction because safety is an individual, collective, and shared obligation. In an Infantry company, ensuring safety and determining "the acceptable level of risk" is a commander's responsibility.¹⁵⁸ Nevertheless, the abdication of range safety authority to Range Control allows range controls' interpretation of safety doctrine to trump realism in training, when the two are in conflict. This is another violation of mission command and an erosion of the trust this philosophy demands.

The debate surrounding the prioritization of safety over mission requirements is old one and remains unresolved. The Roman historian Cornelius Tacitus in *Annals* said, "The desire for safety stands against every great and noble enterprise."¹⁵⁹ U.S. Civil War-era General William Tecumseh Sherman stated, "Every attempt to make war easy and safe will result in humiliation and disaster."¹⁶⁰ However, the existing counter-

¹⁵⁴ Department of the Army, *Risk Management* (DA PAM 385–30), 3.

¹⁵⁵ Department of the Army, *Range Safety* DA PAM 385–63 (Washington, DC: Department of the Army, 2014), 243. (see installation Range Management Authority).

¹⁵⁶ Department of the Army, *Range Safety*, 243.

¹⁵⁷ Department of the Army, *The Army Safety Program*, 27 and 50–51.

¹⁵⁸ Department of the Army, *The Operations Process*, 4-1 – 4-2.

¹⁵⁹ Cornelius Tacitus, "Book XV" in *Annals* (Oxford: Oxford University Press, 2008), 50.

¹⁶⁰ William T. Sherman, *Memoirs of General William T. Sherman* (New York: D. Appleton & Co., 1875), <http://www.freeinfosociety.com/media/pdf/4321.pdf>, 325.

argument maintains that a system void of safe practices that results in death, “gnaw[s] at the confidence, morale, and operational capabilities of the force.”¹⁶¹ The number of non-battle injuries during combat campaigns is well documented, as is the effect on the force. Further, as of 2017, service members were more likely to die in “peacetime” incidents than in active hostilities or combat.¹⁶² While this might be true in the year 2017, it was neither true during the wars in Korea and Vietnam, nor during the surges of Iraq and Afghanistan. Moreover, if Major General William C. Hix, the current Army G3, is correct, this statement will not be accurate in the next war American infantrymen fight. Second, while non-battle casualties outnumber combat casualties, the current service chiefs do not blame unsafe training practices. As previously mentioned, Secretary of Defense James Mattis, General Mark Milley, the Army Chief of Staff, and Admiral John Richardson, the Chief of Naval Operations, have all cited a degradation in readiness as responsible for the increase in non-battle injuries and fatalities.¹⁶³ While safety in training is important, perhaps the most effective measure leaders can take is to improve the quality and realism of their training.

2. A Degradation in Readiness through the Lens of Live Fire Surface Danger Zones (SDZs)

This degradation in readiness at the Infantry company level due lack of simulator fidelity in training is not a new phenomenon, but the result an abdication of training authority to agencies outside the chain of command. When examining only the U.S. Army Infantry during live fire training exercises, it is evident that changes to regulations resulted in a prioritization of safety over the mission. The original purpose of range regulations was to reduce the chance of accidents without sacrificing realism or impeding the authority of

¹⁶¹ Mackenzie Eaglen, “America’s New Deadliest War Is Hiding in Plain Sight,” *American Enterprise Institute*, 7 September 2017, http://www.aei.org/publication/americas-new-deadliest-war-is-hiding-in-plain-sight/?mkt_tok=eyJpIjoiTVRRNU56Z3paVEpsTmpSaCIsInQiOiJuNGJxcEl4RyVtVUxrd2Q1XC9JOTFKVTBiN05CQXFNCWltUTV6akdUWnRXZyRtTjhaMVJzZTBwaXJXcXNFb2JJbEsxTXBnRVFad1RDM0R2dzcXYYXlEbDRiNzc5OGV4TVdJXC9HTFB0UHA2YVFVTTRQTGZXWUdVbWdQNWlYTHVaK2xMIn0%3D.

¹⁶² Eaglen, “America’s New Deadliest War.”

¹⁶³ Idrees Ali, “U.S. Military Leaders Voice Concern about Readiness of Forces,” *Reuters*, 16 March 2016, <https://www.reuters.com/article/us-usa-military-budget/u-s-military-leaders-voice-concern-about-readiness-of-forces-idUSKCN0WI317>.

unit leaders.¹⁶⁴ As an example, Surface Danger Zones (SDZs) were first developed in 1942 when troops trained to engage low flying aircraft by firing into the air. The result was fratricide incidents kilometers away when the rounds returned to the surface.¹⁶⁵ However, the SDZ concept transitioned to centralized safety mechanism applied to every weapon, laser, ammunition, and demolition.¹⁶⁶ While it is essential to avoid fratricide, it is important to remember that the responsibility to avoid fratricide within one unit remained that of the “responsible commander.”¹⁶⁷ Moreover, this first installment of range regulation specified that the purpose was to “minimize the possibility of accidents,” that “Training restrictions produced by precautionary measures will be kept to the minimum consistent with reasonable and practical safety,” and that “Troops who are advanced in training and are engaged in combat firing exercises...may fire with less restrictive measures.”¹⁶⁸ Since the genesis of the SDZ, the restrictions in safety doctrine discount the training assessment of the commander preferring to err on the side of caution.

Fortunately, many leaders within the U.S. Army Infantry community understand that encroaching safety regulations undermine realism in training. Over three decades ago, in 1985, an Infantry company commander wrote in *Infantry Magazine* that common sense and the chain of command were the “victim[s]” of safety.¹⁶⁹ In 2016, General Robert B. Abrams, the commander of Forces Command, reiterated the necessity to train under realistic conditions when he stated, “Unnecessary or outdated range control

¹⁶⁴ War Department, *Range Regulations for Firing Ammunition for Training and Target Practice*, AR 750–10 C1 (Washington: War Department, 1942), 1.

¹⁶⁵ War Department, *Range Regulations for Firing Ammunition for Training and Target Practice*, 1; Emanuel Velez and Frederick Brown. “Realism Versus ‘Range-Ism’: Using Surface Danger Zones to Plan Convoy Live Fires,” *Army Sustainment Magazine*, March-April, 2017, https://www.army.mil/article/182933/realism_versus_range_ism_using_surface_danger_zones_to_plan_convoy_live_fires, 2.

¹⁶⁶ Department of the Army, *Range Safety*, 14–23.

¹⁶⁷ War Department, *Range Regulations for Firing Ammunition for Training and Target Practice*, AR 750–10 Change 2 (Washington: War Department, 1942), 2.

¹⁶⁸ War Department, *Range Regulations for Firing Ammunition for Training and Target Practice*, AR 750–10 Change 2, 1.

¹⁶⁹ Kratman, “Concerning ‘Safety,’” 11.

measures that inhibit realism will be eliminated.”¹⁷⁰ While the identification of encroaching safety regulation is important, it is merely the symptom of a greater problem.

Even more concerning than encroaching safety regulation is the loss of command authority to the safety regulation. SDZs are not the reason readiness has degraded; rather, they are a symptom of the problem and one indicator of how an entity like Range Control usurped command authority in the Risk Management process.

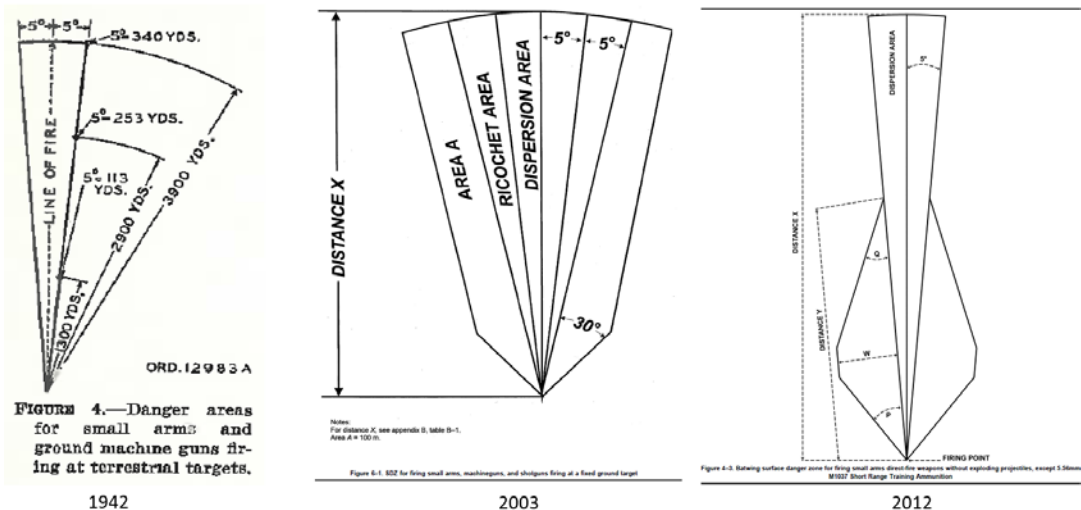


Figure 3. Expanding Small Arms Surface Danger Zones from 1942 to 2012¹⁷¹

Figure 3 shows the changes in small arms SDZs from 1942 to the present.¹⁷² In 1942, the SDZ was five degrees to account for dispersion and ricochet.¹⁷³ By 2003, the SDZ was distance specific, but in practice fifteen degrees was accepted and taught at the

¹⁷⁰ Velez and Brown, “Realism versus ‘range-ism,’” 2.

¹⁷¹ War Department, *Range Regulations For Firing Ammunition For Training and Target Practice* AR 750–10 (Washington: War Department, 1942), 8; Department of the Army, *Range Safety* DA PAM 385–63 (Washington, DC: Department of the Army, 2003); Department of the Army, *Range Safety* DA PAM 385–63 (Washington, DC: Department of the Army, 2012).

¹⁷² War Department, *Range Regulations For Firing Ammunition For Training and Target Practice* AR 750–10 (Washington: War Department, 1942), 8; Department of the Army, *Range Safety* DA PAM 385–63 (Washington, DC: Department of the Army, 2003); Department of the Army, *Range Safety* DA PAM 385–63 (Washington, DC: Department of the Army, 2012).

¹⁷³ War Department, *Range Regulations for Firing Ammunition for Training and Target Practice* AR 750–10 (Washington: War Department, 1942), 8.

Infantry basic courses.¹⁷⁴ By 2012, the “Batwing” SDZ superseded the “cone” SDZ further removing flanking units from the Gun Target Line and reducing realism.¹⁷⁵ The U.S. Army converted to the smaller caliber in round in the 1950s and 1960s because of increased accuracy and performance.¹⁷⁶ While the U.S. Army adopted an enhanced 5.56mm round in 2010, the U.S. Army still trains with the “green tip” 5.56mm round of the 1960s.¹⁷⁷ The weapons employed since the Vietnam War have optics and more advanced componentry increasing the accuracy of the 5.56mm round when fired. Further, the reports on the enhanced 5.56 round suggest, “there is no question that this round has increased accuracy at greater distances.”¹⁷⁸ Despite repeated increases in accuracy, the SDZ associated with U.S. Army small arms progressively increased suggesting that risk perception, not risk itself, is the cause.

