

Strategic Drift and US Army Operational Logic

A Monograph

by

MAJ Peter C. Vangjel
US Army



School of Advanced Military Studies
US Army Command and General Staff College
Fort Leavenworth, KS
2020

Approved for public release; distribution is unlimited

REPORT DOCUMENTATION PAGE			<i>Form Approved</i> <i>OMB No. 0704-0188</i>			
Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing this collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports (0704-0188), 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. PLEASE DO NOT RETURN YOUR FORM TO THE ABOVE ADDRESS.						
1. REPORT DATE (DD-MM-YYYY) 14-06-2019		2. REPORT TYPE Master's Thesis		3. DATES COVERED (From - To) JUN 2019 – MAY 2020		
4. TITLE AND SUBTITLE Strategic Drift and US Army Operational Logic			5a. CONTRACT NUMBER			
			5b. GRANT NUMBER			
			5c. PROGRAM ELEMENT NUMBER			
6. AUTHOR(S) MAJ(P) Peter Christopher Vangjel			5d. PROJECT NUMBER			
			5e. TASK NUMBER			
			5f. WORK UNIT NUMBER			
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) U.S. Army Command and General Staff College ATTN: ATZL-LSV Fort Leavenworth, KS 66027-2301			8. PERFORMING ORG REPORT NUMBER			
9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES)			10. SPONSOR/MONITOR'S ACRONYM(S)			
			11. SPONSOR/MONITOR'S REPORT NUMBER(S)			
12. DISTRIBUTION / AVAILABILITY STATEMENT Approved for Public Release; Distribution is Unlimited						
13. SUPPLEMENTARY NOTES						
14. ABSTRACT This monograph examines US Army operational thought to identify how it has been shaped by the Army's underlying culture. It suggests that the Army has not undergone a paradigm shift in its view of war since at least World War II. Instead of reconceptualizing and transforming, the Army's fundamental beliefs, values, and assumptions have remained consistent over time, simply with new expressions and manifestations. This monograph argues that many of the problems the US Army faces, whether in theory, practice, or doctrine, are the result of strategic drift - the tension between its underlying perspectives and the emerging realities of conflict. The monograph suggests that if the US Army is to remain relevant, it will require escaping its current paradigm of conflict, warfare, and war.						
15. SUBJECT TERMS Operational art, strategic drift, organizational culture, transformation.						
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON	
a. REPORT	b. ABSTRACT	c. THIS PAGE			19b. PHONE NUMBER (include area code)	
(U)	(U)	(U)	(U)	85		

Standard Form 298 (Rev. 8-98)
Prescribed by ANSI Std. Z39.18

Monograph Approval Page

Name of Candidate: MAJ Peter C. Vangjel

Monograph Title: Strategic Drift and US Army Operational Logic

Approved by:

_____, Monograph Director
Alice Butler-Smith, PhD

_____, Seminar Leader
James C. Reese, COL

_____, Director, School of Advanced Military Studies
Brian A. Payne, COL

Accepted this 21st day of May 2020 by:

_____, Acting Director, Office of Degree Programs
Prisco R. Hernandez, PhD

The opinions and conclusions expressed herein are those of the student author and do not necessarily represent the views of the US Army Command and General Staff College or any other government agency. (References to this study should include the foregoing statement.)

Fair use determination or copyright permission has been obtained for the inclusion of pictures, maps, graphics, and any other works incorporated into this manuscript. A work of the US government is not subject to copyright, however further publication or sale of copyrighted images is not permissible.

Abstract

Strategic Drift and US Army Operational Logic, MAJ Peter C. Vangjel, 85 pages.

This monograph examines US Army operational thought to identify how it has been shaped by the Army's underlying culture. It suggests that the Army has not undergone a paradigm shift in its view of war since at least World War II. Instead of reconceptualizing and transforming, the Army's fundamental beliefs, values, and assumptions have remained consistent over time, simply with new expressions and manifestations. This monograph argues that many of the problems the US Army faces, whether in theory, practice, or doctrine, are the result of strategic drift - the tension between its underlying perspectives and the emerging realities of conflict. The monograph suggests that if the US Army is to remain relevant, it will require escaping its current paradigm of conflict, warfare, and war.

Contents

Abstract	iii
Acknowledgements	vi
Abbreviations	vii
Figures.....	ix
Chapter I: Taking an Exterior View of the Self.....	1
Meta-learning - Organizations Must Be Able to See Themselves in Order to Transform	1
Stepping Outside of Systems – An External View is Necessary for Self-Understanding.....	5
Paradigms Are How Organizations See and Understand the World	7
Chapter II: US Army Operational Logic from an External Perspective.....	9
US Military Thought – A 19 th Century Paradigm in a 21 st Century World.....	10
Cultural Worldview – The Modernist Perspective Shapes How the Army Sees the World	11
Strategic Culture – The Cult of Decisive Battle	18
Cultural Artifacts – Manifestations of the Army’s Underlying Perspectives.....	27
Acquisitions – The War the Army is Being Equipped to Fight.....	33
The Changing Character of Conflict - The War the Army is Likely to Fight	37
The US Army’s Operational Paradigm – Tactics with Bigger Arrows	40
The Logic of Tactics.....	40
US Army Operational Character – Industrial Maneuver & AirLand Battle.....	53
US Army Current Doctrine: LSCO/LSGCO – The War the Army Expects to Fight.....	57
US Army Future Doctrine: Multi-Domain Operations – Old Wine in New Skins?.....	62
Past Conflicts Demonstrate the Continuity of the LSGCO Paradigm.....	67
Concluding Observations of US Operational Thought.....	74
Chapter III: Toward A New Paradigm	79

Characteristics of a Relevant Paradigm.....	81
Avenues for Further Exploration.....	83
Bibliography	87

Acknowledgements

The author would like to acknowledge the following people for the knowledge, mentorship, criticism, encouragement, and time they provided. Without their efforts this monograph would not have been possible. Alice Butler-Smith's assistance was greatly influential in determining the line of research and the trust and latitude she provided in writing this work are greatly appreciated. The author must also thank Dr. Jim Greer for hours spent discussing this monograph and for his insights into learning. COL Andrew Dziengeleski and Lt Col David Lyle provided valuable feedback on drafts, to include additional sources and identifying enhancing connections in ideas. LTG Peter M. Vangjel provided a critique of the logic and arguments in the monograph, which were crucial to its final form. Lastly, the author must thank Joanne Vangjel for her countless hours of editing.

Abbreviations

A2/AD	Anti-Access/Area-Denial
ADM	Army Design Methodology
ADO	All Domain Operations
ALB	AirLand Battle
AMSP	Advanced Military Studies Program
C4ISR	Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance
CWMD	Counter-Weapons of Mass Destruction
DOTMLPF-P	Doctrine, Organization, Training, Materiel, Leadership and education, Personnel, Facilities, and Policy
EMS	Electromagnetic Spectrum
EW	Electronic Warfare
FM	Field Manual
FOFA	Follow-On Forces Attack
FY	Fiscal Year
GDP	Gross Domestic Product
GPS	Global Positioning System
GWOT	Global War on Terror
ISR	Intelligence, Surveillance and Reconnaissance
LSCGO	Large Scale Ground Combat Operations
LSCO	Large Scale Combat Operations
MDMP	Military Decision-making Process
MDO	Multi-Domain Operations
MLRS	Multiple Launch Rocket System
NATO	North Atlantic Treaty Organization
NCW	Network-Centric Warfare

NDAA	National Defense Authorization Act
NDS	National Defense Strategy
NMS	National Military Strategy
NSS	National Security Strategy
ORSA	Operations Research and Systems Analysis
PME	Professional Military Education
RMA	Revolution in Military Affairs
SAMS	School of Advanced Military Studies
TLPs	Troop Leading Procedures
UAS	Unmanned Aerial Systems
USCENTCOM	United States Central Command
USTRANSCOM	United States Transportation Command

Figures

Figure 1 Relating Tactical, Operational, and Strategic Thought.....	47
Figure 2. Reformation vs Transformation	76

Chapter I: Taking an Exterior View of the Self

There are these two young fish swimming along, and they happen to meet an older fish swimming the other way, who nods at them and says, 'Morning, boys. How's the water?' And the two young fish swim on for a bit, and then eventually one of them looks over at the other and goes, 'What the hell is water?'

—David Foster Wallace, commencement address at Kenyon College, 2005

This monograph examines US Army operational thought to identify how it has been shaped by the Army's underlying culture. It suggests that the Army has not undergone a paradigm shift in its view of war since at least World War II. Instead of reconceptualizing and transforming, the Army's fundamental beliefs, values, and assumptions have remained consistent over time, simply with new expressions and manifestations. This monograph argues that many of the problems the US Army faces, whether in theory, practice, or doctrine, are the result of the tension between its underlying perspectives and the emerging realities of conflict. If the US Army is to remain relevant, it will require escaping its current paradigm of conflict, warfare, and war.

Meta-learning - Organizations Must Be Able to See Themselves in Order to Transform

Organizations form for a purpose. At birth, the composition, function and context of an organization determines how it operates and the beliefs, values, and perspectives of its members shape its initial outlook. The purpose for which the organization is formed dictates how it must operate and what it must accomplish. The context in which it is formed, the constraints and limitations upon an organization and the ecology in which it operates also shape its structure and processes. These factors coalesce into a distinct self-referencing system – an organizational culture centered on shared underlying assumptions, enduring beliefs and values, and artifacts and

icons associated with the organization's customs, courtesies, and traditions.¹ The organization's culture is thus a reflection of a specific set of circumstances that brought it to life.

An organization, like any system, can only survive as long as it can maintain its internal coherence and its relevance to an evolving external environment – or context. As the environment and the demands on the organization change, so to must the organization adapt. But to adapt, an organization must first be able to learn. The organization must be able to determine what aspects of itself must be kept, what aspects must be discarded, and new what aspects must be acquired. Bureaucratic organizations, however, have inherent processes that create obstacles to adaptation and transformation. These organizations' cultural foundations influence their norms, practices and incentives. These norms and practices tend to become locked-in by the bureaucratic machinery that evolved around the specific circumstances and ideas that animated the organization to form in the first place.² As sociologist Karl Weick has observed, “bureaucracies see what they have seen before and they link these memories in a sequential train of associations... [They] tend to imagine the past and remember the future.”³ Thus an organization's primary challenge is to create a model of learning that enables it to see, and transform, itself.

Organizations also learn at differing levels of depth and complexity. Chris Argyris and Donald Schön categorized and described these differing levels of organizational learning and how they function.⁴ The first level is referred to as *single-loop learning*. This level is about error-correction, about “doing things right.” On this level, an organization adjusts its responses to environmental inputs based on its existing rules, practices, procedures and structures. A fighting

¹ US Department of the Army, Army Doctrine Reference Publication (ADRP) 1, *The Army Profession* (Washington, DC: Government Printing Office, 2015), A-1 - A-2.

² David J. Lyle, *Email Message to Author* (March 9, 2020).

³ Karl Weick, "The Role of Imagination in the Organizing of Knowledge," *European Journal of Information Systems* 15, no. 5 (2006): 448.

⁴ Chris Argyris and Donald Schön, *Theory in Practice: Increasing Professional Effectiveness* (San Francisco, CA: Jossey-Bass Publishers, 1978), 18-19.

formation applying a battle drill against an enemy, or a unit conducting an After-Action Review, are examples of this type of learning. Measures of performance are an indicator of this level of learning and the question asked is, “How well are we doing what we said we wanted to do?” This level of learning is inherently tactical, it is self-referential, and critical. Single-loop learning is focused on internal coherence.

Double-loop learning is a deeper-level of learning. This level is focused on “doing the right things.” On this level, an organization questions how to apply its norms and rules toward a desired outcome as well as whether its procedures are appropriate for achieving the desired outcome. Activities on this level can range from changing the form and composition of a formation to changing an entire approach to problem-solving to redefining the organization’s goal. *Measures of effectiveness* can be associated with this level of learning and the key question asked is, “To what extent are our actions bringing about our intended goals?” Because this level of learning inquires about the changing of rules and constraints, it is more strategic in nature. Double-loop learning is focused on external relevance; it is about how to achieve desired effects in an environment. But double-loop learning still fails to answer the question of “why” those effects are desired.

Others have expanded on the work of Argyris and Schön by describing an even deeper level of learning, *triple-loop learning*.⁵ This level is concerned with the question, “why we do things in the way we that do?” This level of learning entails stepping outside a system and taking an external view of it and one’s relationship to it.. At this meta-level, an organization examines how it learns, why it uses the processes it uses, and what perspectives and values inform its understanding of itself and its environment. The development of combined doctrine with an international partner would necessitate this type of learning; the Professional Military Education

⁵ Paul Tosey, Max Visser, and Mark Saunders, "The Origins and Conceptualizations of ‘Triple-Loop’ Learning: A Critical Review," *Management Learning* 43, no. 3 (2012): 291-307.

efforts in developing “how to think” versus “what to think” offer another example; the application of second generation military design, where the creation of novel approaches requires new starting assumptions, is yet another attempt at triple-loop learning.⁶ The question asked at this level of learning is, “How do we know what we know?” *Reframing indicators*, or signs which show that a new perspective and set of assumptions may be necessary to better comprehend a situation, are potential marks of this level of learning. Triple-loop learning is about structuring; it is reflective, recursive, transcendent, and transformational. Adaptation is double-loop learning, it is about changing our actions in response to stimuli from the environment; transformation is triple loop learning, it is about changing our identity. Double-loop learning is essential for survival in competitive, rapidly-changing and uncertain environments.⁷ Triple-loop learning is necessary for re-imagining the environment and one’s relation to it.

Given that culture can become solidified around a certain context, even as the exterior world changes, the central challenge of an organization is to identify how to engage in triple-loop learning under such conditions. New members of the organization with differing perspectives offer a chance to question the ingrained practices and norms, but organizations often eliminate alternate perspectives in the process of assimilating new members. When new members are introduced to an organization, the process of secondary socialization occurs, whereby they embrace and assimilate the values of the institution as their own.⁸ As with the primary socialization of their youth, these members are shaped deeply by their surrounding culture, as anthropologist Edward T. Hall has described:

⁶ Ben Zweibelson, "An Application of Theory: Second Generation Military Design on the Horizon," *Small Wars Journal* (February 20, 2017), accessed February 4, 2020, <https://smallwarsjournal.com/jrnl/art/an-application-of-theory-second-generation-military-design-on-the-horizon>.

⁷ Mark K. Smith, "Chris Argyris: Theories of Action, Double-Loop Learning and Organizational Learning," *The Encyclopedia of Informal Education* (2013), accessed February 4, 2020, <http://infed.org/mobi/chris-argyris-theories-of-action-double-loop-learning-and-organizational-learning/>.

⁸ Peter L. Berger and Thomas Luckmann, *The Social Construction of Reality: A Treatise on the Sociology of Knowledge* (New York, NY: Anchor Books, 1967), 138-40.

Everything man is and does is modified by learning and is therefore malleable. But once learned, these behavior patterns, these habitual responses, these ways of interacting gradually sink below the surface of the mind and, like the admiral of a submerged submarine fleet, control from the depths. The hidden controls are usually experienced as though they were innate simply because they are not only ubiquitous but habitual as well...⁹

Generally, the longer one is a member of the institution, the more institutionalized one becomes. One of the most significant examples of the process of secondary socialization is the impact of Initial Entry Training in the US Army. Young men and women with few of the values and biases of the Army institution are transformed over the period of a several months into fully fledged members of the organization who truly differently and espouse different values. Roughly one quarter of the Army is replaced each year and the consistency of Army culture attests to the effectiveness of this acculturation. As Friedrich Nietzsche wrote, “When you look long into an abyss, the abyss also looks into you.”¹⁰ So it goes with organizational culture.

Stepping Outside of Systems – An External View is Necessary for Self-Understanding

Theorist and strategist John Boyd had his own “Holy Trinity” to describe his understanding of the world. The second Law of Thermodynamics, Heisenberg’s Uncertainty Principle, and Gödel’s Incompleteness Theorems were the backbone of his theory of learning.¹¹ Of particular relevance in discussing organizational culture is Boyd’s observation that, “Gödel’s Proof indirectly shows that in order to determine the consistency of any new system we must construct or uncover another system beyond it...we cannot—in general—determine the consistency, hence the character or nature, of an abstract system within itself.”¹² Gödel demonstrated that one must step outside the system and take an external view of it in order to understand its consistency.

⁹ Edward T. Hall, *Beyond Culture* (New York, NY: Anchor Books, 1977), 42.

¹⁰ Friedrich Nietzsche, *Beyond Good and Evil: Prelude to a Philosophy of the Future*, trans. Walter Kaufmann (New York, NY: Vintage Books, 1989), 89.