The negative effect of increased safety restrictions, despite decreased risk, manifests itself in the execution of Battle drills. These small-unit drills, detailed in *The Infantry Rifle Platoon and Squad*, provide the foundation for the U.S. Army Infantry’s tactical lethality at the start of combat engagement.¹⁷⁹ Following a reaction to enemy contact, the element in contact establishes a base of fire while the element not in contact prepares to execute a flanking maneuver as part of an attack, or to knock out a bunker or bunker complex. In 1942, the base of fire element suppressing an enemy target 200 meters away could support the flanking element until it was within 18 meters of the target.¹⁸⁰ In

¹⁷⁴ Department of the Army, *Range Safety* DA PAM 385–63 (Washington, DC: Department of the Army, 2003).

¹⁷⁵ Department of the Army, *Range Safety* DA PAM 385–63.

¹⁷⁶ Department of the Army, *Report of the M16 Rifle Review Panel: History of the M16 Weapon System* (Washington, DC: Department of the Army, 1968).

¹⁷⁷ Jeffrey K. Woods, *M855A1 Enhanced Performance Round (EPR) Media Day*. Accession Number: ADA549416 (Picatinny Arsenal, NJ: Office of the Program Manager Maneuver Ammunition Systems, 2011), <http://www.dtic.mil/get-tr-doc/pdf?AD=ADA549416>, 17.

¹⁷⁸ Woods, *M855A1 Enhanced Performance Round*, 15.

¹⁷⁹ Department of the Army, *The Infantry Rifle Platoon and Squad*, FM 3–21.8 (Washington, DC: Department of the Army, 2007), 1–32.

¹⁸⁰ War Department, *Range Regulations for Firing Ammunition for Training and Target Practice* AR 750–10 (Washington: War Department, 1942), 8.

2003, using the 15-degree cone SDZ, that distance grew to 53.6 meters.¹⁸¹ By 2012, the employment of the batwing SDZ further increased that distance to 163.1 meters from the target.¹⁸² Moreover, if the unit was using the enhanced ammunition, which is being employed in both Iraq and Afghanistan, the SDZ increases to 65 degrees, which made flanking movements impractical or impossible with existing SDZ restrictions.¹⁸³ The small arms SDZ increases are one example of how encroaching safety regulations inhibit realistic training and contribute to the degradation in combat readiness.

These expanding training restrictions are not limited to small arms but include the use of all Infantry weapons in the training environment. When employing fragmentation grenades, Department of the Army Pamphlet 385–63 specifies that “Every precaution will be taken to prevent injury from blast, concussion, and fragment. For training purposes, fragmentation and offensive hand grenades will be thrown from a trench or barrier equivalent to a screen of sandbags 0.5 m (1.65 ft) thick.”¹⁸⁴ The regulation continues that the “Impact area will be free of obstacles,” that a “minimum side-to-side distance of 5m between individual[s]...is required,” and that “EOD personnel will destroy dud grenades in place or safe and remove before troops enter the grenade impact area.”¹⁸⁵ While constructing a live fire training event that included the use of live hand grenades, an Infantry platoon leader was informed that he would have to create a “putting green” within five meters of the bunker and that Soldiers would have to “place, not throw, toss, or drop, the grenade in a grenade sump inside the bunker.”¹⁸⁶ While it makes perfect sense to protect friendly troops from the blast of a hand grenade, the aforementioned constraints are only the beginning of restrictions on hand grenade use

¹⁸¹ Department of the Army, *Range Safety* DA PAM 385–63 (Washington, DC: Department of the Army, 2003).

¹⁸² Department of the Army, *Range Safety* DA PAM 385–63 (Washington, DC: Department of the Army, 2012).

¹⁸³ Department of the Army, *Range Safety* DA PAM 385–63 (Washington, DC: Department of the Army, 2014).

¹⁸⁴ Department of the Army, *Range Safety* DA PAM 385–63 (Washington, DC: Department of the Army, 2014), 44.

¹⁸⁵ Department of the Army, *Range Safety* DA PAM 385–63 (Washington, DC: Department of the Army, 2014), 211.

¹⁸⁶ Frank Komadina, personal communication, 01 October 2017.

such that units either choose not to implement this aspect of training, or endure such restrictions despite the façade of realism. Senior leaders within the Army and the Military Service Chiefs are concerned about combat readiness and unrealistic training. At the tactical level, increased safety restrictions that do not mirror the risk hinder realistic training. More importantly, commanders do not have the authority to challenge these restrictions because their authority is abdicated to the installation. This is violation of the U.S. Army's war fighting philosophy and contributes to both the lack of realism in training and the decrease in readiness.

3. Lack of Preparation— "Training Scar Tissue"

The differences between the training environment and the combat environment create the potential for a lack of preparation and bad habits that decrease performance in combat. The lack of preparation presents when leaders exercise new authorities they are unfamiliar with, when maneuver procedures or standards change, or when Soldiers misunderstand the effects of their weapon systems. Bad habits, learned in the training environment, transfer to the combat environment because they are what the Soldier knows. Grossman refers to this reality as "Training Scars."¹⁸⁷ Police Officers that fire two rounds at a target in training, then stop to pick up the bullet casing do this same thing when engaging criminal in life threatening situations.¹⁸⁸ Soldiers that run out of ammo during live fire exercises and yell, "bang, bang" are likely to do the same in combat.¹⁸⁹ This happens because "whatever is drilled in during training comes out the other end in combat."¹⁹⁰ Thus, it is certainly possible that Infantry company commanders will avoid maneuver because of existing SDZ restrictions in training. Additionally, it is possible that Soldiers will place grenades instead of throwing them, and units will lose the initiative because action stops when a round DUDs. Worst yet, it is possible that leaders' confidence in their own decision making will falter because they are now operating with

¹⁸⁷ Grossman and Christensen, *On Combat*, 75–76.

¹⁸⁸ Grossman and Christensen, *On Combat*, 75–76.

¹⁸⁹ Flora Drury, "Soldiers Forced to Shout 'Bang Bang' During Training Because of Ammunition Shortages in the Dutch Army," *Daily Mail*, 05 August 2015 <http://www.dailymail.co.uk/news/article-3185723/Soldiers-forced-shout-bang-bang-training-ammunition-shortages-Dutch-army.html>.

¹⁹⁰ Grossman and Christensen, *On Combat*, 75.

authorities not provided in the training environment and without the suffocating oversight provided during their combat certification.

D. CONCLUSION

The Infantry training environment must provide infantrymen the ability to understand and master all aspects of their environment if they are going to succeed in combat. As previously stated, men will not die for a line of text or a PowerPoint slide. Moreover, training men for combat using a PowerPoint will not work either. Soldiers must train for combat by replicating the physical, emotional, and psychological conditions of combat; “you train them on field of battle, getting them as close to the real thing as you can.”¹⁹¹ Since the genesis of U.S. Army range regulation the restrictions imposed by safety regulations are frequently a proposed explanation for a unit’s lack of training proficiency. At present, the U.S. Army swamped itself “with more regulations and bureaucratic processes than any other military service.”¹⁹² Readiness within warfighting units is suffering, largely because of the previously mentioned “Deluge of Requirements” and centralized constraints that prevent realistic training and combat preparation. However, the U.S. Army warfighting doctrine changed to embrace mission command and an expectation for disciplined initiative.¹⁹³ The training doctrine must follow. Despite the reality that that Risk Management doctrine is vague, senior commanders, doctrine, and regulation should under-write the prudent and calculated risk-taking by their subordinates in training. Risk management and safety doctrine should not be an excuse or directive for leaders to avoid risk and abdicate the authority to assume risk to an agency outside the immediate chain of command. The U.S. Army must empower the appropriate commander with both the responsibility and authority to calculate and mitigate risk to his unit.

¹⁹¹ David H. Hackworth, “It’s the System, Stupid: Washington, 1996” in *Hazardous Duty* (New York, NY: Avon Book INC, 1996), 301.

¹⁹² Barno and Bensahel, “Six Ways to Fix the Army’s Culture.”

¹⁹³ Wong and Gerras, “Lying to Ourselves,” 4.

IV. HISTORICAL CASES OF TACTICAL U.S. ARMY INFANTRY UNITS IN HIGH-INTENSITY CONFLICT

Any study of Infantry training, combat preparation, leadership, and risk requires an examination of U.S. Army Infantry units' performance in combat. This chapter examines three tactical U.S. Army Infantry organizations in their first combat engagements in an attempt to understand if the training conducted prepared or hindered the force in combat. In general, these cases are examples of tactical infantry formations performing in high tempo conflict environments, similar to the conditions expected in America's next conventional war. More specifically, the selection of these three cases highlight the factors of leadership, training, and technology as they relate to U.S. Army Infantry units' preparation for their "First Battles."¹⁹⁴ First, Task Force Smith and the 34th Infantry Regiment spearheaded the American effort during the Korean War. Their defeat later served as a rallying cry for combat readiness with the slogan "No More Task Force Smiths."¹⁹⁵ Second, a study of 1st Battalion, 7th Cavalry during some of fiercest conventional fighting in the Ia Drang Valley of Vietnam highlights how a technological advantage is multiplied when combined with leadership and realistic training. Last, the participation of the 75th Ranger Regiment in Operation JUST CAUSE, specifically, the seizure of Rio Hato Airfield, illuminates one of the first engagements of the U.S. invasion of Panama. Furthermore, the actions of the Rangers during this battle demonstrate how realistic training can produce the simulator fidelity necessary to create "Pre-Battle Veterans." Collectively, a temporal view of these cases shows the progression of the U.S. Army Infantry combat preparation, as well as the necessity for empowered leadership.

Each of these historical narratives is analyzed using three criteria—leadership, training, and technology. First, leadership is evaluated using the U.S. Army's leadership competencies and attributes to examine whether tactical leaders provided the requisite

¹⁹⁴ Heller and Stofft, *America's First Battles*.

¹⁹⁵ Raymond M. Longabaugh, *Task Force Smith and the 24th Infantry Division in Korea, July 1950*, Number ADA612249 (Fort Leavenworth, KS: Army Command and General Staff College School of Advanced Military Studies, 2014), 48.

“purpose, direction, and motivation to accomplish the mission.”¹⁹⁶ Next, the evaluation of training studies the combat preparation of the unit and assesses whether or not the preparation was adequate. Finally, the analysis of technology examines the advantages and disadvantages provided to both belligerents of the conflict. In each case, the reader is reminded of the tragic costs endured by the unprepared and the risk averse. More importantly, these historical examples demonstrate how strong leadership provides the cornerstone for combat preparation, often determining victory or defeat before the battle takes place.

A. 1-21 INFANTRY (TASK FORCE SMITH) AT THE START OF THE KOREAN WAR

On July 5, 1950, Lieutenant Colonel Charles B. “Brad” Smith led 1st Battalion, 21st Infantry into the first American ground combat engagement of the Korean War, and its first defeat.¹⁹⁷ His task force, comprised of two infantry companies, an artillery section, a mortar platoon, and two 75mm recoilless rifle teams, was the spearhead of the 24th Infantry Division.¹⁹⁸ His mission was to reassure the Republic of Korea (ROK) forces, provide moral support, and delay the North Korean armored assault.¹⁹⁹ Shortly after making contact with the North Korean Army, however, his task force was enveloped and overrun. Over the next 16 days, the 24th Infantry Division would endure 3,600 casualties, including the division commander, three regimental commanders, and five battalion commanders in addition to an astonishing amount of military equipment.²⁰⁰ Since this engagement, “No More Task Force Smiths” has been a rallying cry for combat readiness throughout the military.²⁰¹ What factors resulted in the destruction of so many

¹⁹⁶ Department of the Army, *Army Leadership* ADRP-22 (Washington D.C.: Department of the Army, 2012), 1-1.