¹¹ John R. Boyd, *Destruction and Creation* (1976).

¹² *Ibid.*, 4-6.

Edward T. Hall's discussion of culture places this same idea in a human context:

The only time one is aware of the control system is when things don't follow the hidden program. This is most frequent in intercultural encounters. Therefore, the great gift that the members of the human race have for each other is not exotic experiences but an opportunity to achieve awareness of the structure of their own system, which can be accomplished only by interacting with others who do not share that system...¹³

In his commencement address at Kenyon College in 2005 entitled 'This is Water,' writer David Foster Wallace related a tale of two young fish who, upon being questioned by a passing older fish about how the water was, quizzically asked each other, "What the hell is water?" Wallace later related that, "the immediate point of the fish story is that the most obvious, ubiquitous, important realities are often the ones that are hardest to see and talk about."¹⁴

The purpose of this monograph is to talk about the water. Organizational culture determines how the US Army understands itself, its role, and its relationships with policymakers, the citizenry, sister services, its members and most importantly, its adversaries. Culture both shapes and is shaped by the language the Army uses. Culture guides how the Army defines and thinks about conflict. Culture not only frames how the Army addresses problems, but how it determines what constitutes a problem. While the visible aspects of culture – uniforms, language, traditions – of reflect the deeper aspects—values, biases, embedded assumptions and thought patterns. But rarely are these aspects perceived as they are so ingrained in the minds of those operating within a culture that they no longer notice them. As Hall noted, these aspects operate subconsciously and determine how we see and understand the world. Our picture of reality is always filtered but, because we operate within this system, we are unaware of it even though it is present in everything we think, say and do. When there is contradiction between this filtered vision of reality, this paradigm, and the external world, it indicates strategic drift. As Gödel, via Boyd, suggests, in order to address the drift, we must take an external view of our own system.

¹³ Hall, 44.

¹⁴ David Foster Wallace, *This Is Water: Some Thoughts, Delivered on a Significant Occasion, About Living a Compassionate Life* (New York, NY: Little, Brown and Company, 2009), 3-4.

Paradigms Are How Organizations See and Understand the World

In describing how scientific knowledge advances, scientist and philosopher Thomas Kuhn observed that, rather than evolving through the gradual accumulation of knowledge, advances instead come in revolutions where the old understanding of the world, referred to as a *paradigm*, is replaced by a model that is fundamentally different and irreconcilable with the previous understanding.¹⁵ This revolution is called a *paradigm shift*. Kuhn described the process leading to the shift as follows. As knowledge is accrued, unexpected results, or *anomalies*, appear which do not align with the current understanding of the world. As more and more of them appear, faith in the current paradigm is undermined. When these anomalies increase to the point that the entire paradigm is called into question, a *crisis* occurs. The crisis can only be reconciled by stepping outside of the existing frame of reference/perspective, by discarding the most fundamental beliefs and axioms of the previous paradigm and formulating an entirely new understanding of the world from a new perspective that explains and contextualizes the anomalies. This new paradigm then becomes the dominant and prevailing worldview, until the cycle is repeated.

The experience of a paradigm shift has resultant impacts on human and organizational psychology. The first period is one of comfort with the existing paradigm; the second period is one of frustration, as there is a growth in events that nullify conventional wisdom—*anomalies*; the third period, *crisis*, is one of disorientation where contradictions abound and existing mental models can no longer provide reliable explanations for events; the fourth period, the *shift*, is one of reconceptualization, where the critical variables are arranged into “a new ensemble with a new logic of its own.”¹⁶

¹⁵ Thomas S. Kuhn, *The Structure of Scientific Revolutions* (Chicago, IL: The University of Chicago Press, 1962), 43-90.

¹⁶ Jamshid Gharajedaghi, *Systems Thinking: Managing Chaos and Complexity* (Burlington, MA: Elsevier, 2011), 8.

Currently, the US Army is struggling at the edge of a paradigm shift, in the disorientating and uncomfortable third period where, "...acceptable ideas are competent no more and competent ideas are not yet acceptable."¹⁷ Adversary approaches that exploit the western dichotomy between war and peace, the increasing reliance on proxies rather than engaging conventionally, the proliferation of nuclear capabilities and the shifting of focus from the battlefield to the information space, from the armed force to the population of the opposing states are all impacting the relevance of the traditional paradigm. New technologies offer the global reach of cyber systems, kamikaze drones, indirect fires that have the precision of direct fires, and the democratization of the reconnaissance strike complex in an "Age of Transparency" powered by cellphone and the internet.¹⁸ This environment has made some of the old tried and true methods of warfighting irrelevant. In this realm where powerful threats and opportunities emerge and organizations rise and fall, it is tempting to seek false comfort in the nostalgia of victory—with World War II uniforms and a return to Desert Storm tactics and equipment—but as Heraclitus said, one cannot step in the same river twice.¹⁹ We cannot go "back to the future."

¹⁷ Gharajedaghi, 8.

¹⁸ David J. Lyle, *Email Message to Author* (March 9, 2020).

¹⁹ Eva Brann, *The Logos of Heraclitus* (Philadelphia, PA: Paul Dry Books, 2011); Gharajedaghi, 8.

Chapter II: An External Perspective On US Army Operational Logic

...the only reason Desert Storm worked was because we managed to go up against the only jerk on the planet who actually was stupid enough to confront us symmetrically....In the high- and top-level war colleges we still fight this type of adversary, so we always can win....Worse yet, the end of any conflict often brings into professional circles the heartfelt belief that ‘Now that the war is over, we can get back to real soldiering.’ So, we merrily backtrack in that direction. Scary, isn't it? Still trying to fight our kind of war—be it World War II or Desert Storm—we ignore the real warfighting requirements of today.
—Gen Anthony C. Zinni, Commander USCENTCOM

In 1977, Lieutenant Colonel Donald Vought examined the focus of the post-Vietnam US Army and determined that it was “preparing vigorously for the wrong type of war to the near exclusion of the more probable form.”²⁰ Just four years removed from a painful, decade-long experience in counter-insurgency, Vought saw an Army that viewed this form of conflict as illegitimate and, while rhetorically accepting American involvement in such conflicts in the future, doing nothing in the realm of implementation to prepare for them.²¹ Instead, the Army revised its doctrine, acquisitions, and training/education, focusing on the kind of war it preferred to fight, and was being directed to prepare for by policymakers, conventional conflict with the Soviet Union in Europe.²²

The parallels to the Army of today are uncanny. Vought’s Army had recently failed to defeat an insurgency in Vietnam after a decade of conflict. The Army of today is still in the midst of ongoing insurgencies in Afghanistan and Iraq, despite two decades of combat in these locations. Vought’s Army acknowledged the Secretary of Defense’s description of an “...uncertain future, changed realities, multipolarity and increasing interdependence.”²³ Similarly,

²⁰ Donald B. Vought, "Preparing for the Wrong War?," *Military Review* 57, no. 5 (1977): 16.

²¹ *Ibid.*, 20.

²² John L. Romjue, *From Active Defense to Airland Battle: The Development of Army Doctrine 1973-1982* (Fort Monroe, VA: United States Army Training and Doctrine Command, 1984), 2; Douglas W. Skinner, *Airland Battle Doctrine* (Alexandria, VA: Hudson Institute, Center for Naval Analyses, 1988), 3-4.

²³ Vought, 19.

current US strategic documents emphasize the uncertainty of the changing global environment, the changing character of war, state and non-state rival actors, and interconnectedness.²⁴ Vought's Army reacted to this new strategic environment by "neglecting" low-intensity conflict and focusing on conventional war.²⁵ Today, the US Army's reaction is a similar *re*-orientation away from counterinsurgency and toward Large Scale Ground Combat Operations (LSGCO).²⁶ The Army's attempted future concept of Multi-Domain Operations (MDO), continued this trajectory.

In light of these similarities, it is imperative to ask the question, as Vought did, whether the United States is preparing for the wrong war. And even more importantly, if it is, why, and what can be done about it?

US Military Thought – A 19th Century Paradigm in a 21st Century World

The US Army's history is one of adaptation to the conditions in which it finds itself. Often, these adaptations have been forced by initial failures and the accompanying blood toll.²⁷ Sometimes, these responses have not been fundamental enough to enable the achievement of conditions of continuing advantage, as in Iraq and Afghanistan. The delta between the conditions in which the Army finds itself and the conditions for which it has prepared itself is a reflection of its capacity to learn and anticipate. Today, on the surface, the Army appears to be learning—it appears to be adapting to the strategic environment by re-orienting itself toward conventional high-intensity conflict with near-peer/peer competitors like Russia and China. But

²⁴ The White House, *National Security Strategy of the United States of America* (Washington, DC: Government Printing Office, 2017), 1-4; US Department Of Defense, *Summary of the 2018 National Defense Strategy of the United States of America: Sharpening the American Military's Competitive Edge* (Washington, DC: Government Printing Office, 2018), 1-4; The Joint Staff US Department of Defense, *Description of the National Military Strategy* (Washington, DC: Government Printing Office, 2018), 2.

²⁵ Vought, 29-30.

²⁶ US Department of the Army, Field Manual (FM) 3-0, *Operations* (Washington, DC: Government Printing Office, 2019), 1-1 - 1-12; US Department of the Army, TRADOC Pamphlet 525-3-1, *The U.S. Army in Multi-Domain Operations 2028* (Fort Eustis, VA: US Army Training and Doctrine Command, 2018), ix-xii.

²⁷ John Shy, "First Battles in Retrospect," in *America's First Battles: 1776-1965*, ed. Charles E. Heller and William A. Stofft (Lawrence, KS: University of Kansas Press, 1986), 327-52.

this work suggests that this adaptation is really a reaffirmation of a consistent paradigm. This continuity in paradigm will be examined in the following sections via several areas of inquiry: the cultural perspective and worldview of the US Army, the US Army's strategic culture, the discourse between policymakers and Army leaders, the reforms in composition (organization and equipment), and cultural artifacts, such as education and customs.

Cultural Worldview – The Modernist Perspective Shapes How the US Army Sees The World

The first area of examination focuses on the deepest and broadest aspect of the Army's paradigm – its underlying worldview. The most foundational aspects of a culture lie in its epistemological, ontological, and axiological assumptions. Epistemology—what counts as knowledge and how we know it, ontology—how reality is defined, and axiology—what is valued, each offer insight into the fundamental beliefs that pervade an organization.²⁸ The US Army, and the broader military, reflect American society in viewing the world through a mainly modernist perspective.

This perspective has an *objectivist ontology* that holds that there is an objective reality that exists independent of perception; a perspective which often undervalues subjective interpretation and social construction as part of reality. The modernist epistemology holds that reason and evidence are how we understand the world; the concept of *logical positivism* is the belief that “all causal relationships are knowable and become more context-free in application.”²⁹ A further aspect of the modernist perspective is *empiricism*, the idea that that which we can

²⁸ Mary Jo Hatch, *Organization Theory: Modern, Symbolic and Postmodern Perspectives* (Oxford, UK: Oxford University Press, 2013), 11-15.

²⁹ Chris Paparone, *The Sociology of Military Science* (New York, NY: Bloomsbury Academic, 2013), 2.

measure is what counts as a source of knowledge.³⁰ This thinking, put into practice is described by Donald Schon as *technical rationalism*.³¹

Americans tend to think asystemically. This can be seen in several areas of culture. First, American culture has been described as low-context. Americans value “open, dramatic, precise and explicit communication.”³² This lack of emphasis on context may explain why the components, rather than the ecology of a system, are usually the focus of efforts at comprehension—a tendency that has been demonstrated consistently in psychological studies.³³ Second, this a-systemic viewpoint is deeply embedded in the logical-analytical approach to human activity.³⁴ The modernist perspective’s approach to understanding is *reductionism*, the idea that understanding is a matter of analysis, that things can be understood by taking them apart, reducing each component to its smaller constituents.³⁵ The attempt to understand phenomena through their components rather than through their relation to their context, their place within their greater system, is a consistent result of this approach.³⁶

This idea also relates to causality in that the necessary and sufficient cause can be deduced from every effect.³⁷ This propensity to seek cause and effect is so strong that it creates a host of cognitive biases. Related to this belief is the western view that achievement, change, and

³⁰ Paparone, 2.

³¹ Donald A. Schon, *The Reflective Practitioner: How Professionals Think in Action* (New York, NY: Vincent Torre, 1983), 21-49.

³² Dima Adamsky, *The Culture of Military Innovation: The Impact of Cultural Factors on the Revolution in Military Affairs in Russia, the US, and Israel* (Stanford, CA: Stanford University Press, 2010), 88-89.

³³ Lea Winerman, "The Culture-Cognition Connection," *Monitor On Psychology* 37, no. 2 (2006): 64-68.

³⁴ Adamsky, 77.

³⁵ Paparone, 2.

³⁶ Adamsky, 88-89.

³⁷ Russell L. Ackoff, "From Mechanistic to Systemic Thinking", 1993, accessed February 9, 2020. <https://youtu.be/yGN5DBpW93g>.

opportunity are the result of taking positive action.³⁸ In western culture in particular, the linear process of determining an objective, reverse-engineering a sequence of actions that lead to the objective, establishing measurements to track progress toward the objective and then adjusting behavior to align with the path laid out is a virtually ubiquitous and unconscious way of thinking.³⁹ The focus is on the goal and the objective, as opposed to cultures which focus on the environment and the context.⁴⁰ The relationships of cause-to-effect and of means-to-ends, as well as the tendency to understand things in a teleological way, with a view toward their purpose, are all deeply embedded in western thinking.⁴¹ This idea is best understood comparatively:

Since, antiquity, western ways of military thinking were aimed at creating an ideal model and then visualizing how the real situation differed from that model. Afterward, the backward or reverse process is used to construct a sequence of actions as the way to make the model happen...In contrast, the Chinese military focuses on identifying the inherent potential of a situation and subsequently facilitating the emergence of this potential. Expressed differently, instead of forcing one's will on a situation, one should set the conditions to allow things to happen that are already inherent in the perceived situation.⁴²

The American orientation toward time is on the present and immediate future.⁴³ As a result, the future is conceived of as the consequences of immediate actions.⁴⁴ Americans tend to be more comfortable in near-term crisis management situations than with long-term strategic planning and they tend to prioritize new technology over lessons of the past when it comes to solutions to problems.⁴⁵ The American military, however, also adds an aspect of historicism and

³⁸ Francois Jullien, *A Treatise on Efficacy: Between Western and Chinese Thinking* (Honolulu, HI: University of Hawaii Press, 2004), 32-83.

³⁹ ³⁹ Kenneth O. Stanley and Joel Lehman, *Why Greatness Cannot Be Planned: The Myth of the Objective* (New York, NY: Springer, 2015), 1-12.

⁴⁰ Joshua Cooper Ramo, *The Seventh Sense* (New York, NY: Back Bay Books, 2016), 251.

⁴¹ Francois Jullien, *The Propensity of Things: Toward a History of Efficacy in China* (New York, NY: Urzone, 1995), 17.

⁴² Milan N. Vego, "A Case against Systemic Operational Design," *Joint Force Quarterly*, no. 53 (2009): 71.

⁴³ Adamsky, 82-83.

⁴⁴ Ibid.

⁴⁵ Ibid.

thus is consistently backward looking in its search for understanding. Americans see time as linear and this leads to a further characteristic, *progressivism*, which encapsulates the idea that knowledge accrues and understanding is uni-directional so that all problems are solvable and become more so over time as theories and knowledge accumulate.⁴⁶ Many of these modernist ideas have their roots in the French Enlightenment and the Cartesian doctrine that saw reality as derivable from universal laws.⁴⁷ This same underlying philosophy drives US military thought today.

Americans, and the US Army in particular, tend to be practically oriented. A learn-by-doing people that values practical application over conceptual abstraction, they value acquired skill over theory-construction. Entrepreneurial activity drives innovation and application is valued over creation.⁴⁸ But American culture also displays a propensity for inductive reasoning, the practical orientation of American thinkers predisposing a “bottom up” reasoning from the particular to the general.⁴⁹ This is often the form that innovation takes in the military, and why innovations in the US Army tend to be tactically-focused.

When examining organization’s worldviews, epistemology and ontology are regularly discussed, but the key to understanding culture, axiology, questions of value, is rarely addressed. Such an examination is critical for true transformation as epistemology is about single-loop learning, ontology is double-loop learning, and axiology brings one to triple-loop learning. The axiological assumptions of the Army are informed by the Judeo-Christian ethics of the broader western society but within the profession these assumptions revolve around concepts of altruism,

⁴⁶ Paparone, 2-3.

⁴⁷ Azar Gat, *A History of Military Thought: From the Enlightenment to the Cold War* (Oxford, UK: Oxford University Press, 2001), 28-31.

⁴⁸ Adamsky, 77-78.

⁴⁹ Ibid.

duty, and patriotism—as Carl Builder noted, "the object of worship is the country; and the means of worship are service."⁵⁰

The Army's axiological framework is thus one of virtue ethics, embodied in an almost chivalric code called the Army Values - loyalty, duty, respect, selfless service, honor, integrity, personal courage, and humility. The Army values, a response to the treatment of basic trainees in the 1990s, demonstrate a case of affective learning, where new standards enabled means to shape behaviors of the organization.⁵¹ The self-professed values of the Army ethic are trust, honorable service, military expertise, stewardship, and esprit de corps.⁵² Loyalty and obedience have been described as the highest military values.⁵³

The value of individualism and independence in American society is reflected in the personal values of its citizens, from whom the Army draws its people, which leads to a performance and achievement oriented culture that values ambition, assertiveness, competitiveness and heroism.⁵⁴ But militaries as professions tend to emphasize collectivist ideals; everything a servicemember does is done in groups and groups of groups, thus Army thinkers have a strain of subordination to the organization embedded within them.⁵⁵ Samuel Huntington describes the Army ethic as, "...pessimistic, collectivist, historically-inclined, power-oriented, nationalistic, militaristic, pacifist, and instrumentalist in its view of the military profession. It is, in brief, realistic and conservative."⁵⁶

⁵⁰ Carl H. Builder, *The Masks of War* (Baltimore, MD: Johns Hopkins University Press, 1989), 20.

⁵¹ US Department of the Army, *A Brief History of the Army Values*, by Frank Licameli (Fort Leavenworth, KS: Center for the Army Profession and Ethics, 2018), 28-31.

⁵² US Army, Army Doctrine Reference Publication (ADRP) 1, *The Army Profession*, A-1 - A-2.

⁵³ Samuel P. Huntington, *The Soldier and the State* (Cambridge, MA: Harvard University Press, 1985), 73.

⁵⁴ Adamsky, 75.

⁵⁵ Huntington, 63-64.

⁵⁶ *Ibid.*, 79.

The US Army culture is also highly command-centric—its structure, processes, and functions revolve around the commander. In the US Army, “commanders are responsible for everything their command does or fails to do,” unlike other systems of command and control which disperse authority.⁵⁷ The commanders’ visualization and understanding are the central axes around which their organization revolves, and the staff elements of Army institutions exist to support, communicate, and enable these aspects of the commander’s thought.⁵⁸

The US Army has also been described as having an anti-intellectual bias, valuing “doing” over thinking, and “muddy boots” over intellectual ability.⁵⁹ While the Army values intelligence, it prefers practical intelligence, cleverness and “know-how” over theoretical, conceptual thought; the Army values operators over those preoccupied with ideas.⁶⁰ However, there is also strong evidence that cognitive standards of incoming officers have been declining since the Cold War.⁶¹ The anti-intellectual aspect of Army culture may also be captured by failures in Iraq and Afghanistan, which were not due to lack of competence, to an inability to execute a cordon-and-search or to enter and clear a room. Rather, Afghanistan and Iraq represent examples of what Eliot Cohen has termed “failure to learn” – failures of operational learning, failures of being

⁵⁷ US Department of the Army, Army Regulation (AR) 600-20: *Army Command Policy* (Washington, DC: Government Printing Office, 2014), 6; Martin Samuels, *Command or Control? Command, Training and Tactics in the British and German Armies, 1888-1918* (London, UK: Frank Cass, 1995), 16-17.

⁵⁸ US Department of the Army, Army Doctrine Reference Publication (ADRP) 5-0, *The Operations Process* (Washington, DC: Government Printing Office, 2012), 1-2 - 1-6.

⁵⁹ Don Snider, "Strategic Insights: Whiskey over Books, Again? Anti-Intellectualism and the Future Effectiveness of the Army 2025," accessed March 2, 2020. <https://ssi.armywarcollege.edu/strategic-insights-whiskey-over-books-again-anti-intellectualism-and-the-future-effectiveness-of-army-2025-2/>; Lloyd J. Matthews, "The Uniformed Intellectual and His Place in American Arms: Part I," (July 24 2002), accessed March 2, 2020. <https://www.ausa.org/articles/uniformed-intellectual-and-his-place-american-arms-part-i>.

⁶⁰ Lloyd J. Matthews, "Anti-Intellectualism and the Army Profession," in *The Future of the Army Profession*, ed. Don Snider and Lloyd J. Matthews (Boston, MA: McGraw Hill Custom Publishing, 2005), 80-84.

⁶¹ Arthur T. Coumbe, Steven J. Condly, and William L. Skimmyhorn, *Still Soldiers and Scholars? An Analysis of Army Officer Testing* (Carlisle, PA: US Army War College, Strategic Studies Institute, 2017), 354.

unable to step outside the existing paradigm and understand how to see the world differently.⁶²

These cases will be examined further in subsequent sections.

The Army's aesthetic tastes are spartan, traditional, functional and symbolic—de-commissioned battle trophies from past wars are a common site on Army posts, flags and banners are pervasive, and the most common form of decoration are artistic renderings of past battle glories. Tradition is the centerpiece around which the Army profession coalesces.

In summation, the cultural milieu resulting from these perspectives has a scientific worldview, is oriented toward practical considerations and problem-solving, and is biased toward action. The culture emphasizes seeking solutions/decisions and assumes that, with enough knowledge, any obstacle can be overcome.⁶³ This results in a deterministic view that, if the right actions are taken, the desired aim can be achieved. Military science is governed by “fundamental” and “immutable” eternal laws and principles which, through artful application, can provide “victory.”⁶⁴ The ethical emphasis on duty, service, and the organization's noble values causes Army leaders to be wary and even disdainful of political considerations in war, which contributes to the separation of military action as the sphere of military professionals and policy as a concern of politicians. These most basic underlying assumptions, values, beliefs, and perspectives manifest the United States Army's distinct strategic culture.

⁶² Eliot A. Cohen, *Military Misfortunes: The Anatomy of Failure in War* (New York, NY: Free Press, 2006), 28-43.

⁶³ Dr. Russell Ackoff has described four ways of addressing problems: problem absolutism is ignoring the problem and hoping it will go away or resolve itself; problem resolution is reaching into the past for options to address the problem which will be good enough and is a satisficing approach that is clinical and experiential in nature; problem solving seeks the optimal solution in the circumstances and is research based, experimental and quantitative; problem dissolution is to redesign the system that has the problem so that the problem no longer exists. Russell L. Ackoff, "Systems Thinking Speech by Dr. Russell Ackoff", UNK, accessed February 16, 2020. <https://youtu.be/EbLh7rZ3rhU>.

⁶⁴ Huntington, 71.

Strategic Culture – The Cult of Decisive Battle

The fundamental aspects of worldview discussed in the last section create several emergent themes that define the Army’s strategic mindset. This mindset, or culture, however, should not be confused with designing, having, or being cognizant of a preference for a particular military strategy; it is rather the fundamental patterns of preferences and assumptions that influence all US approaches to warfare. Because operational logic seeks to achieve strategic objectives, strategic culture is inherently interwoven with, and frames, operational practice and thus a discussion of these relevant patterns in American strategic thinking is necessary to set the context for American operational logic. Numerous scholars have attempted to identify, or debunk the idea of, an American approach to warfare. A summary of the relevant observations follows.

One of the most authoritative works of the field, Russel Weigley’s study of American military history and strategy has come under criticism by later scholars for its simplistic dichotomy between wars of annihilation and wars of attrition. But Weigley’s most valuable insight remains valid, that American military thought, following Clausewitz’s logic, views the application of military force as synonymous with the destruction of enemy field forces.⁶⁵ Thomas Schelling echoes this idea in describing a central aim of American strategy: “to seek out and to destroy the enemy’s military force, to achieve crushing victory over enemy armies.”⁶⁶ Schelling connects this aim with a view of military action as “an alternative to bargaining, not a process of bargaining.”⁶⁷ Likewise, Antulio Echevarria describes the tendency in US military thought for “offensive operations aimed at defeating an opponent’s main force...”⁶⁸ Echevarria also reinforces the idea that Americans view warfare as an alternative to, rather than a part of, the

⁶⁵ Russel F. Weigley, *The American Way of War: A History of United States Military Strategy and Policy* (Bloomington, IN: Indiana University Press, 1977), xx-xxiii.

⁶⁶ Thomas C. Schelling, *Arms and Influence* (New Haven, CT: Yale University Press, 2008), 16.

⁶⁷ *Ibid.*

⁶⁸ Antulio J. Echevarria II, *Reconsidering the American Way of War: US Military Practice from the Revolution to Afghanistan* (Washington, DC: Georgetown University Press, 2014), 56.

bargaining process. He asserts that this bifurcation leads to military thinking which focuses on winning battles and campaigns, leaving to policymakers the struggles before and after conflict.⁶⁹ Samuel Huntington's influential work, *The Soldier and the State*, even formalizes this model of civil-military relations in his theory of objective control.⁷⁰

These insights highlight the western interpretation of Clausewitz's dictum that, "War is the continuation of politics by other means." It views war as armed conflict and sees it as one of the options subordinate to policy, as an alternative to diplomacy, a sequel or prequel to it, or a partner to it. In 1948 George Kennan observed, "We have been handicapped however by a popular attachment to the concept of a basic difference between peace and war, by a tendency to view war as a sort of sporting contest outside of all political context."⁷¹ Manifestation of this line of thought is best evidenced in the idealized view of war in the Weinberger/Powell doctrine.⁷² This doctrine, a list of restrictive prerequisites for the employment of military force, also demonstrated, "a clear preference for decisive conventional wars and a caution against using military force for more limited, some might say nebulous, ends."⁷³ Thus, the first trend in American strategic thought is its fixation on the Clausewitzian ideal of war—a discrete and bounded concept to be embarked upon when diplomacy fails, executed by the military in a decisive manner, and followed by a transition in responsibility to politicians who will resolve the political issue after the enemy is rendered unable to resist.

⁶⁹ Antulio J. Echevarria II, *Toward an American Way of War* (Carlisle, PA: US Army War College, Strategic Studies Institute, 2004), v-vii.

⁷⁰ Huntington, 260-63.

⁷¹ US Department of State, Policy Planning Staff Memorandum 269: *The Inauguration of Organized Political Warfare*, by George Kennan (Washington, DC: Government Printing Office, 1948).

⁷² Caspar W. Weinberger, "The Uses of Military Power," *Frontline* (1984), accessed November 28, 2019. <https://www.pbs.org/wgbh/pages/frontline/shows/military/force/weinberger.html>; Colin L. Powell, "U.S. Forces: Challenges Ahead," *Foreign Affairs* 71, no. 5 (1992).

⁷³ Peter R. Mansoor, "US Army Culture, 1973-2017," in *The Culture of Military Organizations*, ed. Peter R. Mansoor and Williamson Murray (Cambridge, UK: Cambridge University Press, 2019), 308.

This first trend also significantly influences the second theme in American strategic thought since World War II, a preference for and a competence in conventional or regular warfare and corresponding lack of competence and distaste for unconventional warfare. Martin van Creveld has highlighted numerous reasons for this lack of competence, from poor tooth-to-tail ratios, tall command and control structures and cumbersome procedures, equipment focused on fighting conventional forces, over-dependence on electronics, and excessive cost disparity in the conduct of warfare between regular and irregular forces.⁷⁴ Echevarria separates these two forms of conflict into war's "first grammar," the concepts, principles, and procedures related to overthrowing an opponent by armed force, and war's "second grammar," insurgency, guerilla warfare, or irregular warfare.⁷⁵ Even within the preference for contests between conventional forces, there is an emphasis on symmetrical competition and doctrine(s) that pit "strength against strength."⁷⁶ Colin Gray identifies four characteristics of the US approach to war directly related to its conventional nature. He describes it as profoundly-regular, large scale, aggressive and offensive.⁷⁷ Robert Leonhard's observations about a focus on attrition, in the context of the attrition-maneuver debates, resonate with these claims of conventional mindset. A notable exception to this trend would be the investment in and maintenance of special operations forces, which their own distinct and unique culture.

Though commentators such as Max Boot point to America's historical success in irregular conflicts as evidence of "another" American way of war, recent history is

⁷⁴ Martin van Creveld, *The Transformation of War* (New York, NY: The Free Press, 1991), 29-32.

⁷⁵ Antulio J. Echevarria II, "American Operational Art, 1917-2008," in *The Evolution of Operational Art: From Napoleon to the Present*, ed. John Andreas Olsen and Martin van Creveld (New York, NY: Oxford University Press, 2011), 137-60.

⁷⁶ Echevarria, *Reconsidering the American Way of War: US Military Practice from the Revolution to Afghanistan*, 56.

⁷⁷ Colin Gray, *Irregular Enemies and the Essence of Strategy: Can the American Way of War Adapt?* (Ann Arbor, MI: University of Michigan Library, 2006), 38-44.

unambiguous.⁷⁸ The inability to translate tactical success into strategic gains suggest that either the demands and conditions of these previous conflicts were so different from today that this earlier American approach is no longer relevant, or that the US culture/mindset that enabled success in the previous century is no longer present in American military thought. Boot's work, which attempts to identify lessons that can be gleaned from the past, implicitly assumes the latter case, thus reinforcing the lack of favor and expertise in irregular warfare in contemporary American military thought. In fairness, however, it must also be noted that the military cannot be held responsible in cases where policymakers have set infeasible or impossible goals.

A third trend, interlinked with the previous two, is the tactical bias of US military thought. As the military sees its role as winning battles and campaigns, the thinking typified by tactical actions tends to bleed realms where alternative mindsets are more appropriate. Echevarria asserts that the most consistent trend in US strategic thought is the belief that an additive series of tactical victories will incrementally produce strategic success.⁷⁹ The US experiences in Vietnam and Afghanistan have aptly demonstrated this. Not unique to the U.S., Cathal Nolan details how this idea has expanded to a fixation among modern great powers on seeking victory through decisive battle.⁸⁰ Despite this ideal having led Germany to ruin in two World Wars, the Western military search for the short, decisive battlefield victory type war has remained the ideal for American military employment.⁸¹ Echevarria, a Clausewitzian devotee, claims with no sense of irony that America does not have a "way of war," rather it has a "way of battle."⁸² This trend

⁷⁸ Max Boot, *The Savage Wars of Peace* (New York, NY: Basic Books, 2014), xvii-xxiv.

⁷⁹ Echevarria, *Reconsidering the American Way of War: US Military Practice from the Revolution to Afghanistan*, 174-75.

⁸⁰ Cathal J. Nolan, *The Allure of Battle: A History of How Wars Have Been Won and Lost* (New York, NY: Oxford University Press, 2017), 3-17.

⁸¹ Robert M. Citino, *The German Way of War: From the Thirty Years' War to the Third Reich* (Lawrence, KS: University Press of Kansas, 2005), 306-12.

⁸² Echevarria, *Reconsidering the American Way of War: US Military Practice from the Revolution to Afghanistan*, 174-76.

manifests itself significantly in US Army operational logic and will be discussed in detail in following sections.

Colin Gray also reinforces the idea of tactical bias when he describes American military thinking as *apolitical*, “paying scant regard to the consequences of its course of operations for the character of the peace that will follow,” and *astrategic*, waging war as a largely autonomous activity, leaving worry about peace and its politics to some later day.”⁸³ It is important to note, as Echevarria does, that US military practice has certainly been influenced by policy and politics, even while military thought tends to shy away from such matters.⁸⁴ Unfortunately, while the military should be subordinate to policymakers, the political context is often necessary to understand the military goals prescribed. A continual two-way conversation between policymakers and military professionals is necessary so political context and aims and reasonable expectations for military action can be communicated and updated.

Technocentrism has been another consistent theme in discussion of American strategic thought. Technology has long offered the promise of mitigating risk to forces and, as such, has understandably been embraced. Unlike strategic concepts, technology can more easily be described with numbers, and thus tied to the budget shares that often serve as a proxy measure of how important one’s own service or branch is seen to be in the eyes of others. Frederick Kagan notes this focus on the power of technology, but observes that it is often accompanied by unrealistic hopes for what technology can accomplish and unimaginative application of new technology onto existing concepts.⁸⁵ Thomas Mahnken observes the military being “particularly

⁸³ Gray, 30-32.

⁸⁴ Echevarria, *Reconsidering the American Way of War: US Military Practice from the Revolution to Afghanistan*, 164.

⁸⁵ Frederick W. Kagan, *Finding the Target: The Transformation of American Military Policy* (New York, NY: Encounter Books, 2006), 393-98.

bullish on those systems that comport with existing mission areas.”⁸⁶ Contributing to this trend are the fiscal realities of Congress, which will not fund too many long-term projects.