¹⁹⁷ Roy K. Flint, “Task Force Smith and the 24th Division: Delay and Withdrawal, 5-19 July 1950” in *America's first battles, 1776-1965*. ed. Charles E. Heller and William A. Stofft (Lawrence, KS: University Press of Kansas, 1986), 266.

¹⁹⁸ Roy E. Appleman, *United States Army in the Korean War: South to the Naktong, North to the Yalu: June-November 1950* (Washington D.C.: Center of Military History, 1992), 60-63.

¹⁹⁹ Bevin Alexander, *Korea: The First War We Lost* (New York, NY: Hippocrene Books, 1986), 55-56.

²⁰⁰ Longabaugh, *Task Force Smith*, 1.

²⁰¹ Longabaugh, *Task Force Smith*, 48.

American lives and loss of so much military equipment? It is incorrect to suggest that Task Force Smith and the 24th Infantry Division failed because they lacked bravery. Instead, an examination of the tactical leadership, the training environment in post-WWII Japan, and the employment of military technology suggests that the synergistic failure in all three of the aforementioned categories led to both the failure of Task Force Smith's mission and the loss of American lives.

1. Leadership

As the commander of Task Force Smith, LTC Smith failed to provide the necessary purpose, direction, and motivation required to reinforce the ROK units and delay the North Korean assault, despite his significant combat experience.²⁰² Furthermore, his task force was the product of a deteriorating command that was anything but combat ready. The men of Task Force Smith and the entire 24th division lacked purpose for the following reasons. First of all, they enjoyed the ease of the occupation mission. The U.S. Army in Japan was "a nine-to-four organization" that "led comfortable lives."²⁰³ Additionally, most of the junior enlisted were young men "lured in the Army by the generous GI Bill."²⁰⁴ Regardless of rank, the Soldiers of Far East Command viewed the transition from an occupation army as "the end of the good life."²⁰⁵ Purpose is what "gives subordinates the reason to achieve a desired outcome."²⁰⁶ Until 1949, the desired outcome was an early work day and a paycheck when it should have been the perfection of tasks and drills, understanding of the enemy, and development of junior leaders. Unfortunately, by the time Task Force Smith began training, combat in Korea was only months away.

²⁰² LTC Brad Smith was a company commander in Hawaii during the attack on Pearl Harbor, and he commanded a battalion on Guadalcanal during the Second World War in the Pacific. Harry J. Maihafer, "Task Force Smith," *American History* 35, no. 3 (August 2000), 54-64, 56.

²⁰³ Flint, "Delay and Withdrawal," 271.

²⁰⁴ Flint, "Delay and Withdrawal," 271.

²⁰⁵ Alexander, *Korea: The First War We Lost*, 46.

²⁰⁶ Department of the Army, *Army Leadership* ADRP-22 (Washington D.C.: Department of the Army, 2012), 1-2.

The combat readiness miscarriage became apparent when LTC Smith received a mission that lacked any direction and failed to provide the motivation necessary to accomplish it. He was directed to “support the ROKs and give them moral support.”²⁰⁷ His commander continued, “All we need is some men up there who won’t run when they see tanks.”²⁰⁸ Providing direction entails dialoguing with subordinate leaders so they understand the tasks and responsibilities necessary to accomplish their mission.²⁰⁹ The composition of the enemy force, their disposition on the battlefield, and capabilities employed the enemy are crucial elements to understanding one’s task. Further, LTC Smith should have received a location for where he could link-up with ROK forces, and names of key ROK leaders he could engage. This lack of direction was compounded by the absence of motivation. Instilling motivation entails “supplying the will and initiative to do what’s necessary.”²¹⁰ While motivation is often associated with an individual’s internal drive, it is the leader’s responsibility to understand his Soldiers and provide them inspiration such that their internal drive aligns with the goals of the mission. Lacking motivation aligned with task and proper direction, LTC Smith moved his force north of the retreating ROK forces and established a battalion defense. This resulted in an overestimation of friendly capabilities and an underestimation of the North Korean Army. Upon contact with the enemy, Task Force Smith was outnumbered six to one, a gross violation of the three to one ratio advised for a U.S. Army unit in the defense, and vastly outgunned by the advancing North Korean infantry and armor. While LTC Smith was the recipient of poor direction, it was his duty to retrieve the information necessary so that he could then provide the requisite direction to his subordinate leaders and align the motivations of his men with the task at hand.

While LTC Smith was both the receiver and provider of poor leadership, it is important to understand that his leadership presence in the face of an overwhelming enemy inspired the men of Task Force Smith, whereas other battalions in the division did

²⁰⁷ Appleman, *South to the Naktong, North to the Yalu*, 61.

²⁰⁸ Appleman, *South to the Naktong, North to the Yalu*, 61.

²⁰⁹ Department of the Army, *Army Leadership*, 1-2.

²¹⁰ Department of the Army, *Army Leadership*, 1-2.

not share the same confidence in their commanding officers. Despite being overrun by more than 30 tanks and facing a 5,000-man North Korean infantry assault, the men of Task Force Smith did not run. Instead they looked to LTC Smith and waited for his order to attack, a testament to the LTC Smith's leadership presence.²¹¹ The Army defines leader presence as "the impression a leader makes on others" and evaluates it based on the response of the Soldiers to a leader's directive.²¹² In other battalions, infantry companies failed build the requisite volume of fire necessary to defend their positions and Soldiers were "withdrawing for no apparent reason."²¹³ These battalions abandoned their defenses and significant amounts of equipment and ammunition, sometimes prior to the arrival of the North Korean advance.²¹⁴ The initial grit of Task Force Smith, when compared to that of the other two battalions, demonstrates how effective leader presence can provide the inspiration that ultimately aligns Soldiers' motivations with the goals of the mission.

Despite effective leader presence during initial contact with the North Korean Army, the lack of purpose provided in training and the failure to receive and provide direction in combat made success impossible for Task Force Smith. These men were psychologically unprepared because of the conditions tolerated as an occupation force. Commanders are responsible for all their unit does or fails to do, and LTC Smith, the commander of Task Force Smith, failed to provide the essential elements of leadership when he led his men into combat unprepared.

2. Training

The continued examination of Task Force Smith and the 24th Infantry Division suggests that the training conducted failed to simulate the conditions in combat, resulting in a lack of simulator fidelity. Before 1949, infantry training in Japan consisted of individual and squad level exercises. Additionally, infantry units avoided training with

²¹¹ Alexander, *Korea: The First War We Lost*, 61.

²¹² Department of the Army, *Army Leadership*, 4-1.

²¹³ Flint, "Delay and Withdrawal," 284-285.

²¹⁴ Flint, "Delay and Withdrawal," 281.

tanks and supporting artillery because of space restrictions.²¹⁵ After 1949, when General Douglas MacArthur, the Far East Command (FEC) Commander, made training his number one priority, Infantry units still did not execute combat focused training for a number of reasons.²¹⁶ First, existing ammunition shortages prevented units from firing recoilless rifles or mortar systems. Instead, training on these key weapon systems consisted of “crew drills and dry fire exercises.”²¹⁷ Second, collective training exercises for regimental or larger units were unsupported because of space restrictions and the time required to build proficiency at lower command levels.²¹⁸ Last, and most importantly, the social climate following World War II was wrought with a “bring the boys home” mentality and a false sense of security provided by the atomic bomb, such that many Soldiers believed the days of ground combat were over.²¹⁹ The synergistic effect of the lack of training resources, the failure to motivate Soldiers resulted in unrealistic training exercises that “checked the block” rather than providing Soldiers with the simulator fidelity necessary for success in combat. As a result, Soldiers were lightly armed and did not understand weapons effects. Furthermore, tactical leaders were unfamiliar with fires integration, and battalions were uncertified on their METL tasks when U.S. policymakers needed combat ready Soldiers and units in Korea.

In addition to unrealistic training exercises, the leaders of the 24th Infantry Division failed to evaluate the risk assumed by neglecting realistic training which resulted in a failure of risk mitigation. The resulting misalignment between the reality of the risk and the perception of it caused unsustainable casualties and mission failure. One example was the failure to adequately train an anti-armor capability. The resulting hazards associated with this gap should have illuminated the operational disadvantage produced when the enemy maintains an armor capability. On the contrary, the

²¹⁵ James F. Schnabel, *United States Army in the Korean War: Policy And Direction: The First Year* (Washington D.C.: Center of Military History, 1992), 55.

²¹⁶ Flint, “Delay and Withdrawal,” 270-273.

²¹⁷ Flint, “Delay and Withdrawal,” 270-274.

²¹⁸ Thomas E. Hanson, “The Eighth Army’s Combat Readiness Before Korea: A New Appraisal,” *Armed Forces & Society* 29, no. 2 (Winter 2003): 170.

²¹⁹ Alexander, *Korea: The First War We Lost*, 48.

misunderstanding of weapons effects produced by poor training resulted in unawareness of the risk to the force and to the mission. Identification of the hazard could have resulted in effective risk mitigation measures such as air support, combined execution with South Korean anti-armor units, or seeding the roads with anti-tank mines in advance of North Korean armored columns. Unfortunately, the failure to analyze the risk and properly mitigate it resulted in an inexcusable rout of American forces. The leaders that committed Soldiers to this conflict were aware of the North Korean armor assets and they were aware that their own training program failed to properly emphasize an anti-tank capability. Sadly, both leaders and Soldiers simply believed that their weapons could stop a tank, without validating the concept in the training environment. A modicum of risk analysis should have highlighted the risk assumption and galvanized mitigation measures.

The leaders and Soldiers of Task Force Smith did not expect to go to war. The conditions of occupation and the belief that ground combat was over resulted in a training program that appeased superiors, but did not train the Soldiers to win. The training conducted provided minimal simulator fidelity and the unawareness of the risks associated with the lack of training resulted in Soldiers that were unprepared physically, emotionally, and psychologically for the combat in Korea.²²⁰

3. Technology

The lack of Task Force Smith's preparation for combat was also evident in the deficient technology employed by the Soldiers during the first combat engagements of the war, most notably, the lack of an anti-tank capability. The U.S. Army possessed effective anti-tank weapons, but they were prioritized for the European Theater and were unavailable in Korea.²²¹ As a result, Soldiers' used the same equipment provided during World War II's Pacific War. It was outdated and poorly maintained.²²² Working batteries for radios were almost non-existent. The 75mm recoilless rifle and the 2.36-inch rocket launcher were incapable of penetrating the Soviet tanks employed by the North Koreans.

²²⁰ Flint, "Delay and Withdrawal," 270.

²²¹ Schnabel, *Policy And Direction: The First Year*, 41-55.

²²² Schnabel, *Policy And Direction: The First Year*, 45-50.

While High Explosive Antitank (HEAT) artillery shells existed, only 13 were accounted for.²²³ The HEAT artillery was the only operational anti-tank capability available to Task Force Smith; however, the ammunition allocation was grossly insufficient to be effective. Of note, the U.S. Air Force maintained an anti-tank capability, but because of a fratricide incident a few days prior to the deployment of Task Force Smith, supporting aircraft remained well north of LTC Smith's position and unable to support ground combat.²²⁴ This lack of an antitank capability, compounded by the degraded communications, created a technological imbalance that American Infantry forces could not, initially, overcome. As a result, North Korean forces successively enveloped and overran American blocking positions.