Echevarria challenges the claims of technocentrism but his argument makes the faulty connection that a focus on technological solutions to problems equates to being a world leader in such innovations—an argument that ignores capacity for such innovations. He concedes technocentrism as a characteristic of US military theories in the latter half of the 20th century, but argues that this is not uniquely American, pointing to the trend in NATO as well.⁸⁷ That this trend is not unique to America does not mean it is not present, and there is reason to believe its presence in NATO is a result of its prevalence in US military thought. Colin Gray finds evidence for technological dependence in US thought as well.⁸⁸ The potential seen in technologically sophisticated weapon systems only serves to reinforce the deep-rooted belief in the possibility of success through quick, clean victories.⁸⁹

Firepower has also long been cited as having a special place in US thinking. Weigley and Gray both cite the US focus on firepower, the latter describing it as a “traditional, cultural, excessive, love affair.”⁹⁰ Robert Leonhard refers to this penchant as a religion and associates it with a resultant neglect of maneuver.⁹¹ The astrategic characteristic of the US approach to warfare is at least partly informed by the industrial approach to war and the implicit assumption that the ability to mass forces and firepower—logistic warfare—could substitute for strategy.⁹² The

⁸⁶ Thomas G. Mahnken, *Technology and the American Way of War since 1945* (New York, NY: Columbia University Press, 2008), 226.

⁸⁷ Echevarria, *Reconsidering the American Way of War: US Military Practice from the Revolution to Afghanistan*, 41-42.

⁸⁸ Gray, 35-37.

⁸⁹ David Fitzgerald, *Learning to Forget: US Army Counterinsurgency Doctrine and Practice from Vietnam to Iraq* (Stanford, CA: Stanford University Press, 2013), 205; Martin van Creveld, *Technology and War: From 2000 B.C. The Present* (New York, NY: The Free Press, 1989), 235-320.

⁹⁰ Gray, 37-38.

⁹¹ Robert Leonhard, *The Art of Maneuver* (New York: Ballantine Books, 1991), 188-206.

⁹² Adamsky, 79-80.

interplay between technology and firepower also gives rise to an associated trend of reliance on standoff precision weapon systems.⁹³

Sensitivity to casualties is an additional trend asserted by Gray and this must be viewed as the most fluid element in Gray's categorization.⁹⁴ This is particularly true since Vietnam and the introduction of the All-Volunteer Force. Contrary to this claim, Echevarria states that US casualty aversion is a myth and points to research implying that casualty aversion is linked to public expectations of success.⁹⁵ This idea is less myth and more nuance than Echevarria presents, however. His argument is valid in terms of public perception, which tends to be more accepting of casualties in direct proportion to how accepted the war goals are and how well the US is perceived to be achieving those goals. But this idea is inaccurate when looking at political and military leaders, who are still very much averse to casualties.⁹⁶ Thus, for the purposes of examining operational thought, Echevarria's criticisms are not applicable.

Michael Matheny's study of US operational art in World War II notes several trends that remain today. Like Colin Gray, he sees logistical excellence and a large-scale focus. Matheny also highlights the expeditionary nature of US strategy and joins Echevarria in emphasizing the *Joint* nature of US strategy.⁹⁷ Richard Swain has highlighted the structured incentives and direct guidance to the Army from its strategic sponsors to ensure it is nested with the joint and

⁹³ Echevarria, *Reconsidering the American Way of War: US Military Practice from the Revolution to Afghanistan*, 20.

⁹⁴ Gray, 47-49.

⁹⁵ Echevarria, *Reconsidering the American Way of War: US Military Practice from the Revolution to Afghanistan*, 42-43.

⁹⁶ Richard A. Lacquement, "Casualty-Aversion Myth," *Naval War College Review* 57, no. 1 (2004): 39-57; Peter D. Feaver and Christopher Gelpi, "A Look At . . . Casualty Aversion: How Many Deaths Are Acceptable? A Surprising Answer," *Washington Post*, November 7, 1999, <https://www.washingtonpost.com/wp-srv/WPcap/1999-11/07/061r-110799-idx.html>.

⁹⁷ Michael R. Matheny, *Carrying the War to the Enemy: American Operational Art to 1945* (Norman, OK: University of Oklahoma Press, 2011), xii-xx, 269.

expeditionary focus of the broader military.⁹⁸ Echevarria and Boot have pointed to the Department of Defense Lessons Learned from the 2003 Iraq invasion in highlighting the combined/coalition nature of US warfighting and the importance of sophisticated command and control systems.⁹⁹

Peter Mansoor highlights that many in the US Army, and the broader Joint force, believe that superior command and control and intelligence systems could reduce fog and friction, allowing information to replace massed firepower.¹⁰⁰ In his criticism of the antiquated “Principles of War,” Robert Leonhard optimistically asserts this prediction.¹⁰¹ The concept of Network Centric warfare provides the most clear demonstration of this thought process. Donald Vandergriff has demonstrated that increased information technology has led to a tendency for more centralized command and control, which is presumed to enable better synchronization of effects, ostensibly leading to tactical success.¹⁰² This over-optimism about command and control technology have a long history of the opposite result.¹⁰³ In fact, US Army leaders are now advocating looking back to the 19th Century for solutions to command and control in an environment where information systems will be disrupted.¹⁰⁴

⁹⁸ Richard M. Swain, "Army Officership for the Joint Expeditionary Mindset," in *The Future of the Army Profession*, ed. Don Snider and Lloyd J. Matthews (Boston, MA: McGraw Hill Custom Publishing, 2005), 175-87.

⁹⁹ US Department Of Defense, *Summary of Lessons Learned*, by Donald H. Rumsfeld and Tommy R. Franks (Washington, DC: United States Senate, Senate Armed Services Committee, 2003), 2-4.

¹⁰⁰ Mansoor, 309.

¹⁰¹ While Leonhard’s overly-optimistic conclusions about the capabilities of technology are problematic, his critique of the coherence, logic, and relevance of the antiquated *Principles of War* is valid and well presented. Leonhard, 267-72.

¹⁰² Donald Vandergriff, "The Myth of Mission Command: How “Synchronization Warfare” Has Removed the Human from Modern Warfare," *The Bridge*, March 30, 2014, accessed April 27, 2019, <https://thestrategybridge.org/the-bridge/2014/3/30/the-myth-of-mission-command>.

¹⁰³ Robert L. Bateman, "Force XXI and the Death of Auftragstaktik," *Armor* 105, no. 1 (1996).

¹⁰⁴ Eric J. Wesley, host, "Let's Talk Multi-Domain Operations," Modern War Institute Podcast, *United States Military Academy, Modern War Institute*, February 24, 2020, accessed April 4, 2020, <https://podcasts.apple.com/us/podcast/modern-war-institute/id1079958510?i=1000466591730>.

The richest and most complex characterization of American military thought, however, is Brian Linn's *Echo of Battle*. Linn describes three co-existing intellectual traditions whose relative influence has varied over time which make up the "army way of war." The engineer-minded *Guardians* view war as an art and science, subject to laws and principles to be applied by skilled practitioners.¹⁰⁵ Napoleon could be thought of as their archetype. The Guardians tend to display the technocentrism noted by Kagan, Mahnken, Gray, Leonhard and Vandergriff. They also display a disdain for unconventional operations and for limited application of military force. The romantically-minded *Heroes* emphasize the human element of war—it is chaotic, violent, and emotional, and it is the intangibles such as genius, courage, morale, and discipline that determine victory. George S. Patton can be seen as the Heroes' exemplar.¹⁰⁶ The tactical and battle-centric focus noted by Cathal, Gray and Echevarria is evident in the Heroes' ideology. Lastly, the organizationally minded *Managers* see war as a matter of shaping and setting conditions with force structure and composition to pre-determine outcomes. The Managers' ideal can be found in George C. Marshall or Dwight D. Eisenhower.¹⁰⁷ The Managers continually search for the next big structure or organizational concept—even if it is merely "re-arranging the spaghetti."¹⁰⁸ Linn predicted the Managers would emphasize a "refocus on large-unit, high-tech conventional operations, and raise the specter of an expansionist China or resurgent Russia," precisely what is currently occurring.

These trends in American military thought create a framework within which ideas for the application of military force are generated, solutions to military problems are formulated, and decisions about risk are assessed. What emerges from this framework is an approach to warfare

¹⁰⁵ Brian McAllister Linn, *The Echo of Battle: The Army's Way of War* (Cambridge, MA: Harvard University Press, 2007), 5-9.

¹⁰⁶ Linn, 212.

¹⁰⁷ Linn, *The Echo of Battle: The Army's Way of War*, 5-9.

¹⁰⁸ *Ibid.*, 242.

that is expeditionary and offensive, focusing on regular/conventional warfare. It is capabilities-based, seeks technocentric solutions - but an orthodox application of new technologies, and displays a preference for firepower, especially for precision fires. It idealizes mass, or overwhelming forces/fires to create overmatch, in order to keep combat actions swift and casualties low. This form of warfare emphasizes combined arms and joint integration, which it synchronizes through exquisite command and control systems, and supports through comprehensive logistical systems – an approach that the military uses across the full range of military activities, beyond armed conflict. This framework of warfare envisions a rapid, decisive campaign of overwhelming force against a symmetrical peer adversary. This framework has driven institutional force development decisions, operational thinking, and even cultural customs and values.

Cultural Artifacts – Manifestations of the Army’s Underlying Perspectives

The customs, traditions, and experiences emphasized by the Army offer the most palpable example of its beliefs and values. These values center around the conventional state-on-state large scale wars, of which World War II is the epitome. Carl Builder noted that, “something happened to the Army in its passage through World War II that it liked; and it has not been able to free itself from the sweet memories of the Army that liberated France and swept victoriously into Germany.”¹⁰⁹ Nowhere is this more clearly suggested than in the Army’s ongoing transition of its service uniform to “Army Greens,” a replication of the World War II era “Pinks and Greens.” The Sergeant Major of the Army stated that the uniform “represents our tradition and history.”¹¹⁰ The uniform is meant in his words to enhance recognition of the Army’s service to the nation and evoke the feelings created by our victory in World War II. This is telling in light of the

¹⁰⁹ Builder, 38.

¹¹⁰ Meghann Myers, "New in 2019: The New Army Greens Uniform Is Scheduled for a Grand Summer Debut," *Army Times*, January 4, 2019, <https://www.armytimes.com/news/your-army/2019/01/04/new-in-2019-the-new-army-greens-uniform-is-scheduled-for-a-grand-summer-debut/>.

nation's recent difficulties in achieving victory against non-state actors. Uniforms are inherently symbolic and what they reference indicates our underlying values. The return of the uniform suggests to some a desire to leave behind the "grinding and divisive" wars of the past generation and harken back to the nation's last "total victory in a major war."¹¹¹ The uniform choice seems to give form to an underlying discomfort with limited objectives, conflicts outside major war, and open-ended competition and a yearning for simple, unambiguous, straightforward challenges, enemies and conflicts, or "real wars." The time and resources being spent on a new uniform while the Army is in the midst of addressing readiness challenges, undergoing modernization, and being operationally engaged speaks to the power and pervasiveness of the current paradigm and the narrative that accompanies it.¹¹²

Another area where a paradigm's conceptual undercurrents can be witnessed is in stories that an organization tells. Peter Mansoor points out the emphasis on Civil War, World War I and World War II campaigns but relatively little on the pacification of the Native Americans, Filipino guerillas and military assistance missions to Greece and other countries.¹¹³ The 2017 version of Field Manual 3-0 where the LSGCO made its first appearance is elucidating in its sub-text—World War II General Douglas MacArthur and Civil War General William T. Sherman are the most frequently referenced, with World War II General George S. Patton following.¹¹⁴ The array of vignettes also follows a similar pattern with 15 of 18 vignettes focused on large scale conventional combat operations and three on other forms of conflict - with only one reference to Russian intervention in Ukraine but four discussions of World War II, three references to Desert

¹¹¹ Dave Phillipps, "To Stand out, the Army Picks a New Uniform with a World War II Look," *New York Times*, May 5, 2019, accessed January 23, 2020, <https://www.nytimes.com/2019/05/05/us/new-army-greens-uniform.html>.

¹¹² Dr. James Greer has observed that there is an interesting correlation in periods of strategic uncertainty and the fielding of a new uniform. James K. Greer, *Phone Conversation with Author* (March 28, 2020).

¹¹³ Mansoor, 300.

¹¹⁴ US Department of the Army, Field Manual (FM) 3-0, *Operations* (Washington, DC: Government Printing Office, 2017).

Shield and Desert Storm, and two to the 2003 invasion of Iraq. The 2019 version of the doctrine removed the explicit references, but the content of the doctrine remained the same, its only significant change being its modification to incorporate ideas and language from the Multi-Domain Operations concept, which shares a similar narrative and thematic thrust.

The emphasis on World War II is evidenced elsewhere. The Army recently published a seven-volume essay collection on large scale combat operations. The most referenced conflicts were World War II (24 vignettes), followed by WWI (13 vignettes), the Gulf War (seven vignettes), Operation Iraqi Freedom (seven vignettes) and the Korean War (six vignettes). The two world wars were referenced more heavily than every other conflict combined. In contrast, contemporary Russian operations were mentioned only in three instances, while the 1973 Arab-Israeli War was discussed four times.¹¹⁵ It is of course logical that literature focusing on large scale combat operations would emphasize case studies wherein combat operations by large formations were the primary means of conflict; however, the emphasis placed on these operations in doctrine and education highlights that this is the means of conflict envisioned today as well, despite contemporary operations which may indicate otherwise.

In his essay examining preparation for combat after Vietnam, Vought discussed the imbalance in professional military education in class hours spent on low-intensity conflict versus high-intensity conflict and concluded there was a neglect of the former.¹¹⁶ Similarly, the US Army currently has no dedicated classes in limited-contingency operations in its education for mid-grade leaders at the Command and General Staff College. Within the curriculum, the emphasis is on Large Scale Combat Operations (LSCO), both in classwork, readings, and exercises.

The emphasis on LSCO also holds true for the future operational planners attending the

¹¹⁵ *Large Scale Combat Operations*, 7 vols. (Fort Leavenworth, KS: Army University Press, 2019).

¹¹⁶ Vought, 29-30.

Advanced Military Studies Program at the School of Advanced Military Studies (SAMS). Brian Linn states that, at its inception, SAMS students' "entire education was directed at mastering modern warfare," clinging to this vision even in the face of evidence that the Army was "far more likely to encounter other ways of war."¹¹⁷ He notes a student admitting fifteen years after SAMS' inception that, of 11 significant military operations since the course began, only Desert Storm resembled what was taught at the school.¹¹⁸ While the Army has emphasized in doctrine a requirement to "maintain" its proficiency in limited contingency operations, it appears to be doing little, institutionally, to ensure this, if such a proficiency even still exists.

Policy Discourse – The War For Which The Army's Strategic Sponsor is Directing It To Prepare

Army culture is not the only influence on its paradigm of conflict. As a subservient organization to the state and its political leaders, the Army is very much guided by the directions provided by its strategic sponsors. That guidance has been quite clear for the past decade: prepare for peer competition with great powers.

Despite the failure to achieve stated political aims in the current conflicts in Afghanistan and Iraq, the application of lessons learned to better prepare for future conflicts of this nature has not been a focus. Instead, policymakers have been directing the Army's attention away from such conflicts since the Obama Administration. The 2012 Defense Strategic Guidance and the Army's response to it, the 2014 Strategic Planning Guidance, both emphasized that the Army will no longer be structured and sized for large-scale counterinsurgency operations.¹¹⁹ On its first page, the Summary of the 2018 National Defense Strategy (NDS) warns that "Inter-state strategic

¹¹⁷ Linn, 212.

¹¹⁸ Ibid.

¹¹⁹ Michael O'Hanlon, "The Future of Land Warfare", posted January 16, 2016, accessed 08 December, 2019, <https://youtu.be/vF3g-3famd0>; The White House, *Sustaining U.S. Global Leadership: Priorities for 21st Century Defense* (Washington, DC: Government Printing Office, 2012), 6; US Department of the Army, *Army Strategic Planning Guidance* (Washington, DC: Government Printing Office, 2014), 2.

competition, not terrorism, is now the primary concern in U.S. national security.”¹²⁰ The document characterizes “the *reemergence of long-term, strategic competition* [emphasis in original document]” by the *revisionist powers* of China and Russia as “the central challenge to U.S. prosperity and security.”¹²¹ The *rogue states* of North Korea and Iran are likewise emphasized to a far greater extent than either of the current conflicts or potential terrorist threats. The Description of the National Military Strategy (NMS) follows suit, only mentioning two adversaries directly—China and Russia—but doing so twice in its six pages.¹²²

The Army has responded to this guidance with enthusiasm. In the 2019 Army Posture Statement, the Secretary of the Army and Chief of Staff of the Army assure the political leadership that the Army is “Aligned with the National Defense Strategy,” and “pursuing a path to ensure we stay ahead of our competitors and remain ready and lethal into the future.”¹²³ The Army leadership envisions doing this through three priority areas:

...building readiness for **high-intensity conflict against strategic competitors**; modernizing our doctrine, equipment, and formations **to conduct multi-domain operations**; and reforming our personnel system, business processes, and fiscal management to ensure our resources are put towards the highest priority activities [emphasis added].¹²⁴

The 2018 Army Vision explicitly describes the character of war it is preparing for and its response. The senior leaders of the Army emphasize the organization’s focus on what is being termed “the Big War” in writing that, “the Army of 2028 will be ready to deploy, fight, and win decisively against any adversary, anytime, and anywhere, in a joint, multi-domain, high intensity conflict, while simultaneously deterring others and maintaining its ability to conduct irregular

¹²⁰ *Summary of the 2018 National Defense Strategy of the United States of America: Sharpening the American Military’s Competitive Edge*, 1.

¹²¹ *Ibid.*, 2.

¹²² *Description of the National Military Strategy*, 2-6.

¹²³ US Department of the Army, *The Army Posture Statement* (Washington, DC: Government Printing Office, 2019), 1.

¹²⁴ US Army, *The Army Posture Statement*, 1.

warfare.”¹²⁵ The priority here is clear.

The Army Vision then goes on to demonstrate its capabilities-based approach in stating that “The Army will do this through the employment of modern manned and unmanned ground combat vehicles, aircraft, sustainment systems, and weapons, coupled with robust combined arms formations and tactics based on a modern warfighting doctrine...”¹²⁶ The Vision details not only a growth of the Army, but a reorganization of the force. This reorganization consists of increased combat arms in formations to include armor, artillery, engineers and air defense assets, an emphasis on Brigade through Corps intelligence surveillance and reconnaissance (ISR), electronic warfare (EW) and cyber capability, availability of aviation, combat support and logistics units. While military tools can be applied in many ways, the scheme of reorganization here is clearly nested with the large-scale ground combat operations against a near-peer competitor.

There are exceptions to this focus, the Security Force Assistance Brigades offer an example, but the existence of these brigades serves a two-fold purpose which supports the LSCO construct: first they free up Brigade Combat Teams to focus on training for LSCO and second they create a cadre force that can easily be filled with soldiers and become a combat brigade. Another exception is the special operations enterprise, which continues to be funded well, has expanded significantly, and will continue to have roles across the spectrum of conflict. But these cases offer the exceptions that demonstrate the rule.

Thus, the discourse between policymakers and Army leadership and the Army’s statements about itself clearly reflect a consensus. The strategic focus of the nation and the Army is shifting to peer/near-peer competitors and the expectations about the character of conflict are that it will revolve around large-scale, high-intensity, conventional combat operations. While

¹²⁵ US Department of the Army, *The Army Vision* (Washington, DC: Government Printing Office, 2018), 1.

¹²⁶ *Ibid.*

declaratory policy is one form of evidence for the Army’s understanding of conflict, it is also important to “follow the money” to see where real investments are being made.

Acquisitions – The War the Army is Being Equipped to Fight

What the military is being funded for and what it is requesting funds for offers a concrete insight into how it is expected and expects to operate. How the Army is organized and equipped indicates the character of the conflict it is preparing to fight—but in a certain amount of self-fulfilling prophesy, how the Army is organized, equipped, and develops leaders provides the tools that frame its approach to solving problems and, to a degree, places constraints on what it can and cannot do. As the saying goes, when one only has a hammer, all one sees are nails.

The FY 2020 National Defense Authorization Act (NDAA) makes the policy discourse’s focus on strategic competitors even more apparent. The document echoes the National Security Strategy (NSS) in identifying “long-term, strategic competition with China and Russia as the central challenge presently facing U.S. security and prosperity.”¹²⁷ The NDAA then goes on to emphasize capabilities explicitly or implicitly tied directly to “the high-end fight” with China and Russia.¹²⁸ The document discusses maximizing cruise missile production and increasing research for hypersonic and directed energy weapons.¹²⁹ The NDAA allocates funding for increased numbers of F-35 Joint Strike Fighters and directs the Air Force to finalize an optimal number of these fighters and B-21 strategic bombers, “in regards to the strategic threat from peer competitors like China and Russia.”¹³⁰ Modernization of Virginia-class attack submarines and twelve additional ships for the Navy are also funded. For the Army, 48 additional AH-64 attack helicopters, Paladin self-propelled howitzers, counter-fire radars, and the Stryker 30mm cannon

¹²⁷ US Senate, Senate Armed Service Committee, *FY 2020 National Defense Authorization Act Executive Summary* (Washington, DC: Library Of Congress, 2019), 4.

¹²⁸ *Ibid.*, 5.

¹²⁹ *Ibid.*

¹³⁰ *Ibid.*, 6.

upgrade are all addressed.¹³¹ Assessments of Russian and Chinese nuclear capabilities are directed, limitations on bilateral-cooperation with Russia are extended, and increased mil-to-mil cooperation across the Indo-Pacific are expanded by eight additional nations.¹³² Support for the Army Multi-domain Task Force is highlighted as well as funding to transition to smaller, more-dispersed basing across the Pacific.¹³³ While capabilities for high-end combat are mostly applicable to lesser-included requirements, from peacekeeping to counter-insurgency, the overwhelming emphasis of the document in equipping the military for the conventional high-intensity threats from Russia and China highlights the focus policymakers are providing to the Army.

The Army modernization priorities, published by the Chief of Staff of the Army and the Secretary of the Army in 2017, further emphasize the capabilities-based approach to warfare characterized in the NDAA and strategic guidance.¹³⁴ Army leadership states, “Today, our Army is not institutionally organized to deliver modern critical capabilities to Soldiers and combat formations quickly,” and lists priority systems to address the Army’s “eroding” advantages against peer adversaries and “regain out competitive advantage.”¹³⁵ The priorities listed are, for the most part, capabilities most relevant to high-intensity conflict and all the capacities are described in the language of providing capability against near-peer threats: Long Range Precision Fires capability, a Next Generation Combat Vehicle, Future of Vertical Lift platforms, an Army Network, Air and Missile Defense, and Soldier Lethality.¹³⁶ The focus on these “Big Six” capabilities implies a conception of warfare that has remained constant since the “Big Five” of

¹³¹ *FY 2020 National Defense Authorization Act Executive Summary*, 6-8.

¹³² *Ibid.*, 5-10.

¹³³ *Ibid.*, 4.

¹³⁴ US Department of the Army, *Modernization Priorities for the United States Army*, by Mark A. Milley and Ryan D. McCarthy (Washington, DC: Government Printing Office, 2017), 1-2.

¹³⁵ *Ibid.*

¹³⁶ *Ibid.*

the 1970s, which included two ground combat vehicles (the Abrams and the Bradley), vertical lift (the Blackhawk), Air and Missile Defense (Patriot), and a fires system (in the form of attack aviation in the Apache). One could add a sixth system under the long-range precision fires category with the Multiple Launch Rocket System, also conceived and developed in this period.¹³⁷ However, unlike the process in the 1980s, where a doctrine was developed and the technology already in development was mated to it, the opposite approach appears to be being pursued today. The current approach seems to envision technological capability and then doctrine is being written to accommodate it, even if that technology or its feasibility has yet to be demonstrated.

The impetus for the focus on acquiring these systems is their existence in peer competitor inventories.¹³⁸ In some cases, capabilities are assumed necessary a priori rather than emerging after a deliberate and rigorous gap-analysis. To remedy this, Army Futures Command is developing its Top-Down Futures Development Process to address acquisitions issues.¹³⁹ After understanding national strategic guidance as encapsulated in the NSS, NDS, and NMS, baseline scenario assessment would occur, providing evidence-based assessments of current forces against threats identified in the strategic documents to see where capability gaps occur.¹⁴⁰ The process is repeated with more distant time frames to take into account planned changes. This then drives development of solutions, testing of those solutions and finally adjustments to DOTMLPF-P (doctrine, organization, training, materiel, leadership and education, personnel, facilities, and

¹³⁷ David C. Trybula, *"Big Five" Lessons for Today and Tomorrow* (Alexandria, VA: Institute For Defense Analyses, 2012), 3-4.

¹³⁸ US Department of the Army, *Army Combined Arms Operations above Brigade, 2025-2045: Winning the Continuum of Competition* (Fort Leavenworth, KS: US Army Combined Arms Center, 2018), 7.

¹³⁹ US Department of the Army, *Army Futures Command Top-Down Futures Development Process* (Austin, TX: US Army Futures Command, 2019), 1-5.

¹⁴⁰ *Ibid.*, 7-23.

policy).¹⁴¹ But this process is currently being developed and is not what led to the Army's modernization priorities. Rather, these were inspired by the same logic prevalent in the post-Vietnam era, namely the specter of adversaries who had taken advantage of America's involvement fighting insurgency to modernize for conventional war, threatening American dominance.

This line of thought is clearly evident in the current assessment by the US Army Combined Arms Center which has identified what it calls "17 Large Scale Combat Operations Gaps."¹⁴² These capabilities all revolve around intelligence gathering and targeting, survivability, mobility, firepower and sustainment of Theater and Field Armies, Corps, and Divisions. Air and Missile Defense at echelon, long-range fires, deep-seeing sensors, and means to command and control large formations all figure prominently, nesting with the Army's stated priorities. Further, they nest with the Army future concept of MDO which will be discussed later.¹⁴³ As with policy discussion, the manner in which the Army is being equipped and the way it is asking to be equipped makes it clear that it is focused on capabilities to conduct large-scale ground combat operations against near-peer/peer competitors, namely China and Russia. Thus in terms of culture and education, strategic outlook, policy direction and arming itself, there is a coherence in the Army's approach to warfare. But internal coherence is only one aspect of an organization's efficacy; external validity of its actions, their applicability to reality, is also necessary for relevance.

¹⁴¹ *Army Futures Command Top-Down Futures Development Process*, 7-15.

¹⁴² US Department of the Army, *17 Large Scale Combat Operations Gaps: Advanced Strategic Leadership Studies Program Address*, by Mike Lundy (Fort Leavenworth, KS: US Army Combined Arms Center, 2019).

¹⁴³ *17 Large Scale Combat Operations Gaps: Advanced Strategic Leadership Studies Program Address*.

The Changing Character of Conflict - The War the Army is Likely to Fight

Having assessed the Army's underlying assumptions about and responses to its view of war, warfare and competition in the previous sections, it must be asked whether the nature and character of contemporary conflict accord with these assumptions. As many have noted, defeating an attack by a peer adversary is not the most likely scenario the Army will encounter.¹⁴⁴ Interstate wars between great powers have been trending downwards for 500 years.¹⁴⁵ Interstate wars have declined over the past sixty years; civil wars have increased, though they too have dropped in the last thirty years; and deaths within wars have declined since World War II.¹⁴⁶ The character of conflict continues to evolve, while conventional warfare will certainly not go away, other forms are becoming increasingly more common. The U.S. has evidence of this in its own experience. In the last sixty years, the US Army has spent fewer than six months engaged in high-intensity conventional combat operations while spending more than twenty-seven years engaged in major unconventional operations. And this calculation even excludes numerous humanitarian assistance and peacekeeping operations. In other words, over the past sixty years, the U.S. has spent more time fighting irregular conflicts than conventional warfare by a factor of 50. Martin van Creveld has pointed out that, if war is about achieving policy goals, then low-intensity conflicts have been the most politically significant form of war waged since 1945, being the dominant instrument of

¹⁴⁴ John Vrolyk, "Insurgency, Not War, Is China's Most Likely Course of Action," (December 19, 2019), accessed December 19, 2019, <https://warontherocks.com/2019/12/insurgency-not-war-is-chinas-most-likely-course-of-action/>; Timothy L. Thomas, "Russian Forecasts of Future War," *Military Review* 99, no. 3 (2019): 86.

¹⁴⁵ Will Koehrsen, "Has Global Violence Declined? A Look at the Data," (January 5, 2019), accessed February 16, 2020, <https://towardsdatascience.com/has-global-violence-declined-a-look-at-the-data-5af708f47fba>.

¹⁴⁶ Steven Pinker, "Graphic Evidence: Steven Pinker's Optimism on Trial," *The Guardian*, September 11, 2015, <https://www.theguardian.com/commentisfree/ng-interactive/2015/sep/11/graphic-evidence-steven-pinkers-optimism-on-trial>.

bringing about political change across the Third World and having consequences recognized by the international community to a much greater extent than conventional wars.¹⁴⁷

Further, an age-old lesson of warfare is that the wise do not seek to challenge their adversaries in a manner in which they are weak and their adversary is strong. Rather, they seek to marginalize adversary strengths and exploit weaknesses. World War II and Desert Storm, upon which the US Army has a special attachment, are the exceptions, not the rule. Military commentators in Russia and China, the U.S.'s acknowledged peer competitors, have explicitly stated that these nations do not intend to play to US strengths and engage in conventional conflict but will resort to other means of competition.¹⁴⁸ The Army's Multi-Domain Operations Concept, which is now being replaced by the Joint concept of All Domain Operations (ADO), acknowledges that peer adversaries, explicitly naming China and Russia, will primarily attempt to achieve their political objectives below the threshold of armed conflict.¹⁴⁹ Readiness for large-scale combat operations seems unlikely to deter adversary actions below that threshold, but rather forces them to act below that threshold. Lastly, considering Russia and China are both nuclear-armed powers, the incentive to avoid open conventional conflict, which has the potential to escalate to the existential threat of nuclear exchange, is significant. It is much more likely that the Army will find itself in conflicts that seek precisely to marginalize its preferred methods of war.

One could argue that conventional war with a peer competitor presents the most dangerous threat that the US Army must face, the only true existential threat, short of nuclear conflict, and that it must prepare for these types of challenges and then can scale down from there. But even if this is so, such a singularly approach may be detrimental, especially considering

¹⁴⁷ van Crevelde, *The Transformation of War*, 21-22.

¹⁴⁸ Qiao Liang and Wang Xiangsui, *Unrestricted Warfare* (Beijing: PLA Literature and Arts Publishing House, 1999); Timothy L. Thomas, "Russian Forecasts of Future War," *Military Review* 99, no. 3 (2019): 86; V. V. Kruglov and V. I. Yakupov, "On the Methodology of Forecasting Armed Struggle," *Voennaya Mysl' (Military Thought)*, no. 3 (2017): 5-6.

¹⁴⁹ US Department of the Army, *The U.S. Army in Multi-Domain Operations 2028 Base Brief V6 (May 2019)* (Austin, TX: US Army Futures Command, Futures and Concepts Center, 2019), vi.

Army statements that our capacity to fight unconventional wars must be maintained.¹⁵⁰ The force buildup of China and Russia seems on the surface to indicate a desire to engage in large scale combat operations, but the purpose behind these efforts could range from deterring US intervention in the region, to an economic project, to coercing the United States into costly arms races. Further, a symmetrical response is not always the best option, especially given that one rarely fights the war they choose.¹⁵¹ More importantly, even without sacrificing capability to wage large scale conventional warfare, the U.S. can still examine its underlying operational logic and understanding of war and warfare.

So, what best explains the Army's fixation on preparing and structuring itself for high-intensity conventional conflict? Justification and competition for budgets is always a consideration, but there is a historical aspect that is likely more significant. Carl Builder argued that the Army's concept of war is that which is least dissonant with its institutional view of itself.¹⁵² Large Scale Combat Operations call for a large army. A war against a near-peer adversary calls for the mix of forces that the Army prefers and around which its culture and function are created—the combat arms: infantry, armor, artillery, aviation. Finally, high-intensity conventional ground combat is the type of war in which the Army remembers itself most positively.¹⁵³ This view is compelling in that it explains external explicit behaviors with underlying self-image. The evidence for this argument of “behavior as manifestation of implicit worldview” will be explored in detail in the following sections.

¹⁵⁰ The Army's investment in and expansion of special operations forces offers an exception to the broader institutional trends.

¹⁵¹ Antulio J. Echevarria II, *Preparing for One War and Getting Another?* (Carlisle, PA: US Army War College, Strategic Studies Institute, 2010), 24-26.

¹⁵² Builder, 138-42.

¹⁵³ Builder, 142.

The US Army's Operational Paradigm – Tactics with Bigger Arrows

With an understanding of the tensions between the Army's understanding of contemporary conflict and the trends of the current environment, it is now possible to discuss the Army's operational thought to see how this contradiction manifests. The Army's operational logic, its operational character, and its operational concepts – past, present, and future – paint a clear picture of the Army's operational thinking and its increasing irrelevance.