4. Conclusion

Regrettably, the men of Task Force Smith and the 24th Infantry Division were unprepared for combat and they suffered badly for it. Their training did not provide the simulator fidelity required to create the "Pre-Battle Veterans" required to win in the first fight. Senior tactical leaders within the Eighth Army identified the barriers to effective training in the form of small training areas, ammunition shortages, and an occupation mentality. However, these warnings went unheeded and proved detrimental to training and combat readiness. As a result, Soldiers with antitank weapons misunderstood their capabilities, leaders at the Battalion and Regimental Levels were unfamiliar with maneuvering large organic and attached units, and junior leaders were content with the status quo believing the days of ground combat were over.²²⁵

From a technology standpoint, the North Koreans maintained an advantage compounded by the failure of American risk analysis and mitigation. The U.S. Army units were equipped with outdated and ineffective weapons that were no match for the advancing North Korean armored columns. The lack of training with aerial fires and the failure of U.S. antitank weapons produced a hazard unrealized by American leaders. The

²²³ Schnabel, *Policy And Direction: The First Year*, 59.

²²⁴ Appleman, *South to the Naktong, North to the Yalu*, 62-63.

²²⁵ Alexander, *Korea: The First War We Lost*, 46-48.

lack of mitigating measures, specifically, the inability to use the Air Force antitank capabilities, allowed the North Koreans to, literally, roll over and through American blocking positions.

Notably, there was such a significant inadequacy in the leadership of U.S. tactical units, that senior commanders could not organize a defense. “Those [units] with good officers performed magnificently; those with poor officers performed miserably.”²²⁶ Each leader knew that the enemy was using Soviet equipment, and the most likely Mission Essential Task would be to establish a defense. Despite this, the chain of command, from General MacArthur on down, prioritized occupation responsibilities and enabled a belief that the Army would not go to war. This lack of leadership in the form of purpose, motivation, and direction led to the erosion of readiness at all levels. As a result, training was neglected in lieu of occupation and the short amount of time in which to prepare Soldiers for war prevented the large-scale collective exercises necessary to achieve the simulator fidelity required to combat and delay the North Korean advance.

B. 1st BATTALION, 7th CAVALRY REGIMENT IN THE BATTLE OF IA DRANG

Fifteen years after the destruction of Task Force Smith, U.S. Army Infantry tactical units again engaged in conventional high intensity conflict, this time in Vietnam. On November 14, 1965, Soldiers of 7th Cavalry Regiment (Air Mobile) inserted into Landing Zone (LZ) X-Ray in pursuit of a North Vietnamese Army (NVA) enemy force estimated to be 200 men.²²⁷ In reality, these men inserted at the base of mountain that housed three NVA battalions, approximately 1600 enemy soldiers.²²⁸ The 1st Battalion, 7th Cavalry Regiment was commanded by LTC Harold “Hal” Moore, a combat veteran of

²²⁶ “Volume 10: The Korean War” In *America At War*, (2008; New York, NY: A&E Television Networks, 2008), DVD

²²⁷ *Vietnam in HD*, directed by Sammy, Jackson (2011; Easton, PA: Lou Reda Productions, 2011), DVD.

²²⁸ Harold G. Moore and Joseph L. Galloway, *We Were Soldiers Once...and Young* (New York, NY: HarperCollins Publishers, 1992), 73; George C. Herring, “The 1st Cavalry and the Ia Drang Valley, 18 October-24 November 1965” in *America's first battles, 1776-1965*. eds. Charles E. Heller and William A. Stofft (Lawrence, KS: University Press of Kansas, 1986), 300.

the Korean War and one the U.S. Army's leading experts on air mobile infantry.²²⁹ He and 450 of his Soldiers landed in waves at LZ X-Ray and established a battalion defense. One hour and twenty seven minutes after landing, the NVA attacked the LZ in an attempt to overrun the American force. However, the supporting UH-1A helicopters (hueys) continually resupplied men and ammunition, while various forms of American fire power prevented the enemy from achieving their tactical objective.²³⁰ During the first day of combat, 1st Battalion, 7th Cavalry sustained 85 casualties.²³¹

The second day of 1st Battalion, 7th Cavalry's battle in the Ia Drang valley was worse. At 0650, the weight of the enemy regiments bore down on defending Americans. However, the call of "Broken Arrow," a code word indicating that an American unit was in danger of being overrun, summoned every Air Force fighter and bomber in Vietnam.²³² Local artillery fired more than 8,000 rounds, while air assets flew 350 sorties in support of the surrounded infantry battalion.²³³ The relentless close air support (CAS) and constant artillery prevented the North Vietnamese from destroying the American Battalion and forced an enemy withdrawal.²³⁴ 1st Battalion was relieved by 2nd Battalion, 7th Cavalry at which point LTC Moore led the return to base and was the last man from his Battalion to leave the battlefield.²³⁵ While U.S. Army history remembers the battle of Ia Drang as a great American victory, bear in mind that the North Vietnamese also claimed victory.²³⁶ Despite the North Vietnamese Army's failure to destroy 1st Battalion, they retained control of the ground, and inflicted 40% casualties on LTC Moore's Battalion, and even more casualties on 2nd Battalion.²³⁷ The American Soldiers of 1st

²²⁹ "Volume 11: The Vietnam War" In *America At War*, (2008; New York, NY: A&E Television Networks, 2008), DVD.

²³⁰ Moore and Galloway, *We Were Soldiers*, 124-125; Herring, "The 1st Cavalry and the Ia Drang Valley," 318.

²³¹ *Vietnam in HD*.

²³² *Vietnam in HD*.

²³³ Herring, "The 1st Cavalry and the Ia Drang Valley," 319.

²³⁴ Herring, "The 1st Cavalry and the Ia Drang Valley," 319.

²³⁵ Moore and Galloway, *We Were Soldiers*, 238.

²³⁶ Herring, "The 1st Cavalry and the Ia Drang Valley," 300, 321.

²³⁷ Herring, "The 1st Cavalry and the Ia Drang Valley," 320.

Battalion, 7th Cavalry survived an enemy attack, outnumbered eight to one. Why, what prevented their destruction? The following section will examine this battle by looking at the leadership of LTC Moore, the training the 1st Battalion did prior to insertion in LZ X-Ray, and the application of weapons technology to better understand how the 1st Battalion survived and ultimately claimed victory.

1. Leadership

LTC Harold Moore exercised successful command and leadership through his character, his intellect, and his ability to both inspire and empower his subordinates.²³⁸ LTC Moore's example as the first man into LZ X-Ray, and the last to leave, demonstrates the leadership character required to motivate Soldiers in combat. As the commander, LTC Moore could have remained in a command helicopter coordinating the movements of his subordinates from the air, a technique frequently used during the Vietnam War.²³⁹ Instead, he endured the hardships of his Soldiers ensuring both his wounded and his death left the battlefield before he did, a testament to the love and respect he had for his Soldiers.²⁴⁰

The Soldiers of LTC Moore's battalion and the supporting aviators responded to his leadership with individual and collective actions that changed the course of the battle. Lieutenant General (retired) John Tolson commented that throughout the conflict, the supporting aviators "ran a gantlet of enemy fire time after time to help."²⁴¹ Furthermore, Captain Robert Edwards, the C Co commander, commented that men wounded early in

²³⁸ Army doctrine evaluates leadership using the leadership characteristics (character, presence, and intellect) and the leadership competencies (Leads, Develops, and Achieves); Department of the Army, *Army Leadership*, ADRP 6-22, C1 (Washington D.C.: Department of the Army, 2012), 3-1 – 8-4; LTC Moore is also a veteran of the Korean War.

²³⁹ John J. Tolson, *Vietnam Studies: Airmobility 1961-1971*, Report Number 90-4B (Washington D.C.: Department of the Army, 1999), https://history.army.mil/html/books/090/90-4/CMH_Pub_90-4-B.pdf, 139.

²⁴⁰ Moore and Galloway, *We Were Soldiers*, 69 and 238.

²⁴¹ Tolson, *Airmobility*, 78.

the conflict, remained in their positions and continued fighting.²⁴² In addition to individual action, subordinate commanders felt empowered to make decisions, within the confines of LTC Moore's intent. This ability to "rapidly execute tactical maneuvers... prevented the enemy from capturing the landing zone."²⁴³

Throughout the battle, LTC Moore demonstrated an understanding of his subordinate units' locations, and he reinforced and empowered them accordingly. His employment of unity of command facilitated increased situational awareness such that he was "solely responsible for the actions of all units in the landing zone."²⁴⁴ He personally approved the aerial and indirect fire missions that prevented the destruction of his unit and forced the withdrawal of the enemy. In the eyes of his Soldiers, LTC Moore, achieved a "victory over...uncertainty" against overwhelming odds, such that the U.S. Army validated the airmobile concept and adopted the attrition strategy for combat in the Vietnam War.²⁴⁵ LTC Moore successfully led and commanded his men from the beginning of the battle to the end. His character and personal example galvanized motivation among both his direct subordinates and the attached subordinate units. This support enabled his unity of command and increased his situational awareness allowing him to provide purpose to his ground forces and direction to the fires assets who then executed with devastating effect.

2. Technology

LTC Moore's leadership was enhanced by a technological imbalance between the U.S. military and the North Vietnamese Army. Despite the North Vietnamese infantry demonstrating a high level of readiness and training, the U.S. Army maintained significant mobility advantages due to the helicopter, and lethality advantages due to

²⁴² Robert H. Edwards, *Operation of the 1st Battalion, 7th Cavalry, 1st Cavalry Division (AIRMObILE), in the Airmobile Assault of Landing Zone X-Ray, Ia Drang Valley, Republic of Viet Nam, 14-16 November 1965. (Personal Experience of a Company Commander.)*, (Fort Benning, GA: United States Army Infantry School, 1967), <http://www.benning.army.mil/library/content/Virtual/Donovanpapers/vietnam/STUP4/EdwardsRobert%20H.%20CPT.pdf>, 27 and 37.

²⁴³ Edwards, *Operation of the 1st Battalion, 7th Cavalry*, 38.

²⁴⁴ Edwards, *Operation of the 1st Battalion, 7th Cavalry*, 37.

²⁴⁵ Tolson, *Airmobility*, 83; Moore and Galloway, *We Were Soldiers*, 238.

modern infantry weapons and coordinated fires.²⁴⁶ As early as 1962, the North Vietnamese were aware that the UH-1A helicopters provided American forces the ability to rapidly insert units, bypass or overfly enemy obstacles and enemy held territory, and to continually resupply, rearm, and reinforce their lines while simultaneously evacuating their wounded.²⁴⁷ Furthermore, the helicopters provided aerial rocket-artillery and direct fires, which proved decisive in this battle. However, for all its advantages, the helicopter demanded intense maintenance, required updated intelligence for safety, was extremely vulnerable during takeoff and landing, and temporarily limited the size of the assault force.²⁴⁸ Despite the known disadvantages and vulnerability. The helicopter when properly employed and protected proved critical in the battle of Ia Drang. The mobility advantage allowed 1st Battalion, 7th Cavalry to surprise the NVA when landing at LZ X-Ray, and then sustain combat operations despite being outnumbered and surrounded.

In addition to the mobility and lethality advantage provided by helicopter, the 1st Battalion infantrymen used improved personal weapons that also increased their lethality. Soldiers were equipped with M-16 rifles and M-79 grenade launchers.²⁴⁹ The M-16 had increased accuracy over the North Vietnamese AK-47, and the ballistics of the 5.56mm round increased lethality by tumbling through flesh, inflicting more damage than the AK-47's larger, steadier 7.62mm slug.²⁵⁰ However, it must be noted that this first model of the M16 was prone to jamming, and questions surrounding its reliability provoked a Congressional investigation.²⁵¹ The M-79 grenade launcher increased the range of grenades from thirty-five meters (approximately the distance a Soldier can throw) to three

²⁴⁶ Moore, Harold, "After Action Report, IA DRANG Valley Operation 1st Battalion, 7th Cavalry 14-16 November 1965" (official memorandum, Headquarters, 1st Battalion, 7th Cavalry, 1st Cavalry Division (AIRMObILE): Department of the Army, 1965), http://www.au.af.mil/au/awc/awcgate/vietnam/ia_drang.pdf, 23.

²⁴⁷ Tolson, *Airmobility*, 27.

²⁴⁸ Tolson, *Airmobility*, 27.

²⁴⁹ Herring, "The 1st Cavalry and the Ia Drang Valley," 303.

²⁵⁰ Herring, "The 1st Cavalry and the Ia Drang Valley," 303.

²⁵¹ Office Director of Weapon Systems Analysis, *Report of the M16 Rifle Review Panel: History of the M16 Weapon System* (Washington, D.C.: Office Director of Weapon Systems Analysis, 1968), <http://www.dtic.mil/dtic/tr/fulltext/u2/a953110.pdf>. A-1 – A-7.

hundred and fifty meters.²⁵² The increased range of the grenade allowed squad and team-sized element to engage dead space well beyond throwing distance.²⁵³ The aggressive employment of these two weapon systems increased the distance between the defending Americans and the assaulting North Vietnamese just enough to concentrate the effects of aerial and indirect fires on the enemy while, mostly, mitigating the fratricidal effects of friendly fire.

While the UH-1A “Huey” helicopter and modern Infantry weapon systems were critical to success, the decisive technological advantage was in the form of aerial and indirect fires. The supporting artillery provided illumination and smokescreens in addition to the high-explosive anti-personnel shells.²⁵⁴ The U.S. air force employed napalm canisters and various sized bombs that defoliated jungle areas and disrupted enemy maneuver.²⁵⁵ The aerial and indirect fires were not delivered haphazardly. LTC Moore controlled all weapon systems inside LZ X-Ray and then coordinated fires outside the LZ using his Battalion S-3 and Artillery Liaison Officer, who remained in the command helicopter through the first day.²⁵⁶ This coordinated integration of ground maneuver with indirect and aerial fires “turned the tide of battle in favor of the battalion” and ultimately resulted in the survival of 1st Battalion, 7th Cavalry.²⁵⁷

The mobility advantage provided by the UH-1A helicopters and the lethality advantage provided by modern weapons and overwhelming fires proved enough to sustain American forces on LZ X-Ray. Initially outnumbered eight to one, LTC Moore employed coordinated direct, indirect, and aerial fires, at extremely close range, with devastating effect. Additionally, LTC Moore used the mobility of the helicopter to

²⁵² Herring, “The 1st Cavalry and the Ia Drang Valley,” 303.

²⁵³ Dead Space is defined as “An area within the maximum range of a weapon, radar, or observer, which cannot be covered by fire or observation from a particular position because of intervening obstacles, the nature of the ground, or the characteristics of the trajectory, or the limitations of the pointing capabilities of the weapon;” Joint Chiefs of Staff, *Department of Defense Dictionary of Military and Associated Terms*, JP 1-02 (Washington D.C.: Joint Chiefs of Staff, 2007), 144.

²⁵⁴ Edwards, *Operation of the 1st Battalion, 7th Cavalry*, 25.

²⁵⁵ Moore, “After Action Report,” 18.

²⁵⁶ Edwards, *Operation of the 1st Battalion, 7th Cavalry*, 38.

²⁵⁷ Edwards, *Operation of the 1st Battalion, 7th Cavalry*, 38.

continually resupply and reinforce his defense while removing his killed and wounded. The resulting NVA casualties and their inability to overrun the Americans on LZ X-Ray ultimately resulted in North Vietnamese withdrawal.

3. Training

The survival and success of 1st Battalion, 7th Cavalry at the battle of Ia Drang was not the product of chance. Instead, the foundation for this phenomenon was laid during the two year training cycle preceding it. LTC Moore, as a combat veteran, knew as Grossman has observed, that men “do not rise to the occasion in combat, but sink to the level of [their] training.”²⁵⁸ After assuming command, LTC Moore charged his Battalion with becoming the “best air assault infantry battalion in the world” and devised a rigorous, but realistic, training program.²⁵⁹ Incorporating the helicopters into as much training as possible, LTC Moore “trained and tested” his men in terrain that most closely resembled the expected conditions in Vietnam.²⁶⁰ The following excerpt highlights LTC Moore’s training philosophy and the importance he placed on realistic training.

During those fourteen months before we sailed for Vietnam, we spent most of our time in the field, practicing assault landings from helicopters, and the incredibly complex coordination of artillery, tactical air support, and aerial rocket artillery with the all-important flow of helicopters into an out of the battle zone. Commanders had to learn to see terrain differently, to add a constant scan for landing zones (LZs) and pick up zones (PZs) to all of the other features they had to keep in mind. We practiced rapid loading and unloading of men and materiel to reduce the helicopter’s window of vulnerability...We would declare a platoon leader dead and let his sergeant take over and carry out the mission. Or declare a sergeant dead and have one of his PFCs take over running the squad. We were training for war, and leaders are killed in battle.²⁶¹

LTC Moore highlighted the critical impact of artillery and air support. He understood the need to train with the weapon systems and delivery platforms that would serve him in combat. Moreover, he appreciated the need to train contingencies. The

²⁵⁸ Grossman and Christensen, *On Combat*, 77.

²⁵⁹ Moore and Galloway, *We Were Soldiers*, 25.

²⁶⁰ Moore and Galloway, *We Were Soldiers*, 25.

²⁶¹ Moore and Galloway, *We Were Soldiers*, 25-26

realistic conditions, cross-training, and contingency training all increased the simulator fidelity and combat readiness of LTC Moore's battalion.

Regrettably, the training realism LTC Moore desired was hampered by regulations and directives intended to increase safety in training. One example was the inability to fire danger close missions in training. As a result, "Leaders were reluctant to use close-in artillery fire" during combat.²⁶² Following the battle, Captain Edwards concluded that "Leaders at all levels must be made aware of the value of close defensive artillery" and that the fear of resulting friendly casualties is a misconception that hinders combat leaders when employing "the most useful means of influencing enemy action."²⁶³ LTC Moore continued in his report that "Fire Support to be truly effective must be close-in."²⁶⁴ While LTC Moore trained his subordinates on fires integration, the existing safety regulations prohibited close-in fire missions. As a result, the reluctance of leaders to employ "close-in" fire missions was likely the consequence of a misunderstanding of weapons effects and undoubtedly resulted in additional casualties.

In addition to close-in fires, a second area that was insufficiently trained was casualty recovery. Despite, an emphasis on casualty contingency training, the training progression neglected casualty recovery. Both LTC Moore and CPT Edwards commented that one casualty led to multiple casualties when Soldiers failed to exercise caution when attempting to remove the wounded and killed.²⁶⁵ Increased training on casualty recovery while under fire may have prevented a significant number of casualties and the high attrition rate of combat power on LZ X-Ray.

Unfortunately, the small gaps in supporting fires and casualty recovery training were overshadowed by the significant loss of officers and Soldiers following the completion of the training plan. As a consequence of President Lyndon Johnson's denial of the state of emergency in Vietnam, 1st Battalion lost over 50% of their officers - Company commanders, platoon leaders, and special staff - just prior to their

²⁶² Edwards, *Operation of the 1st Battalion, 7th Cavalry*, 40.

²⁶³ Edwards, *Operation of the 1st Battalion, 7th Cavalry*, 40.

²⁶⁴ Moore, "After Action Report," 18.

²⁶⁵ Moore, "After Action Report," 22; Edwards, *Operation of the 1st Battalion, 7th Cavalry*, 41.

deployment.²⁶⁶ Moreover, any Soldier that that was nearing the end of his enlistment period could not go to Vietnam. This removed “those who had trained longest in the new techniques of helicopter warfare” and “would be the most useful in combat.”²⁶⁷ Most of the Non-commissioned Officers were veterans of the Korean War and members of 1st Battalion for three or more years.²⁶⁸ The loss of trained men and leaders just prior to combat undercut the pre-combat veteran status produced and the simulator fidelity achieved in training.

4. Conclusion

The U.S. Army’s official statement that “nothing in the [North Vietnamese] enemy’s background or training had prepared him to cope with the full effects of an unleashed airmobile unit” is accurate, but incomplete.²⁶⁹ While it is true that aerial fires and mobility provided a monumental advantage, it neglects LTC Moore’s unique leadership and the remarkable foresight he showed when executing training for combat. The men of 1st Battalion, 7th Cavalry won the battle at LZ X-Ray because the overwhelming technological advantage was amplified by LTC Moore’s ability to capitalize on this advantage and incorporate it into his training plan. For fourteen months, LTC Moore and his subordinates trained landings and pickups to minimize the vulnerability of helicopter. Moreover, the emphasis on fires integration and the use of “close-in” fires during the battle prevented the North Vietnamese getting close enough to easily engage helicopters landing and taking off from the LZ. LTC Moore knew that if the North Vietnamese were able to shoot down a helicopter on the LZ X-Ray, the effect would have cut off LTC Moore’s battalion and likely changed the outcome of the conflict.²⁷⁰ Despite the emphasis on fires, subordinate leaders demonstrated hesitancy when directing close-in fires. This is likely the result of inability to conduct danger close

²⁶⁶ Moore and Galloway, *We Were Soldiers*, 28.

²⁶⁷ Moore and Galloway, *We Were Soldiers*, 28.

²⁶⁸ Moore and Galloway, *We Were Soldiers*, 25.

²⁶⁹ Department of the Army, *Operations Report - Lessons Learned*, 3-66 - *The PLEIKU Campaign*, (Washington D.C.: Office of the Adjutant General, 1966), 214.

²⁷⁰ *Vietnam in HD*.

missions in the training environment and the loss of trained leaders shortly before deployment. If the same leaders that conducted the fourteen-month training progression had also trained danger close fire missions then it is likely that 1st Battalion would have endured fewer friendly casualties and caused more enemy casualties.

C. 75th RANGER REGIMENT DURING THE SEIZURE OF RIO HATO AIRFIELD

Twenty-four years after the Battle of Ia Drang, tactical elements of the U.S. Army infantry were again summoned to protect the interests of the United States, this time in the Republic of Panama. On December 17, 1989, the 75th Ranger Regiment, one of many participating infantry units, was tasked to seize three airfields in the Republic of Panama as part of Operation JUST CAUSE.²⁷¹ Two days later, 837 Airborne Rangers conducted a parachute assault of the Rio Hato airfield in the Republic of Panama.²⁷² The Panamanian Defense Forces (PDF) were warned of the assault and provided the stiffest resistance of the Panamanian incursion. 400 PDF occupied the airfield, 200 of which were members of the “Macho de Montes,” President Manuel Noriega’s elite military force.²⁷³ Despite this resistance, the Rangers quickly assaulted their objectives, dominated their enemy, and seized the airfield in a matter of hours.²⁷⁴ Notwithstanding the success of the operation, the mission to seize and clear Rio Hato airfield was not without fault. Four Rangers lost their lives; one to a parachute malfunction, two to friendly fire, and the fourth to enemy contact. Additionally, 26 other Rangers would be wounded during the parachute delivery to the airfield.²⁷⁵ Nevertheless, Operation JUST

²⁷¹ Edward M. Flanagan, *Battle for Panama: Inside Operation Just Cause* (New York, NY: Brassey’s US Inc., 1993), 134.