The Logic of Tactics

The defining characteristic of the Army's operational thought is that it is not operational at all, but rather is characterized by tactical logic. As several theorists have noted, "This tactical inclination is so persistent as to constitute an institutional learning impediment or disability."¹⁵⁴ This conception is rooted the Army's understanding of conflict. As described previously, the Army's view of war is as an alternative to diplomacy; it occurs when diplomacy has failed. War, rightly fought in the US mindset, is a crusade against evil by society.¹⁵⁵ To the US Army, its nature is inherently physical, it is about destruction, force-against-force, and overpowering the enemy, destroying his capability to resist and imposing one's will upon an opponent defeated by the loss of his mechanisms of violence. The mental and moral domains of war are often ancillary considerations or other means to enhance the physical action. This is the vision in mind when Army personnel describe the Army's role as "fighting and winning the nation's wars," even though the Army's legal requirements are broader and more nuanced than this.¹⁵⁶

Army planning methodologies further reinforce facets of the Army's tactical paradigm. Planning is inherently tactical in its logic; planning is about convergence and problem solving, it

¹⁵⁴ Shimon Naveh, Jim Schneider, and Timothy Challans, *The Structure of Operational Revolution: A Prolegomena* (Washington, DC: Booz Allen Hamilton, Center for the Application of Design, 2009), 7.

¹⁵⁵ T.R. Fehrenbach, *This Kind of War* (Washington, DC: Brassey's, 2000), 289-303.

¹⁵⁶ 10 U.S.C. § 7062 (2020).

is the “how” that flows from the “why” of the operational function. In accordance with the Army’s modernist outlook, Carl Builder noted its “implicit faith in analysis.”¹⁵⁷ But as theorist John Boyd used to joke, to be an analyst was to be a half-wit, as analysis without synthesis was only half of the game.¹⁵⁸ Yet, Army planning methodologies, Troop Leading Procedures (TLPs) and Military Decision-Making Process (MDMP), are profoundly analytical processes. They are linear, rigorous, rational, repeatable, reductionist, problem-solving approaches that grew out of Agrarian and Industrial Age military contexts.¹⁵⁹ These processes are suitable, and necessary, for tactical problems, which have already been framed and where the mission has already been formulated.¹⁶⁰ But imposing a tactical problem-solving process onto operational and strategic thought risks the possibility that, “strategy can become tactics writ large.”¹⁶¹

Ostensibly, the Army Design Methodology (ADM) was created to prevent precisely this issue and provide an appropriate tool for understanding complex, ill-structured operational problems. As the Army’s counterinsurgency manual points out, “Planning applies established procedures to solve a largely understood problem within an accepted framework. Design inquires into the nature of a problem to conceive a framework for solving that problem.”¹⁶² But, in practice, ADM’s approach derives from the same perspectives as planning and is subordinated to

¹⁵⁷ Builder, 38.

¹⁵⁸ John R. Boyd, *Lecture: Discourse on Winning and Losing* (Quantico, VA: USMC Command and Staff College, Marine Corps University, 1989), 2.

¹⁵⁹ William T. Sorrells et al., “Systemic Operational Design: An Introduction” (United States Army School of Advanced Military Studies, 2005), 10-11; US Department of the Army, *Art of Design: Student Text Version 2.0* (Fort Leavenworth, KS: School of Advanced Military Studies, 2009), 11-12.

¹⁶⁰ Stephen J. Gerras, *Thinking Critically About Critical Thinking: A Fundamental Guide for Strategic Leaders* (Carlisle, PA: US Army War College, 2006), 12-13.

¹⁶¹ Sorrells et al., 11.

¹⁶² US Department of the Army, Field Manual (FM) 3-24, *Counterinsurgency (2006)* (Washington, DC: Government Printing Office, 2006), 4-2.

an overarching traditional planning approach.¹⁶³ Further, its language is replaced by familiar terms that attempt to approximate but fails to adequately capture the necessary philosophical meanings.¹⁶⁴ The efforts to reduce design to something familiar and non-threatening had the effect of neutering it, of negating its true utility as a means of providing a holistic understanding of self in relation to context and a means to learn and transform.¹⁶⁵

The *devolution* of design theory in the Army can be witnessed in the transition from the rescinded 2008 Commander's Appreciation and Campaign Design, to the unpublished 2009 FMI 5-2, to ATP 5-0.1 Army Design Methodology.¹⁶⁶ The very publication of design manuals has been referred to as reduction ad absurdum of the concept.¹⁶⁷ The result of this conceptual erosion is a simplified, watered-down version of design, which actually mimics the perspectives, worldview, and approach of traditional planning—the trappings of a new paradigm exist, but underneath the same perspectives and processes continue. The originator of military design has even acknowledged that, "The U.S. military says...Design, but it is a hologram of the promised land rather than the real thing. It is not founded on operational art and systems thinking."¹⁶⁸ The Army is thus creating a false sense of confidence in ability to perform design, for those who have been trained in and practice ADM.

¹⁶³ US Army, Army Doctrine Reference Publication (ADRP) 5-0, *The Operations Process*, 2-1 - 2-24; Aaron P. Jackson, "A Brief History of Military Design Thinking," (February 6 2019), accessed February 9, 2020, <https://medium.com/@aaronpjackson/a-brief-history-of-military-design-thinking-b27ba9571b89>.

¹⁶⁴ Zweibelson, *An Application of Theory: Second Generation Military Design on the Horizon*.

¹⁶⁵ *Art of Design: Student Text Version 2.0*, 13-16.

¹⁶⁶ US Department of the Army, TRADOC Pamphlet 525-5-500, *Commander's Appreciation and Campaign Design* (Fort Monroe, VA: TRADOC, US Army Capabilities Integration Center, 2008); US Department of the Army, Field Manual-Interim (FMI) 5-2, *Design (DRAFT)* (Washington, DC: Government Printing Office, 2009); US Department of the Army, Army Training Publication (ATP) 5-0.1: *Army Design Methodology* (Washington, DC: Government Printing Office, 2015).

¹⁶⁷ Ofra Graicer, "Self Disruption: Seizing the High Ground of Systemic Operational Design," *Journal of Military and Strategic Studies* 17, no. 4 (2017): 22.

¹⁶⁸ Shimon Naveh, "'Beware of the Power of the Dark Side' - the Inevitable Coupling of Doctrine and Design," *Experticia Militar*, no. 2 (2017): 34.

The current emphasis on practical, doctrinal planning skills in the Army's premier operational planning course, the Advanced Military Studies Program, only exacerbates the lack of proficiency in design thinking and the ability to see outside the prevailing system to generate creative and innovative ideas. Further, the utilization tours of the graduates of this program often offer very little operational experience and much of the limited operational education they do receive atrophies as they focus on tactical missions at the division echelon. The feedback from the course from the Army organizations that receive these graduates is highly focused on tactical planning, further elucidating the mindset of the operational force, and reinforcing the current emphases of the course in positive feedback loop, offering little hope for rectification.

The problem of strategy becoming tactics writ large is also readily seen in the way the Army defines the very concept of strategy. The simplistic and formulaic Lykke model, first published in 1989, has become Joint and Army dogma.¹⁶⁹ This model discusses strategy development as combining ways and means to achieve ends, while assessing risk.¹⁷⁰ The model does not produce strategy, but rather an uncreative resource-goal alignment calculation, nothing could be *less* strategic.¹⁷¹

The first issue with this model is that formulae, algorithms, best practices, standard operating procedures and doctrine (all examples of looking at the past to distill a template for future application) are appropriate for the realm of tactics, but not for strategy.¹⁷² As Francois Jullien has highlighted, "The defining characteristic of warfare is the inevitable distance that separates the reality of it from its model. In short, to think about warfare is to think about the

¹⁶⁹ Arthur F. Lykke, "Defining Military Strategy," *Military Review* 69, no. 5 (1989): 2-8.

¹⁷⁰ US Department of Defense, The Joint Staff . Joint Publication (JP) 1, Change 1, *Doctrine for the Armed Forces of the United States* (Washington, DC: Government Printing Office, 2017), II-1 - II-11.

¹⁷¹ Jeffrey W. Meiser, "Ends + Ways + Means = (Bad) Strategy," *Parameters* 46, no. 4 (2017).

¹⁷² Everett Dolman, *Pure Strategy: Power and Principle in the Space and Information Age* (New York, NY: Frank Cass, 2005), 3.

extent to which it is bound to betray the ideal concept of it.”¹⁷³ Strategy is a product of imagination, it is inherently creative, it is about change, and requires novel and specific approaches.¹⁷⁴ The reduction of strategy to a formula is antithetical to its very nature.

A second problem with the US military conception of strategy is its tactical language. The words we use shape how we think.¹⁷⁵ “If you use ‘victory’ in any other context than that of battles and engagements, you are degrading a coherent understanding of the term.”¹⁷⁶ Tactics seeks culmination, strategy seeks continuation.¹⁷⁷ The use of the term ends/endstates in defining strategy both reveals and prompts a discrete and bounded perspective, rather than an understanding of continuing advantage.¹⁷⁸ Victory, culmination, and winning are tactical concepts that have their place in the “grammar and logic of battle, but not so patently of war, and most certainly not in the realm of strategy.”¹⁷⁹

A third issue with the US doctrinal formulation of strategy is that strategy is less concerned with accommodating boundaries than it is with manipulating them; strategy is less about aligning the ways and means that exist than it is about creating, re-envisioning, and transforming them.¹⁸⁰ Tactics is about acting, strategy is about manipulating the structure within

¹⁷³ Some scholars will assert that Carl von Clausewitz’s comments about war as “more than a true chameleon” reflect this same understanding. The author contends that this interpretation is an example of the ideas of a revisionist school of modern Clausewitzian disciples (the religious connotation is intended) who tend to project more clarity, consistency, and modern ideas onto the Prussian thinker’s past works than is warranted. Clausewitz certainly did not conceive of the *nature* of war changing to the extent that Jullien asserts. Jullien, *A Treatise on Efficacy: Between Western and Chinese Thinking*, 11.

¹⁷⁴ Dolman, 1-4.

¹⁷⁵ Ludwig Wittgenstein is reputed to have said, “If we spoke a different language we would perceive a somewhat different world,” and in his *Tractatus* noted that, “the limits of the language...mean the limits of my world.” Ludwig Wittgenstein, *Tractatus Logico-Philosophicus*, trans. C.K. Ogden (Mineola, NY: Dover Publications, 1999).

¹⁷⁶ William F. Owen, “Victory Is Not Success,” *British Army Review*, no. 176 (2019): 29.

¹⁷⁷ Dolman, 4-9.

¹⁷⁸ Simon Sinek, *The Infinite Game* (New York, NY: Portfolio, 2019), 1-27.

¹⁷⁹ Dolman, 6-9.

¹⁸⁰ *Ibid.*, 5-7.

which actions take place.¹⁸¹ This understanding has been analogized with the *chess masters*, who excel by operating within the rules of the game, and the *game designers*, “who find better games to play, rewriting the rules, and forcing the enemy to play games that favor our strengths and advantages more than theirs.”¹⁸² Chess masters are tacticians; game designers are strategists. Finally, it is also important to note not just what the Army discusses, but what it does not. Carl Builder has observed that, unlike the Navy and the Air Force, the Army does not have a service strategy, in terms of a theory of land power; instead it has operational concepts.¹⁸³

In turning to operational art, we find the same problematic conceptualization of strategy in the Army’s even more problematic definition of operational art: “The cognitive approach by commanders and staffs—supported by their skill, knowledge, experience, creativity, and judgment—to develop strategies, campaigns, and operations to organize and employ military forces *by integrating ends, ways, and means*.”¹⁸⁴ Operational art is further described as encompassing “all levels, from strategic direction to tactical actions.”¹⁸⁵ There are several significant problems with this construction.

First, the idea that the cognitive processes of tactical, operational, and strategic thinking are analogous is deeply flawed. As demonstrated by the growing literature on the need for strategic thinking in the Army, the creation of a separate career field specifically for strategists,

¹⁸¹ Dolman, 4.

¹⁸² David Lyle, “Chessmasters and Game Designers, and Why Sound Strategy Requires Both,” *The Strategy Blog* (blog), February 28, 2018, accessed April 27, 2020, <https://community.apan.org/wg/aucoi/strategy/b/announcements/posts/chessmasters-and-game-designers-and-why-sound-strategy-requires-both>.

¹⁸³ Builder points to JC Wylie for explanations: the soldier doesn’t traditionally separate battles and campaigns (tactics and operations) and divides these from strategy through geographic/spatial terms; the soldier doesn’t separate tactics from strategy by whether forces are in contact or not as with the Navy and Air Force, but rather by echelon of command, generally believing himself in the tactical realm and strategy a matter for higher echelons; the Army doesn’t control its supporting air and naval resources and thus cannot define war on its own terms. Builder, 88; J.C. Wylie, *Military Strategy: A General Theory of Power and Control* (Annapolis, MD: Naval Institute Press, 1989), 41-48.

¹⁸⁴ US Army, FM 3-0 (2019), 2-1.

¹⁸⁵ *Ibid.*, 2-2.

increasing Army efforts to identify, and quantify, field grade leaders' potential for strategic leadership, as well as the creation of schools to teach operational art, tactical, operational and strategic thinking all differ in context, structure, function and process [See Figure 1]. One operational theorist has offered a simple analogy with architecture to capture this difference.¹⁸⁶ The higher commander/strategist and the entrepreneur envision the project and set the aims; the tactical commander and the craftsman are the agents of action, they perform the mechanical work; the architect or operational artist understands, defines, and interprets the problem, creating the bridge that links the concrete/mechanical actions of the tactician and the craftsman to the abstract/conceptual aims of the strategist/entrepreneur. These roles require very different skill sets, perform very different functions, and operate through very different cognitive processes, which is why describing all of them as operational art is incoherent.

¹⁸⁶ Yotam Feldman, "Dr. Naveh, or, How I Learned to Stop Worrying and Walk through Walls," *Haaretz*, October 25, 2007, <https://www.haaretz.com/1.4990742>.

Relating Tactical, Operational, and Strategic Thought			
	Tactics	Operational Art	Strategy
	←---Interaction Between Concepts---→		
The Structure of Operational Revolution	Morphos tactical form	Logos operational structure	Telos strategic purpose
In Pursuit of Military Excellence: The Evolution of Operational Theory	Concrete / Mechanical consists of mechanical performances like movements, launches of fires and other energies, maintenance or seizure of space	Systems Thinking serves to interpret military implications of political decisions through dialectical thinking; synchronizing different categories of time (strategic and tactical)	Abstract / Conceptual Consists of the abstract aims, capabilities, and limitations
Naveh's Analogy	Artisan / Craftsman the do-er; executes the plan; performs the actions of construction	Architect understands the problem, defines it, and interprets it; allows entrepreneur and craftsman to communicate	Entrepreneur Desires change; envisions the project, sets the goals
Dolman's Types of Decision-making	Tactical Decision-making seeks answers; seeks culmination; concentrates on determining actions to be taken; focused on action and decision; temporally bound	Operational Decision-making links logic of tactics to policy aims of the war; purpose is to command or contest medium in which forces operate; allows tactical and political aims to remain at odds logically but converge practically	Strategic Decision-making seeks questions; seeks continuation; concentrates on manipulating structure in which actions occurs; focused on interaction and conditions; continual and un-ending; concerned with infinite time
T.E. Lawrence's Elements of War	Algebraic the algebraic element of things: "a pure science, subject to mathematical law...it dealt with known variables, fixed conditions, space and time; essentially formulable"	Biological a biological element of lives: the human domain where beings translate ideas into action; the realm of cohesion, morale, and command; the domain of chance and genius	Psychological the psychological element deals with the uncontrollables, subjects incapable of direct command; concerns "the arranging of minds" - enemy, own troops, friendly and enemy populations
John Boyd's Modes of Warfare	Physical represents the world of matter-energy-information all of us are a part of, live in, and feed upon	Mental represents the emotional/intellectual activity we generate to adjust to, or cope with, that physical world	Moral represents the cultural codes of conduct or standards of behavior that constrain, as well as sustain and focus, our emotional/intellectual responses
Bloom's Revised Taxonomy of Learning	Psycho-motor Domain concerned with manual or physical skills; measured in terms of speed, precision, distance, procedure and technique	Cognitive Domain concerned with intellectual skills and the acquisition of knowledge; analysis & synthesis; evaluation and application	Affective Domain Concerned with feelings, values, appreciation, motivation, attitudes
Argyris & Shon's Loops of Learning	Single-loop Learning concerns error correction; seeks internal coherence; is about "Are we doing things right?"	Double-loop Learning concerns innovation/adaptation; seeks external validity; asks "Are we doing the right things?"	Triple Loop-learning concerns transformation/paradigm shift; seeks meta-perspectives; asks, "How do we know what we know?"
Sinek's Golden Circle	What? Product/Service	How? Process	Why? Purpose, Cause, Belief
Gracier's Tensions	Tactics oppresses tensions	Operations mediates tensions	Strategy leverages tensions
Aristotle's Type of Knowledge	Techne <i>techne</i> is craft/art - it is the root of the words technique and technology	Phronesis <i>phronesis</i> describes practical understanding; it is situational/contextual; a means to an end; ability to determine ends consistent with the overall aim	Sophia wisdom; comprised of ability to discern reality (<i>nous</i>) and knowledge (<i>episteme</i>);
Aristotle's forms of Human Activity	Praxis <i>praxis</i> is about action, about process, about doing	Poiesis <i>poiesis</i> is about production and creation; it is about bringing into being something that has not existed before; goal oriented; relates to translating action into something useful	Theoria <i>theoria</i> is about thinking and learning
Fundamentals of Perspective	Epistemology concerned with knowledge and its methods; belief vs opinion	Ontology concerned with being, becoming; properties and relations between concepts and categories	Axiology concerned with values and valuation

Figure 1 Relating Tactical, Operational, and Strategic Thought, table created by author.