²⁷² R. Cody Phillips. *Operation just cause: The Incursion into Panama*, (Diane Publishing Company, 2004. https://history.army.mil/html/books/070/70-85-1/cmhPub_70-85-1.pdf, 20.

²⁷³ Jonathan E Tugman, *The Seizure of Rio Hato Airfield, Operation Just Cause, Bravo Company, 3rd Battalion, 75th Ranger Regiment, 0103hrs 20 Dec. 89* (Fort Benning, GA: United States Army Infantry School, 1999), <http://www.benning.army.mil/library/content/Virtual/Donovanpapers/other/STUP5/TugmanJonathanE%20CPT.pdf>, 3.

²⁷⁴ Center for Army Lessons Learned (CALL), *Operation Just Cause Lessons Learned*, NO. 90-9, (Fort Leavenworth, KS: Center for Army Lessons Learned, 1990), 11.

²⁷⁵ Phillips. *The Incursion into Panama*, 32.

CAUSE and the seizure of Rio Hato airfield remain an examples of “overwhelming success.”²⁷⁶ What was it that made this operation so successful? There were few combat veterans within the Ranger Regiment prior to Operation JUST CAUSE, and friendly casualty estimates for the seizure of Rio Hato were much higher than the aforementioned count.²⁷⁷ An examination of this operation, specifically, the decentralized leadership of the tactical commanders, the realistic training conducted prior to the operation, and the employment of technological advantages shed light on how an elite infantry unit can receive notification of an operation and execute it, almost to perfection, only two days later.

1. Leadership

Colonel William F. “Buck” Kernan the 75th Ranger Regiment’s commander during Operation JUST CAUSE, employed mission command to empower his subordinate leaders, resulting in the success of Ranger operations in Panama. COL Kernan’s plan for Operation JUST CAUSE was sound, but it required decentralization and trust. This trust was not simply given, but earned by the junior leaders. COL Kernan demanded back briefs to check his subordinate leaders’ understanding of both the plan and his intent.²⁷⁸ Subordinate leaders then made every Ranger “memorize every portion of the plan and be able to sketch the objective from memory.”²⁷⁹ The result was that “when communications failed, and/or the plan required modification, the junior leaders made decisions and made it work.”²⁸⁰ This is mission command.

COL Kernan knew that he could not maintain enough of his own situational awareness to properly control the tactical action at three separate airfields, so he took three steps to empower his team and provide them purpose and direction. First, he

²⁷⁶ Center for Army Lessons Learned, *Operation Just Cause Lessons Learned*, Preface.

²⁷⁷ Phillips. *The Incursion into Panama*, 45.

²⁷⁸ Center for Army Lessons Learned, *Operation Just Cause Lessons Learned*, 30.

²⁷⁹ Craig Keller, “Combat Jump at Rio Hato” (monograph, United States Army Infantry School), <http://www.benning.army.mil/library/content/Virtual/Donovanpapers/other/STUP5/KellerCraig%201LT.pdf>, 4.

²⁸⁰ Center for Army Lessons Learned, *Operation Just Cause Lessons Learned*, 30.

decentralized the operation into subordinate objectives, assigning responsibility for objectives to company commanders with oversight from battalion commanders.²⁸¹ Second, he fostered trust and initiative through back briefs, confirming understanding the plan and reinforcing direction if required. Third, he provided as much planning and rehearsal time as possible to his subordinates. He understood that “planning and rehearsals are...more important than trying to create a perfect plan.”²⁸² Further, for mission command to work, subordinate leaders require the time and resources to communicate their own purpose and direction, but specific to their portion of the mission. COL Kernan’s leadership enabled mission command within the 75th Ranger Regiment and empowered subordinate leaders with the authority and resources fight and win in Panama.

As a result of COL Kernan’s decentralization of authority and empowerment of subordinates, junior leaders were able to demonstrate impressive tactical leadership. Firsthand accounts from the seizure of Rio Hato repeatedly emphasize the motivating presence and personal example provided by junior officers and noncommissioned officers. Prior the jump, Rangers were informed that stealth bombers would not pre-assault fires on Rio Hato airfield.²⁸³ Despite high emotions and an opportunity to curse the chain of command, one squad leader, Staff Sergeant Shalala, “broke the ice and fear” by holding his weapon in the air yelling, “It doesn’t matter, men, it just doesn’t matter. This is all you need!”²⁸⁴ In combat on the airfield, squad leaders and fire team leaders immediately assembled teams that “crushed the savage initial resistance” such that the “the battle for the airstrip was short, never really in doubt.”²⁸⁵ Additionally, even during a friendly fire incident that killed two Rangers and wounded two more, the company leaders regained composure, regained the initiative, and continued their clearance of the

²⁸¹ Flanagan, *Battle for Panama*, 141.

²⁸² Center for Army Lessons Learned, *Operation Just Cause Lessons Learned*, 30.

²⁸³ Flanagan, *Battle for Panama*, 135.

²⁸⁴ Flanagan, *Battle for Panama*, 135.

²⁸⁵ Tugman. *The Seizure of Rio Hato Airfield*, 12 and 14.

airfield.²⁸⁶ These junior leaders ultimately won the war.²⁸⁷ Their motivating personal example complemented the direction and purpose provided during the operation. The execution of mission command, facilitated by COL Kernan's leadership, provided subordinate leaders the opportunity and resources to make decisions and within the confines of their commander's intent.

2. Training

The trust between COL Kernan and his subordinates that enabled mission command was not automatic or assumed, but was built through rigorous collective and individual training. Additionally, the proper assumption of risk during training exercises increased realism and provided the requisite simulator fidelity for success in combat. Prior to JUST CAUSE, the majority of Mission Essential Task training the Rangers conducted centered on airfield seizure exercises.²⁸⁸ Furthermore, the Rangers based every training exercise on "real world events and places."²⁸⁹ They conducted rehearsals "until every aspect of the operation became muscle memory at all levels."²⁹⁰ They rehearsed "as many contingencies as possible and conduct[ed] as realistic training as possible" adding sandbags to their rucksacks to simulate combat weight and creating full mockups of the Rio Hato Airfield.²⁹¹ They even practiced hotwiring vehicles so they could clear an airfield faster.²⁹² Over and over, the Rangers trained their METL tasks under conditions that mirrored combat as closely as possible. When the Ranger Regiment was recalled two days prior to JUST CAUSE, their task to seize an airfield had been practiced and rehearsed, in detail, for years.²⁹³ The simulator fidelity achieved in training

²⁸⁶ Tugman. *The Seizure of Rio Hato Airfield*, 17.

²⁸⁷ Phillips. *The Incursion into Panama*, 49.

²⁸⁸ Keller, "Combat Jump at Rio Hato," 1.

²⁸⁹ Mir Bahmanyar, "From Just Cause to Desert Storm: For Emergency Use Only," in *Shadow Warriors: A History of the US Army Rangers*, 125-140 (Oxford: Osprey Publishing, 2005), 125-126.

²⁹⁰ Keller, "Combat Jump at Rio Hato," 1.

²⁹¹ Keller, "Combat Jump at Rio Hato," 1.

²⁹² Keller, "Combat Jump at Rio Hato," 1-4.

²⁹³ Bahmanyar, "From Just Cause to Desert Storm," 125-126.

was such that combat readiness was not a question when the Rangers initiated their airborne assault of Rio Hato, it was a given.

In addition to collective training, individual Rangers were trained to an exceptional level. From the moment new Soldiers arrived at the Ranger Regiment they were given “extra attention” that encompassed tasks to improve their mental and physical toughness. Although new arrivals unanimously despised this attention, all had “a moment of clarity. Every bit of extra training ... prepare[d] [them] for combat.”²⁹⁴ During the seizure of Rio Hato, one Ranger recalled, “If I had to think about it, I couldn’t have done any of the tasks required of me that night. However, my body did what it was trained to do and went to work.”²⁹⁵ For combat, Soldiers must train as they will fight. At the tactical level, well-trained units fight on instinct and muscle memory because they are not provided the time to think—Soldiers react.²⁹⁶ The jump at Rio Hato was successful because the Rangers were the best trained light infantry and airfield seizure force in the world. At the unit level, they practiced full scale airfield seizures and as many contingencies as possible, twice per year. Furthermore, they conducted these training exercises with supporting members of the Army, Navy, and Air Force so they understood what capabilities would accompany them to combat and how to best employ them.²⁹⁷ Within the confines of doctrine and safety regulation, the Rangers trained and perfected their actions under conditions the mirrored combat.

Unfortunately, differences between the training environment and combat environment existed in three specific areas: danger close fire missions, actions of the Jumpmasters, and the understanding of weapons effects. The lack of familiarity in all three categories proved costly for the ground force as they initiated and conducted the assault of the Rio Hato airfield. First, a miscommunication between a forward observer, and two AH-6 (little birds) resulted in a friendly fire incident when the aircraft

²⁹⁴ Keller, “Combat Jump at Rio Hato,” 14; this report in no way advocates hazing or the mistreatment of junior Soldiers. Instead, the author is emphasizing the need for junior leader involvement in the lives of new Soldiers to ensure they are mentally and physically prepared for combat.

²⁹⁵ Keller, “Combat Jump at Rio Hato,” 9.

²⁹⁶ Tugman. *The Seizure of Rio Hato Airfield*, 21.

²⁹⁷ Phillips. *The Incursion into Panama*, 28 and 33-34.

misidentified a Ranger squad as enemy and engaged them.²⁹⁸ The forward observer authorized a fire mission within 50m of the friendly forces, neutralizing enemy within a compound. This action allowed a suppressed Ranger Squad to initiate an assault of the building. Unfortunately, the aircraft did not hear the “end of mission” call and reengaged the target mistaking the maneuvering Rangers for enemy.²⁹⁹ At the time of JUST CAUSE, controls existed for authorizing danger close fire missions or Close Air Support (CAS) missions within a prescribed risk-estimate distance.³⁰⁰ One such control, is the personal approval of the ground force commander (GFC), who is expected to weight the risk to both the mission and the men when approving the fire mission. In the friendly fire case at Rio Hato, it is unknown if the GFC provided authorization. However, it is clear that both the approval process to initiate danger close fire missions and their execution require additional training, by both the ground force and the aircraft, prior to the execution of this mission during combat.

A second misalignment between the training and combat environments was the actions of the Jumpmasters in each aircraft. During training, the Jumpmasters controlled the movement of jumpers inside the aircraft, and then jumped last from the aircraft. In combat, the Jumpmasters served as the first jumpers in each aircraft and left the safeties inside the aircraft to control static lines.³⁰¹ Given the 26 Rangers injured during the combat jump, one might argue that the change in exit procedures led to additional jump injuries. The degradation in control of the exit increases the chance for midair collision, static line injuries, and parachute malfunctions.³⁰² Again, combat situations seem more likely to produce friendly casualties when the training environment does not properly simulate the combat environment.

²⁹⁸ Keller, “Combat Jump at Rio Hato,” 16.

²⁹⁹ Keller, “Combat Jump at Rio Hato,” 16.

³⁰⁰ Department of Defense, *JFIRE: Multi-service Procedures for the Joint Application of Firepower*. (Washington, D.C.: Government Printing Office, 1997), 55.

³⁰¹ Malcolm McConnell, *JUST CAUSE: The Real Story of America’s High-Tech Invasion of Panama* (New York, NY: St. Martin’s Press, 1991), 84-86.

³⁰² Department of the Army, *Static Line Parachuting Techniques and Training*, TC 3-21.220 (Washington D.C.: Department of the Army, 2013), http://www.benning.army.mil/infantry/rtb/1-507th/content/pdf/FEF%20TC_3-21-220%20%28OCT%202013%29.pdf, 3-1.

The third area where training and combat were misaligned was specific to the understanding of weapons effects in an urban area. The after action report following Operation JUST CAUSE highlighted the need to conduct realistic demolition breaching and to fire organic weapons at multiple materials (concrete, steel, iron) to understand the effect each round and type of ordinance has to various materials.³⁰³ Further, the report stressed the necessity to train Military Operations on Urbanized Terrain (MOUT) under realistic conditions.³⁰⁴ While the Rangers did train MOUT, their training lacked realism of city lights, high rise buildings, and crowded streets.³⁰⁵ Moreover, the Rangers were one of the best U.S. Army units at employing both personal weapons and demolitions. However, their training conducted lacked aspects such as realistic breaching surfaces and civilian clutter. As a result, the simulator fidelity achieved by training was degraded and later manifested as civilian casualties and slow urban clearance operations.³⁰⁶

Despite these training gaps in danger-close fires, Jumpmaster actions, and weapons' effects in urban areas, the Rangers of the 75th Ranger Regiment received superior training and simulator fidelity at both the individual and collective levels. The selection of Mission Essential Tasks and emphasis on training transformed each Ranger into a pre-battle veteran. For this reason, the airborne operation to seize Rio Hato "felt just like any other training mission."³⁰⁷ However, those areas where risk was not assumed in training—danger close fire missions, jumpmaster duties during the combat jump, and weapons effects in urban environments—created areas where the simulator fidelity achieved in training broke down and effected the Ranger combat performance. The Ranger Regiment's performance during JUST CAUSE was a product of their training. They created pre-battle veterans with realistic and rigorous training exercises, but those gaps in training increased the vulnerability of both the mission and their force.

³⁰³ Center for Army Lessons Learned, *Operation Just Cause Lessons Learned*, 41-42.

³⁰⁴ Center for Army Lessons Learned, *Operation Just Cause Lessons Learned*, 44-45.

³⁰⁵ Center for Army Lessons Learned, *Operation Just Cause Lessons Learned*, 34-37.

³⁰⁶ Keller, "Combat Jump at Rio Hato," 10.

³⁰⁷ Bahmanyar, "From Just Cause to Desert Storm," 135.

3. Technology

In addition to their superior training, a significant technological advantage enabled the Ranger's quick seizure of the Rio Hato airfield and their domination over the Panamanian Defense Force. The Rangers enjoyed advantages in both lethality and mobility that mitigated the protection advantage maintained by the defending PDF. The Rangers controlled multiple aerial fires platforms: the AC-130 gunship, AH-64 Apache helicopters, and AH-6 little birds. These platforms provided "precision fire control and accuracy" such that the Rangers could freely operate within the confines of their rules of engagement (ROE).³⁰⁸ Complementing the lethality of precision munitions, the Rangers possessed night vision capability which gave them a significant maneuver advantage during the night assault while simultaneously providing addition fire control measures with infrared marking.³⁰⁹ This allowed them to move faster on the airfield and communicate visually with the supporting aircraft in a manner undetectable by the PDF. While increased mobility on the airfield was beneficial, the technology used to deliver the Rangers to their airfield proved equally advantageous. Using a combination of C-130 and C-5 aircraft, the Rangers placed almost 900 men onto an enemy held airfield in a matter of minutes.³¹⁰ While technology does not decide the victor in war, the combination of mass transit aerial delivery technology, night-vision technology, and precision air-to-ground engagement platforms provided the Rangers a significant lethality and mobility advantage that mitigated the risk provided by the enemy protection advantage of the PDF defenders.

4. Conclusion

Close analysis shows, the Rangers were well-prepared for combat in the Republic of Panama. Despite a lack of combat veterans, COL Kernan fostered a culture of mission command where subordinate leaders took ownership of the training and created "pre-battle veterans." Junior leaders invested themselves in new arrivals, preparing them for

³⁰⁸ Center for Army Lessons Learned, *Operation Just Cause Lessons Learned*, 39.

³⁰⁹ Center for Army Lessons Learned, *Operation Just Cause Lessons Learned*, 34.

³¹⁰ Flanagan, *Battle for Panama*, 134-147.

the mental and physical rigors of combat and instilling the muscle memory required to execute individual drills and small unit battle drills. Company commanders established the METL that centered on airfield seizure and the associated contingencies. Senior leaders ensured that training events were conducted with any units that might support a combat airfield seizure. As a result, the Ranger Regiment was uniquely qualified to work with supporting air-to-ground fire support platforms increasing their mobility and lethality advantage and decreasing the protection of the PDF holding Rio Hato airfield.

Despite their superior training and technological advantages, the Rangers experienced shortfalls in training that may have resulted in casualties. The training restrictions that prevented danger close fire missions and/or fire missions within the minimum safe distance created areas of ambiguity on the battlefield. Further, changes to jumpmaster actions during the combat jump, may have increased the chance for jump injuries. Similarly, the training restrictions that prevented a thorough understanding of weapons effects delayed breaching operations when Rangers needed to breach various materials that they had not breached in training.³¹¹ These gaps in training can be rectified, however, a trusting leader and culture of mission command is required to first identify these gaps, and then assume the necessary risk in training to address them.

D. CONCLUSION— LEADERSHIP IS THE LINCHPIN FOR COMBAT PREPARATION

U.S. Army Infantry units train so that when they endure combat for the first time they are prepared. However, in each of the three cases, empowered leadership stands out as the decisive variable when assessing an Infantry unit's training and performance in combat. If the training conducted in preparation for combat simulates the conditions created by the environment, enemy, and higher headquarters, then it is more applicable to the combat environment and the unit is more prepared. For this reason, leadership takes precedence as the most important variable. Leaders are responsible for compounding the technological advantage, implementing realistic training, and synergizing the resulting

³¹¹ Center for Army Lessons Learned, *Operation Just Cause Lessons Learned*, 34-37.

simulator fidelity with their presence, such that Soldiers enter combat for the first time as “Pre Battle Veterans.”

A review of the leaders from the first and last case study reinforces the impact leaders have in both combat and in preparation. The leaders and Soldiers of Task Force Smith created a training environment divorced from the combat environment. The result was the misunderstanding of weapons effects, an underestimation of the enemy, the unnecessary loss of American life, and the failure of their mission to delay the North Korean advance. On the contrary, the leaders of the 75th Ranger Regiment during Operation JUST CAUSE created a training environment that nearly replicated the combat environment in every way. The result was much different; in a matter of hours, Rangers dominated each of their objectives while enduring minimal casualties. The fact that Rangers prepared extensively at the individual and collective levels gave them an understanding of the combat environment such that their actions during Operation JUST CAUSE were almost automatic.

Additionally, an understanding of the weapons technology misalignment is essential for establishing conditions that favor success in combat. The 1st Battalion, 7th Cavalry utilized the helicopter to bypass enemy held territory, provide aerial fires, coordinate unit maneuver, and resupply an isolated defense during the battle of Ia Drang. This technology advantage provided by the helicopter and compounded by overwhelming fires enabled the defending Americans to survive the attack of a well-trained and experienced force that outnumbered them eight to one. By way of contrast, Task Force Smith endured a technology disadvantage when they attempted to defend against an armored advance without an anti-tank capability. Understanding the misalignment in weapons technology creates the potential for both advantage and disadvantage. It is a leader’s responsibility to see this, train for it, and employ it effectively in combat.

While each of the examined cases reveal gaps in Soldiers’ training, it is evident that the closer training mirrored combat, the better the units performed in combat. Training for combat must provide the simulator fidelity only achieved through realism that mimics the conditions expected in combat. The examination of Task Force Smith during the Korean War, 1st Battalion, 7th Cavalry during the Vietnam War, and the 75th

Ranger Regiment during Operation JUST CAUSE suggest that when training resembles combat, technology misalignments are understood, and leaders synergize their advantages and mitigate their disadvantages. As a consequence, the conditions for success in combat may be established before the battle takes place.

On the contrary, the examination of the disparity between training and combat revealed that a lack of preparation increases the likelihood of friendly casualties. This was most evident with Task Force Smith where the training was divorced from the conditions of combat. However, even with 1st Battalion, 7th Cavalry and the 75th Ranger Regiment these gaps, where safety regulation either limited or prevented simulator fidelity, were exacerbated in combat. The battles of Ia Drang and Rio Hato airfield underscore a need to train danger close fire missions. In the Ia Drang valley, “close-in fires” were decisive in preventing the battalion from being overrun by a numerically superior enemy. However, the lack of danger close fire missions in training created hesitancy among junior leaders which allowed the enemy to get “inside the fires” at which point the Americans were forced to fight at near range, sometime hand-to-hand. The same is true of the Rangers during JUST CAUSE. The lack of danger-close fires training created ambiguity in combat when leaders were trying to conduct these missions for the first time. Unfortunately, in both these engagements, danger close mission resulted in fratricide that might have been prevented with focused training.

Realistic training is a commander’s responsibility, therefore, effective leadership is the linchpin to proper combat preparation. When leaders are empowered to analyze the enemy, evaluate the technology available, and create a training plan, the result is much more powerful. The leaders of post-WWII Far East Command were anything but empowered. They inherited a culture that prioritized occupation over training, and believed the days of ground combat were over because of American nuclear deterrence. As a result, they were ignorant of the risks assumed when deprioritizing realistic training, unaware of their technological disadvantage, and unprepared for their future enemy. Fortunately, the lessons from Task Force Smith’s destruction, were learned by LTC Harold Moore and applied to a training plan that capitalized on his technological advantages, while mitigating his vulnerabilities. However, it is important to note that this

training plan was undercut by the instability of the personnel management system and existing policies of the time. Despite a training plan that created the necessary pre-combat veterans required for combat success, the receivers of that training plan were removed shortly before combat. As a result, the simulator fidelity provided by the training, degraded with the loss of pre-combat veteran officers, NCOs, and Soldiers. Fortuitously, the leaders of the 75th Ranger Regiment seemed to achieve what LTC Moore could not, an intense and realistic training density that created pre-battle veterans who endured through the combat operation. The results speak for themselves.

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V. CONCLUSION— THE OUTSOURCING OF RISK MANAGEMENT AUTHORITY UNDERMINES MISSION COMMAND

This study began with the proposition that risk mitigation and risk aversion affected tactical Infantry units' combat preparation. However, the examination of how Infantry companies train, how risk is managed, how risk is perceived, and how training affects combat performance, revealed that the U.S. Army's risk mitigation doctrine is both sound and effective. The problem regarding combat preparation is that this doctrine is not implemented in concert with the U.S. Army's philosophy of mission command. In combat, Infantry company commanders are delegated the authority to conduct risk mitigation. In training, this risk management authority is outsourced to an agency outside the chain of command: Range Control. While commanders in training remain responsible for everything their units do and fail to do, they are not provided the risk management authority required to shoulder this responsibility. As long as the bureaucracy created by a "safety first" culture remains, mission command will remain a philosophy employed only when convenient and quickly undermined by the increasing "zero-defect" standard.