Second, applying the technical rationality-based ends-ways-means formula beyond its appropriate jurisdiction (tactics) to operational art is misguided in the same manner as in applying it to strategy, which has already been addressed above.¹⁸⁷ Lastly, the definition simply includes far too much extraneous information—discussing the agents who should/do practice operational art (commanders and staffs) and the supposed aids to the process (skill, knowledge, experience, creativity and judgment). In short, the definition is so cumbersome, expansive, and unclear that it

¹⁸⁷ Alex Ryan, "A Personal Reflection on Introducing Design to the U.S. Army," *The Overlap* (blog), November 4, 2016, accessed February 9, 2020, <https://medium.com/the-overlap/a-personal-reflection-on-introducing-design-to-the-u-s-army-3f8bd76adcb2>.

becomes meaningless. A far better approach would be to define a broad “military art” and then have useful distinctions between tactical, operational, and strategic thinking based on function and process. For practical and immediate value, the original formulation of operational art, from the 1986 manual, is far superior: “Operational art is the employment of military forces to attain strategic goals, in a theater of war or theater of operations, through the design, organization, and conduct of campaigns and major operations.”¹⁸⁸

Beyond the definition, however, Army operational design tools have long been acknowledged to be incapable of providing commanders and planners with means of designing appropriate, effective, coherent campaigns across the spectrum of conflict.¹⁸⁹ The *Elements of Operational Art*, for example, offer clear demonstration of the Army’s understanding of operational art as merely “tactics with bigger arrows.”¹⁹⁰ Decisive points, lines of operation, operational reach, and basing are Jominian concepts regarding movement in physical space.¹⁹¹ These concepts, as well as tempo, culmination, phasing and transition, and risk, do not capture the unique aspects of operational thought but instead are merely the same scaled-up considerations that characterize tactical thought. Center of Gravity is a Newtonian 18th century concept with so many competing definitions that it provides more confusion than utility. It is purported to be systems-based but is anti-systemic in its nature, making implications contrary to the very definition of complex adaptive systems.¹⁹² The concept thus creates a danger for those utilizing it of generating anti-systemic conclusions masquerading as products of systems thinking. Though

¹⁸⁸ US Department of the Army, Field Manual (FM) 100-5, *Operations* (Washington, DC: Government Printing Office, 1986), 9.

¹⁸⁹ James K. Greer, "Operational Art for the Objective Force," *Military Review* 82, no. 5 (2002): 23-26.

¹⁹⁰ Naveh, Schneider, and Challans, 7.

¹⁹¹ Some have even gone as far as to refer to these concepts as “Jominian trash.” Shimon Naveh, "Rhizomic Maneuver," *The Agoge* (blog), May 28, 2017, accessed October 17, 2019, <https://medium.com/the-agoge/rhizomic-maneuver-119de7afcf20>.

¹⁹² Greer, "Operational Art for the Objective Force," 29.

somewhat a semantic issue, the concept of endstates has already been discussed as tactical in its finite nature. The elements of operational art are confused, incoherent extrapolations of tactical ideas outside their appropriate level of abstraction.

Operational art should instead be defined by what makes it distinct from tactics *and* from strategy, by what allows it to connect with and align to each, and by *how* it is able to reconcile the two. The Army's definitions, frameworks, and discussions fail to address these aspects to any significant degree. Instead, the Army's definition and descriptions have much less to do with connecting tactical aims to strategic ends and much more to do with the deployment and maneuver of large formations, which ultimately ends up being the practical understanding of operational art in the US Army.¹⁹³ The result is an unsurprising dearth of operational understanding and a pervasive tactical bias across US Army thought.

In his introduction to the writings of G.S. Isserson, one of the exponents of operational art, Dr. James Schneider has highlighted four areas of cognition where tactical bias can be found. First, he notes that the way we structure the world becomes the core of our thinking, leading often to the *fallacy of genetic composition*, "a false belief that what is true of our tactical past will hold true of our expanded operational and even strategic future."¹⁹⁴ We assume that, "What is true of the tree is true of the forest; what is true of the platoon is true of the army, etc."¹⁹⁵ But this thinking ignores emergences that exist at scale. The lessons of tactics cannot be extrapolated to the very different operational and strategic environments.

Schneider also notes that while the levels of war are "distinct and coherent" modes of thought and levels of abstraction, the Army trains almost exclusively to the tactical level of

¹⁹³ For a more theoretically rigorous approach to conceptualizing operational art, see Naveh, Schneider, and Challans, 32-48; Also see, Shimon Naveh, *Operational Art and the IDF: A Critical Study of a Command Culture* (Washington, DC: Center for Strategic & Budgetary Assessment, 2007), 82-86.

¹⁹⁴ James J. Schneider, "Introductory Essay," in *The Evolution of Operational Art* (Fort Leavenworth, KS: Combat Studies Institute Press, 2013), x-xi.

¹⁹⁵ Naveh, Schneider, and Challans, 7.

abstraction.¹⁹⁶ Milan Vego reinforces this point writing, “Although operational thinking is one of the most critical factors for success, whether in peacetime or time of war, many operational commanders have remained essentially captives of their narrow tactical perspective.”¹⁹⁷ It is instructive that the Army’s highest echelon training program, for Corps and Divisions, the Mission Command Training Program, does not include the design or conduct of the campaign but is only focused on the actual battle.¹⁹⁸

This focus on the tactical level of abstraction often results in leaders who are quite intelligent, but are “wised-up” tacticians, schooled in the practical, problem-solving mindset of the engineer, but not trained in theory construction, analysis-synthesis, discernment, appreciation or judgment, which are required for operational and strategic thinking.¹⁹⁹ Instead, where Army leaders display these qualities it is in spite of, not because of, the Army’s education and selection systems. This phenomenon is not new. Writing in 1866, General Sir Edward Bruce Hamley described the shortcomings of the archetype of the “wised-up” tactician: the valiant, devoted, practiced and successful field commander cannot be successful in higher command if he has not developed a mind capable of comprehensive views, deep study, and knowledge of great combinations—for him strategy would be a sealed book.²⁰⁰

The third area Schneider highlights is the Army’s emphasis on the “heroic” model of leadership which remains the tactical ideal. This is the same model of leadership that inspires Linn’s school of military thought of the same name. This style of leadership is that of the Fire Team Leader; it is an up front, personal, direct and centered on emotionally-derived motivation; it

¹⁹⁶ Schneider, x-xi.

¹⁹⁷ Milan N. Vego, "Systems Versus Classical Approach to Warfare," *Joint Force Quarterly*, no. 52 (2009): 44.

¹⁹⁸ Greer, *Phone Conversation with Author* (March 28, 2020).

¹⁹⁹ Schneider, xi.

²⁰⁰ Edward Bruce Hamley, *Operations of War* (London, UK: William Blackwood and Sons, 1914), 469-72.

is the form of leadership that is critical for fighting battles. But as has been noted, “Generals do not fight. They fight through others, they command people who command operations. They are operators of the system - not of operations...”²⁰¹ Operational art requires a different form of leadership, it requires intellectual, organizational and visionary leadership, it requires more Odysseus than Achilles.²⁰² The operational leader is less the motivational speaker or popular football coach and more the insightful designer. Operational leadership requires strategic understanding, systemic thinking, critical and creative thought, and intellectual curiosity; it requires *me'tis* – that combination of modesty, heresy, skepticism and idealism.²⁰³ Most importantly, it requires an institution that educates, develops and selects for operational leadership rather than heroic leadership. This, however, is not the US Army way.

COL(Ret) Lloyd J. Matthews has described how the Army has institutionalized Schneider’s last two areas of thought in education and advancement approaches that extrapolate the skills of lower-level command to higher-level command functions, regardless of discontinuities in the demands at differing command echelons.²⁰⁴ MG(Ret) Robert Scales has also emphasized the lack of strategic education and development in the Army, the inappropriate employment of officers who are trained in strategy, and the Army’s emphasis on tactical leadership.²⁰⁵

Schneider’s last area of emphasis is how conservatism serves as a contributing factor to

²⁰¹ Naveh, ""Beware of the Power of the Dark Side" - the Inevitable Coupling of Doctrine and Design," 32.

²⁰² Schneider, xi-xii.

²⁰³ Shimon Naveh, *Operational Art, Operational Command, Systemic Operational Design: Transforming the Triad, Extending the Potential* (Fort Leavenworth, KS: School of Advanced Military Studies, 2007), 3-5.

²⁰⁴ Matthews, "Anti-Intellectualism and the Army Profession," in *The Future of the Army Profession*, 83.

²⁰⁵ Robert H. Scales, "Are You a Strategic Genius? Not Likely, Given Army's System for Selecting, Educating Leaders," (October 13 2016), accessed March 9, 2020, <https://www.ausa.org/articles/army-system-selecting-educating-leaders>.

tactical bias. Soviet theorists of the 1930s, in constructing the concept of operational art, had to overcome trends of conservatism and intellectual bias.²⁰⁶ Both of these themes have already discussed as being part of the US Army cultural milieu.

Unfortunately, the US Army culture and institutional practices particularly predispose the organization to the types of risks Hamley, Schneider, Vego, Matthews and Scales discuss. A recent examination of US Army three and four-star Generals highlights that these senior officers typically spent 70% of their careers in tactical assignments prior to promotion to General Officer and at, 23 years of service, 50% were serving in tactical assignments.²⁰⁷ It is possible, and in some cases common, for officers in the US Army to gain the rank of Colonel where they will have a large impact on the actual operation of the Army institution without ever serving in operational assignments. Exacerbating this environment is the current reality that most Army leaders' formative experiences have been two decades of conflict where the focus was on the platoon.

Recently, a US Army General, evincing Brian Linn's Heroes school of military thought, pointed to the truth in a viral meme that asserted, "Majors talk about grand strategy, Generals talk about squads." The senior Army leader was making the valid point that ground combat is won at the squad and platoon echelons. The reality, however, is a bit more nuanced as *battles* may be won at the squad and platoon echelons...but *wars* are not. This has been amply demonstrated in the US experience in Vietnam, Afghanistan and Iraq, where the US military has been generally superior at the tactical level.²⁰⁸ The battle-centric paradigm of the US Army has resulted in an

²⁰⁶ Schneider, xii.

²⁰⁷ Michael G. Maurais, "Thinking Beyond the Point of Contact" (U.S. Army School of Advanced Military Studies, 2020).

²⁰⁸ Harry Summers recounted a 1974 conversation with a Vietnamese Colonel as part of a negotiation mission where he stated, "You know, you never beat us on the battlefield," to which the Vietnamese Colonel replied, "That may be so, but it is also irrelevant." As the U.S. has recently entered into negotiations with the Taliban, one could quite easily imagine the exact same conversation occurring. James M. Dubik, "Winning Battles, Losing Wars," *Army Magazine* 64, no. 12 (2014): 16.

organization which has been consistently successful at echelons of brigade and below but has often struggled to translate tactical success into strategic gain—which is the purview of those practicing the operational art, the senior general officer ranks.

Without an adequate conception of strategy or operational art it is only natural that tactical perspective and thinking would come to dominate US military culture. Recent analyses have posed the question: If everyone is focusing on winning the battle, who is focusing on winning the war?²⁰⁹

US Army Operational Character – Industrial Maneuver & AirLand Battle

The operational paradigm that emerges from the Army's worldview, strategic culture, and tactical logic is best described by as “industrial maneuver,” a term that captures the modernist perspectives and structures (thinking, Taylorism/scientific management, mass mobilization, etc.) of the industrial age. This paradigm displays several key characteristics: discourse banalization, strategic idealism, Newtonian ecology, geometric simplification, operational binary, autocratic command, technocratic direction, and engineer organization.²¹⁰

Examining warfare from a broad perspective, *Discourse banalization* describes that the lack of novelty in the similar principles and approaches applied over the past 200 years.²¹¹ The continued emphasis in doctrine and in professional military education on theorists such as Clausewitz and Jomini as well as the focus on the campaigns of Napoleon and the American Civil War, World War I and World War II in US Army Professional Military Education offer examples of a military mindset that looks for similarities over time and sees war and operational art embodied in timeless, static principles.

Strategic idealism refers to the platonic idea that by looking at history we can create

²⁰⁹ Peter W. Singer, "Tactical Generals: Leaders, Technology, and the Perils," (July 7 2009), accessed February 10, 2020, <https://www.brookings.edu/articles/tactical-generals-leaders-technology-and-the-perils/>.

²¹⁰ Naveh, "Rhizomic Maneuver."

²¹¹ Ibid.

idealized forms which can then be applied in almost every case—a predominant example is the pursuit of victory through destruction and decision.²¹² This idea is about inductive learning from the past, to ascertain laws of warfare that will create a template for success. It is a reflection of the cultural disposition to, “imagine the past, and remember the future.”²¹³ Doctrine itself is a manifestation of this approach, as are the various schools of military thought, such as maneuver warfare. The way in which the study of great captains is approached often follows this logic as well.

Newtonian ecology is about the embrace of simple physical concepts: the idealization of speed, the emphasis on mass as the main instrument of efficacy, and space and time as absolute arenas rather than part of the system.²¹⁴ Closely related, *Geometric simplification* refers to the reduction of operations to simple geometric forms, a Jominian obsession with lines, columns, flanks, that are appropriate tactically but lose relevance at the operational level.²¹⁵ Virtually the whole of US Army tactical and operational doctrine is embodied in this approach.²¹⁶

Operational binary refers to the previously discussed Clausewitzian model of war and peace and the tension between our model and how the real world is actually unfolding.²¹⁷ In 2016, the US Chairman of the Joint Chiefs of Staff, Gen. Joe Dunford, highlighted the continuing prevalence of this model of thinking stating, “Our traditional approach where we are either at peace or at war is insufficient to deal with that dynamic...an adversarial competition with a military dimension short of armed conflict...I personally don’t believe the current planning and

²¹² Naveh, "Rhizomic Maneuver."

²¹³ Weick, "The Role of Imagination in the Organizing of Knowledge," 448.

²¹⁴ Naveh, "Rhizomic Maneuver."

²¹⁵ Ibid.

²¹⁶ US Army, FM 3-0 (2019); US Department of the Army, Army Doctrine Publication (ADP) 3-90, *Offense and Defense* (Washington, DC: Government Printing Office, 2019).

²¹⁷ Naveh, "Rhizomic Maneuver."

organizational construct or command and control are optimized for the current fight.”²¹⁸

Autocratic command refers to the prevalence and preference for hierarchical command structures and the previously discussed centrality of the commander.²¹⁹ While hierarchy is virtually universal in military organizations to some extent, increasing interaction with non-state actors has resulted in the realization of the power of networks and different organizing structures. The Army has attempted to transition toward a culture based more on mission command, but from a cultural still struggles to practice what it preaches.²²⁰

Technocratic direction highlights the problem-solving/scientific approach to operational planning and the growth of massive staffs to execute it and educational staffs to teach it.²²¹ The growth of Army bureaucracy and the growth of staff sizes in fighting formations, the creation of technical and scientific functional area careers, and the planning methodologies employed by the Army all demonstrate this trend. The institutionalization of the Operations Research and Systems Analysis (ORSA) in the Department of Defense discussed by Chris Paparone offers an excellent example of the co-evolution of structure and process predicated on a modernist, scientific approach to management.²²²

Finally, *Engineer organization* is a description of the problem-solving mentality previously highlighted and the treatment of war as an engineering problem to be addressed through the process of observe-calculate-test. Security issues are viewed as mechanical in nature and thus could be resolved by man-made machines.²²³ The Army predilection for principles and

²¹⁸ Colin Clark, "CJCS Dunford Calls for Strategic Shifts; 'at Peace or at War Is Insufficient'," *Breaking Defense*, September 21, 2016, <https://breakingdefense.com/2016/09/cjcs-dunford-calls-for-strategic-shifts-at-peace-or-at-war-is-insufficient/>.