The difference between risk management authorities in training and operational environments results in the erosion of simulator fidelity and inhibits the transition of Mission Essential Task execution from one environment to the next. The concept of simulator fidelity suggests that realism in all aspects of training results in combat readiness or what Dave Grossman calls "Pre-Battle Veterans."³¹² These are Soldiers that understand their enemy, comprehend the effect of their weapon systems, and will fight like seasoned veterans despite never having seen the horrors of combat before. This is the goal of every commander preparing his Soldiers for war. Unfortunately, U.S. Army Safety regulations undermine the authority of commanders to assess and mitigate risk and abdicate that authority to Range Control. This abdication neglects three significant points that undermine the concept of mission command. First, Range Control does not take into account the commander's assessment of training, nor does it factor in the enemy, mission,

³¹² Grossman and Christensen, *On Combat*, 74-80.

and technological balance that commanders must understand to win their first engagement. Second, the demand for “safety first” erodes realism during combat validation exercises. Third, the centralization of risk management allows the cognitive and perceptual biases that inflate risk to infect the training environment, increasing the disparity between training and combat, and eroding the necessary simulator fidelity to win the first battle. The requirement to create “pre-battle veterans” and to “train as [we] fight” demands that junior leaders receive the authority they need to effectively manage risk and prepare their infantrymen to win the next first battle.³¹³ Unfortunately, the centralization of safety doctrine and risk assumption authority prevents Infantry units from achieving the simulator fidelity gained through scenario-specific and realistic training.

The failure to integrate a unit’s training proficiency, technological advancements, and the conditions expected of the combat environment erodes the simulator fidelity produced in training. Range Control, as a centrally managed agency, treats all training units the same and holds them to the same standards. Infantry companies require different training that prepares them to “close with the enemy by means of maneuver to destroy or capture him, or to repel his assault by fire, close combat, and counterattack.”³¹⁴ During LFXs, this mission requires SDZs that facilitate maneuver and close combat. Training realistically means incorporating danger-close fire missions, as both the Battle of Ia Drang and the Seizure of Rio Hato emphasized. Moreover, these SDZs must account for changes in technology. Advancing optics and weapons’ technology increase accuracy and limit dispersion. Similarly, night-vision devices and infrared lasers provide increased situational awareness and additional control measures during hours of limited visibility. However, none of the aforementioned resulted in smaller SDZs or flexible safety doctrine. Instead, SDZs and training restrictions have only grown, preventing an

³¹³ Grossman and Christensen, *On Combat*, 74-80; Department of the Army, *Training for Full Spectrum Operations*, 2-5.

³¹⁴ Department of the Army, *Infantry Platoon and Squad*, 1-1.

understanding of weapons capabilities and effects.³¹⁵ A failure to understand weapons capabilities and validate them in training led to the destruction of Task Force Smith, a reminder of the permanent cost failing to prepare for combat incurs. Centralizing risk assumption authority, under the guise of range safety doctrine, undermines the efforts of leaders trying to make training realistic enough to prepare infantryman for high-intensity conflict.

The increased emphasis on safety and the elevation of Range Control to an approving authority for training ignores the U.S. Army's leadership philosophy and reinforces a "zero-defect" training environment. Live Fire Exercises (LFXs) often serve as validation for platoons and companies; however, these events devolve into scripted scenarios where there is a right way and wrong way to execute the lane. A more senior leader overshadows the ground force commander, usually a junior officer, and an Observer/Controller (OC) guides every maneuver element and crew served weapon system and often dictates where to emplace, when to shoot, and what to shoot at. More concerning, is that these scripted scenarios reinforce the "zero-defect" training environment, where leaders and OCs tell Soldiers in training exactly how to accomplish a task, rather than assuming the risk to let Soldiers make mistakes and learn from them. This artificial control creates "training scar tissue" and erodes the confidence and trust Soldiers have in their leadership.³¹⁶ For mission command to work, leaders must empower their subordinates to calculate risk, assume risk, and act in support of the higher mission.

The calculation of risk and its assumption is most effective when delegated to the appropriate command level. Maintaining safety as an inflexible trump card leads to the misalignment of the perception of risk and its genuineness. Declaring a hazard or activity unsafe, such as danger-close fire missions or maneuver within SDZs, allows advancements that increase safety to go unnoticed. The impression of danger persists

³¹⁵ War Department, *Range Regulations For Firing Ammunition For Training and Target Practice* AR 750-10 (Washington: War Department, 1942), 8; Department of the Army, *Range Safety* DA PAM 385-63 (Washington D.C.: Department of the Army, 2003); Department of the Army, *Range Safety* DA PAM 385-63 (Washington D.C.: Department of the Army, 2012).

³¹⁶ Grossman and Christensen, *On Combat*, 75–76

because the amount of information to invalidate the initial declaration is considerably greater than the amount of information required to make the declaration in the first place. This bias manipulates the perception of risk associated with a given hazard. Furthermore, the loss aversion that permeates existing doctrine and the paradox of risk mitigation exacerbates this misperception. Current doctrine frames severity in terms of loss and neglects the natural tendency to feel more concerned about risk and more vulnerable to it as the level of safety increases. These tendencies combine to misalign the perception of risk and its reality. Further, the abdication of risk mitigation authority to an element outside the chain of command undermines junior leaders' ability to properly assess and mitigate genuine risk associated with the hazards of realistic training.

A. RECOMMENDATIONS FOR CHANGES TO CURRENT PRACTICES AND U.S. ARMY DOCTRINE

1. U.S. Army Safety Doctrine Must Clarify the Role of Range Control

The safety of U.S. Army Soldiers while conducting unit training is that unit commander's responsibility. On every U.S. Army training installation, Range Control is the sole authority over Soldiers' actions while they are conducting training within the confines of their installation. This report strongly recommends empowering junior leaders and holding them responsible for the training and safety of their Soldiers. Range Control should remain the primary source of training area deconfliction and retain the authority to ensure weapons effects remain within the confines of the allocated training space and avoid affecting another unit or area. Additionally, Range Control should remain the liaison between the installation and local emergency services. However, Range Control should not be the authority for determining shift fire lines, enforcing Minimum Safe Distances, or directing training scenarios. These are tasks that U.S. Army Infantry units execute overseas as part of the risk management process. Abdicating tasks that units are responsible for in the operational environment undermines the training of leaders and hinders combat preparation. While Range Control officers are essential to scheduling, maintaining, and modernizing range facilities, the U.S. Army should address their current usurpation of command authority in the risk management process.

2. U.S. Army Installations and Training Commands Should Streamline the Safety Waiver Process

The current safety waiver process is so extensive and time consuming that commanders cannot adhere to it within the limits of the unit training management timeline. The result is the avoidance of the process, which places junior leaders in a compromising position. Either they accept that the training will lack the necessary realism to provide simulator fidelity or they knowingly violate outdated Standard Operating Procedures (SOPs) with the intention of improving the quality of training. Dr. Leonard Wong detailed reasons for “dishonesty in the army profession,” and he is correct that the bureaucracy of the U.S. Army’s systems and the “deluge of requirements” forced on U.S. Army leaders place them in integrity-compromising positions.³¹⁷ It is unlikely that leaders plan training events with the intention of violating SOPs, rather, they lack the command authority to assume risk. Moreover, the protracted process to even request a waiver is impractical given the timeline provide to plan, resource, and execute training. U.S. Army installation commanders should streamline the safety waiver system and provide a viable alternative to compromising one’s integrity in an effort to improve training.

3. Educate Leaders on the Effects of Cognitive and Perceptual Bias When Managing Risk

The perception of risk becomes misaligned with the reality of risk when it is communicated in terms of loss and/or affected by cognitive and perceptual biases. Current risk management doctrine categorizes severity in terms of loss. This frame of reference manipulates the perception of risk almost twice as much as a frame of reference that communicates empirical data in terms of gain.³¹⁸ Additionally, the paradox of risk mitigation and biases also cement frames of reference that further influence the perception of risk. The result is senior decision makers who are unaware that their perception of risk is misaligned with its reality. Consequently, these decision makers feel the need to centralize control over risk mitigation and undermine the authority their

³¹⁷ Wong and Gerras, *Lying to Ourselves*, 4.

³¹⁸ Tversky and Kahneman, “Loss Aversion,” 1039.

subordinate leaders require to conduct the risk management process as intended. Educating leaders would allow them to recognize these phenomena and avoid the resulting misperceptions.

4. Senior Leaders Must Commit to Mission Command in the Training Environment

Currently, a bureaucracy defined by risk aversion and administrative requirements blankets the training environment. U.S. Secretary of Defense James Mattis is correct when he stated that requirements that do not advance the “art and science of warfighting” must go.³¹⁹ However, the U.S. Army must go one step further. Eliminating unnecessary training requirements will provide more time for training, but it would not address the lack of authorities junior leaders require. The philosophy of mission command demands the empowerment of the appropriate command level. Empowering junior leaders in the training environment with the authorities of the combat environment would facilitate the vertical and horizontal trust among teams that maintain from one environment to the next. Moreover, empowering junior leaders would allow for innovative new practices. The current centralized system of training discourages innovation, undermines realism, and promotes a “zero-defect” Army. Junior leaders should be encouraged to try new methods and fail so long as they learn. The U.S. Army’s Infantry leaders will be more prepared and more lethal in combat if they learn to think and fight through problems in training.

B. QUESTIONS UNANSWERED AND REQUIRING ADDITIONAL EXAMINATION

- (1) How can tactical leaders avoid the effects of political and/or strategic risk aversion?

The effects of U.S. policy and the implementation of strategic decisions affect tactical leaders’ ability to manage risk. The degradation of readiness demonstrated by Far East Command after World War II resulted in Infantry units unprepared for combat. Politicians misinterpreted their own policy, and senior military leaders failed to anticipate the commitment of ground troops to Korea. As a consequence, leaders at the tactical level

³¹⁹ Silva, “Will Trump Send the U.S. To War?.”

of war inherited units there were physically and psychologically unprepared for war. The effect of policy was also felt prior to combat in Vietnam. Then-LTC Harold Moore details losing nearly 50% of officers and noncommissioned officers just prior to deployment because of President Lyndon Johnson's unwillingness to push for a Congressional declaration of war in Vietnam.³²⁰ As a result of U.S. policy, a tactical unit endured a significant loss in simulator fidelity shortly before the Battle of Ia Drang, one of the most intense combat engagements of the Vietnam War. While commanders remain responsible for all their units do and fail to do, further study on maintaining combat readiness at the tactical level of war, despite current policy or strategy, would allow commanders the ability keep Soldiers prepared for war and not risk another Task Force Smith.

- (2) How does the misalignment of mission command between the training environment and the combat environment affect trust within tactical units?

Trust is a principle of mission command and is achieved through realistic training. Recent articles and books posit that Soldiers in combat “fight for the [Soldiers] on [their] left and [their] right.” This implies that the element of trust is a key motivator for Soldiers in combat. Research that compares levels of trust between Soldiers in multiple environments may reveal how leaders can increase Soldier motivation in training, or align Soldiers' personal goals with those of the organization.

³²⁰ Moore and Galloway, *We Were Soldiers*, 73.

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