²¹⁹ Naveh, "Rhizomic Maneuver."

²²⁰ Peter C. Vangjel, "Mission Command: A Clarification," in *Mission Command: The Who, What, Where, When, and Why*, ed. Donald Vandergriff and Stephen Webber (Virginia, USA: CreateSpace Independent Publishing Platform, 2018), 3-18.

²²¹ Naveh, "Rhizomic Maneuver."

²²² Paparone, 13.

²²³ Adamsky, 81-82.

checklists also demonstrates this Taylorist mentality.²²⁴ This operational learning system of the Army, which is focused on internal coherence and efficiency, is also defined by the engineer mindset. The origins and the curriculum of the United States Military Academy, which were focused on producing engineers, highlight the consistency of this mindset.

The form of maneuver this paradigm takes in its application has been called “Strategic Domination by Air-Mechanization” or “Aerospace Blitzkrieg.”²²⁵ These titles accurately characterize the model, as a full 80 percent of NATO’s combat power is delivered through airpower.²²⁶ However, it is probably best understood through its US doctrinal embodiment in AirLand Battle (ALB).²²⁷ This doctrine was the result of a problem-solving approach for the specific challenges of conventional conflict with the Soviet Union in Europe. Its essence is the close coordination of ground forces engaged in aggressive maneuver and air forces attacking deeper in operational depth. It mated the appealing ideas about the Wehrmacht’s maneuver warfare with the synchronized joint capabilities of the U.S. Also borrowing from Soviet theorists of the 1930s, it introduced the operational level of war and the concept of depth into US doctrine. But it also replaced the language of the previous doctrine, *Active Defense*, with more traditional and offensively related taxonomy of operations.²²⁸ ALB had nine principles of war, four tenets, three levels of war, four elements of combat power, seven combat imperatives,

²²⁴ William G. Hanne, *Airland Battle and the Operational Maneuver Group* (Carlisle, PA: US Army War College, Strategic Studies Institute, 1983), 19; Donald Vandergriff, *The Path to Victory* (Novato, CA: Presidio Press Inc., 2002), 48-52.

²²⁵ Naveh, "Rhizomic Maneuver."; Michael Kofman, "Drivers of Russian Grand Strategy," *Frivärld*, no. 6 (2019): 4-5.

²²⁶ Justin Gronk, *Russia’s Military: Is It Really a Threat?* (Roundtable, 2019).

²²⁷ The NATO concept of Follow-On Forces Attack (FOFA) is a similar concept developed around the same period, that differs from ALB in reflecting the political concerns of the European members. It does not allow for preemptive strikes, it does not envision crossing into enemy territory with maneuver forces, and it does not integrate nuclear or chemical weapons. Bernard W. Rogers, "Follow-on Forces Attack (Fofa): Myths and Realities," *NATO Review*, no. 6 (1984): 2-3.

²²⁸ Richard M. Swain, "Filling the Void: The Operational Art and the U.S. Army," in *The Operational Art: Developments in the Theories of War*, ed. B.J.C. McKercher and Michael A. Hennessy (Westport, CT: Praeger Publishers, 1996), 158-59.

etc. The rapid technological advancement provided capabilities (command and control systems, precision munitions, and higher quality armaments) that would enable the doctrine to offset enemy mass in ways that were previously thought to require nuclear weapons. It was constructed around the capabilities offered by technological advancement, and at core it was inherently physical, emphasizing that, “The object of all operations is to destroy the opposing force.”²²⁹

ALB captured several other aspects of US strategic culture, from its offensive nature, its emphasis on power projection over long distances, its emphasis on joint operations, and superior command and control.²³⁰ AirLand Battle was the appropriate tool for the threat the U.S. faced, and its efficacy was demonstrated, in operations in Panama and the Persian Gulf. But this same efficacy would be precisely what drove competitors away from the type of conflicts for which ALB was designed.

As the concept evolved over time, ALB maintained its focus on, “...rapid, decisive operations that would quickly collapse an opposing armed force at its center of gravity. Information, superiority, speed, and guided munitions would enable smaller more high-tech forces to prevail against larger, less nimble enemy forces.”²³¹ The current doctrine of Large Scale Combat Operations and the future Doctrine of Multi-Domain Operations, discussed in the next sections, reflect the current and future manifestations of the same operational logic.

US Army Current Doctrine: LSCO/LSGCO – The War the Army Expects to Fight

The logic and character of the Army’s operational paradigm drive its application. That application is described by doctrine. Doctrine is critical to understanding the underlying values and assumptions that determine an organization’s actions. It is not only the language with which a military force describes itself, how it thinks, and how it expects to act but it is also an

²²⁹ Swain, in "Filling the Void: The Operational Art and the U.S. Army," 158-159 .

²³⁰ Alvin Toffler and Heidi Toffler, *War and Anti-War: Survival at the Dawn of the 21st Century* (New York, NY: Little, Brown and Company, 1993), 55.

²³¹ Mansoor, 299.

interpretation of what has occurred, why it has occurred, and how those who produce it see themselves and the world. As the Army's Operations manuals, FM 100-5 and FM 3-0, are the keystone documents around which the remainder of Army doctrine is produced, they and the future Operating Concepts that inform and precede them are important in understanding how the Army envisions itself acting.

In 2019, the US Army initiated a whole-scale revision of its doctrine along the same lines as it is revising its acquisitions, with a focus toward Large Scale Ground Combat Operations (LSGCO). This attempt at cultural shift is based on the understanding that many aspects of Army culture have been defined by “over 20 years of persistent limited contingency operations.”²³² The environment of limited contingency operations was characterized by the US operating from a position of advantage (in theater, established infrastructure, etc.), US superiority in all domains, sporadic tempo of small-scale operations, platoon echelon as the fighting unit of focus, with limited lethality, where divisions and corps acted as joint operational/strategic headquarters. The Army anticipates the new operational environment to be one where the US must gain entry into theater while being contested, where all domains will be contested by adversaries who can place battalions and brigades at risk, where divisions and corps will act as tactical formations, and the pace of operations will be greatly accelerated.²³³

The Army's response to this environment is the revision of its operational concept, Unified Land Operations, with a focus on Large Scale Ground Combat Operations (LSGCO).²³⁴ The terms Large Scale Combat Operations (LSCO) and LSGCO, not to be confused, entered doctrine in the 2017 version of FM 3-0, which was further refined in a 2019 update. LSCO is defined as, “extensive joint combat operations in terms of scope and size of forces committed,

²³² US Department of the Army, *Combined Arms Doctrine Directorate AOC FM 3-0 Briefing* (Fort Leavenworth, KS: US Army Combined Arms Center, 2019), 10.

²³³ US Army, *Combined Arms Doctrine Directorate AOC FM 3-0 Briefing*, 10.

²³⁴ *Ibid.*, 11.

conducted as a campaign aimed at achieving operational and strategic objectives.”²³⁵ The ground combat component of these operations—LSGCO—is described as, “sustained operations involving multiple corps and divisions...limited by laws of war and political objectives,” to “focus on the defeat and destruction of enemy ground forces as part of the joint team.”²³⁶

The doctrine describes how the current force and capabilities can be applied across all domains, over a battlespace extended physically, temporally, virtually and cognitively in the face of peer threats with capability advantages.²³⁷ While the previous doctrine for large scale operations, AirLand Battle, predicated large forces forward deployed at the advent of hostilities, these conditions do not exist under LSCO and a critical gap in the application of the concept is the reliance of the Army on other services to move its forces into theater. This is especially relevant considering the current degraded state of the US military’s strategic lift capability.²³⁸

Under this operational concept, the Army expects to be employed in four roles/categories of operations across the spectrum of conflict: Operations to Shape, Operations to Prevent, Large Scale Ground Combat Operations, and Operations to Consolidate gains. It is important to note that these roles are all described in how they relate to the core competency of executing LSGCO.²³⁹

Shaping Operations are intended to maintain status quo and set conditions for future large-scale ground combat operations. These shaping operations include “military engagement, security cooperation, intelligence, Counter Weapons of Mass Destruction (CWMD), humanitarian

²³⁵ US Army, FM 3-0 (2019), 1-5.

²³⁶ Ibid., 1-5 - 1-6.

²³⁷ US Army, *Combined Arms Doctrine Directorate AOC FM 3-0 Briefing*, 11-12.

²³⁸ *Strategic Mobility: Enabling Global Responsiveness for America’s Force of Decisive Action* (Arlington, VA: Association of the United States Army, Institute of Land Warfare, 2013); US Department of Defense, *Mobility Capabilities and Requirements Study (MCRS) 2018 Executive Summary* (Scott Air Force Base, IL: United States Transportation Command, 2019).

²³⁹ US Army, FM 3-0 (2019), 3-1.

efforts, information operations, and combined training and exercises.”²⁴⁰ The contribution of these operations below the threshold of war amount to potential increases in interoperability in LSGCO and potential for deterrence through demonstrating the ability to conduct LSGCO.

Operations to Prevent remain focused on deterrence and are envisioned to set the conditions for execution of LSGCO. The Army sees sustainment preparation, activation of tactical headquarters, and theater setting and force projection options as its tools to conduct these operations.²⁴¹ Below the threshold of armed conflict, this paradigm only offers the presentation of credible coercive force.

Large Scale Ground Combat Operations are the crux of the operational model and LSGCO defines success as the achievement of tactical and operational objectives through the destruction of enemy forces in the field.²⁴² As in AirLand Battle, forward Army forces are expected to fight outnumbered. LSGCO emphasizes synchronization and high tempo, focuses on the four defeat mechanisms (destroy, dislocate, dis-integrate, and isolate) and is comprised of traditional offensive and defensive tasks associated with conventional combat operations.²⁴³

Operations to Consolidate Gains are intended to exploit the success of LSGCO and deny enemy ability to engage in protracted resistance, much in the style of the *limited contingency operations* of the past two decades. These operations emphasize the stability mechanisms and are envisioned as being conducted in a limited manner behind the main battle area during LSGCO operations, transitioning to the focus following the conventional offensive.²⁴⁴ Despite the novel language, in practical terms, the Army Strategic Roles map directly onto the Joint phases

²⁴⁰ US Army, *Combined Arms Doctrine Directorate AOC FM 3-0 Briefing*, 19.

²⁴¹ *Ibid.*, 20.

²⁴² *Ibid.*, 14.

²⁴³ *Ibid.*, 21-23.

²⁴⁴ US Army, FM 3-0 (2019), 1-6.

construction.²⁴⁵

Unsurprisingly, LSCO is essentially a re-issue of the AirLand Battle concept, updated to incorporate the expansion of domains occurring with advancements in space, cyber, and electromagnetic warfare capabilities. LSGCO is primarily about the tactical employment of divisions, corps (and potentially field armies) in a contested environment against peer rivals, across multiple domains. That the original introduction of LSGCO in the 2017 Operations manual came in a chapter headed with a quote by General Don Starry, the force behind AirLand Battle and the post-Vietnam re-orientation on conventional conflict in Europe, further exemplifies the parallel thought processes occurring today.²⁴⁶ As in AirLand Battle, the fighting echelon of focus is the corps.²⁴⁷ The operational framework prescribed for LSGCO (Deep, Close, Support, Consolidation) is essentially the framework devised in AirLand Battle (Deep, Close, Rear) with an additional subdivision.²⁴⁸ The AirLand Battle 72-hour targeting cycle has remained unchanged throughout the Global War on Terror (GWOT), to today.²⁴⁹ Even the Tenets of Unified Land Operations—simultaneity, depth, synchronization, and flexibility—have remained consistent in doctrine since AirLand Battle introduced them with *depth* and *synchronization* being duplicates, *agility* being re-phrased as *flexibility*, and *simultaneity* added, as the means of gaining and maintaining *initiative*.²⁵⁰

²⁴⁵ Mike Lundy and Rich Creed, "The Return of U.S. Army Field Manual 3-0, Operations," *Military Review* 97, no. 6 (2019).

²⁴⁶ US Army, FM 3-0 (2017), 5-1.

²⁴⁷ Skinner, 11-15; US Army, FM 3-0 (2019), 1-6.

²⁴⁸ The 2019 doctrine does introduce a broader physical framework to match that used in the Multi-Domain Operations concept. This framework is simply the current structure with the deep area divided into deep fires and deep maneuver area, the addition of a strategic deep fires area, and the addition of operational and strategic support areas. US Army, FM 100-5, 19-21; US Army, FM 3-0 (2019), 4-4 - 4-5; US Department of the Army, *The U.S. Army Concept for Multi-Domain Combined Arms Operations at Echelons above Brigade 2025-2045: Versatile, Agile, and Lethal* (Fort Leavenworth, KS: US Army Combined Arms Center, 2018), 10.

²⁴⁹ Romjue, 36-41.

²⁵⁰ US Army, FM 100-5, 14-18; US Army, FM 3-0 (2019), 3-12 - 3-13.

Given this, it is unsurprising that the 2017 doctrine highlights the Return of Forces to Germany (REFORGER) exercises of the Cold War, which were designed to rehearse the AirLand Battle concepts application on the terrain where conflict would occur.²⁵¹ Nor is it surprising that the Army, in conjunction with NATO forces from across Europe, attempted to execute the third largest military exercise in Europe since the Cold War, Defender Europe 2020 before the Covid-19 pandemic caused reductions. That exercise was to be very much fashioned on deploying large-scale forces into Europe from the United States for conventional conflict with Russia.²⁵²

As language shapes thought and culture, military doctrine both shapes and reveals the patterns of institutional and individual thinking. The language, symbols, and references of LSGCO frame the perspectives of its practitioners and disclose the assumptions of its writers. The Army engages in “decisive action.”²⁵³ Its operational concept is a “theory of victory.”²⁵⁴ These are loaded terms with tactical implication that downplay the nuance and complexity that the Army describes as characteristic of its operating environment. The Army has acknowledged that it must act under conditions of competition across the spectrum of conflict and that threats will be conventional, unconventional, and hybrid.²⁵⁵ Yet its language and doctrine are focused on symmetrical, capabilities-based, conventional operations of large scale.

US Army Future Doctrine: Multi-Domain Operations – Old Wine in New Skins?

While doctrine is how the Army operates in the present, with its existing structure and capabilities, future concepts are how the Army desires to operate in the near future. Concepts are

²⁵¹ US Army, FM 3-0 (2017), 4-21.

²⁵² Haley Britzky, "The US Is Plotting One of Its Largest European Military Exercises since the Cold War," *Task & Purpose*, October 7, 2019, <https://taskandpurpose.com/defender-europe-2020>; Jen Judson, "Reforger Redux? Defender 2020 to Be 3rd Largest Exercise in Europe since Cold War," *Defense News*, October 7, 2019, <https://www.defensenews.com/land/2019/10/07/reforger-redux-defender-2020-exercise-to-be-3rd-largest-exercise-in-europe-since-cold-war/>.

²⁵³ US Army, FM 3-0 (2019), 3-1.

²⁵⁴ US Army, *Combined Arms Doctrine Directorate AOC FM 3-0 Briefing*, 15.

²⁵⁵ US Army, *Army Combined Arms Operations above Brigade, 2025-2045: Winning the Continuum of Competition*, 3, 8-9.

not possible in the present as they require organizational change to be feasible. Large Scale Ground Combat is the Army's current doctrinal lens but, for the past several years, the Army has been developing and advertising a future concept, Multi-Domain Operations, which was anticipated to be implemented between 2028 and 2035. While the concept is being subsumed/superseded by the Joint concept of All Domain Operations (ADO), it offers examples of continuities in Army thinking, even when looking into admittedly different future environments.²⁵⁶

Multi-Domain Operations was the Army's response to the changing character of war. It is important to note from the start that MDO was specifically designed to address Russian and Chinese capabilities—Russia was directly cited as the pacing threat for the concept as it evolved.²⁵⁷ In its current form, MDO is premised on the *Joint Operating Concept 2035*'s four characterizations of the future operating environment: the US will no longer enjoy the supremacy it has typically held across all domains (land, sea, air, space, cyber, electromagnetic, informational); the battlefield will be expanded (in time/phases, in space/geographically, in domains, and in actors/means) and will be much more lethal; the environment is increasingly complex (politically, culturally, technologically, and strategically); deterrence will be challenged (peer adversaries will compete below the threshold of conflict).²⁵⁸

The problem MDO sought to solve was that of *layered standoff*.²⁵⁹ Layered standoff is the result of the political, physical, and functional separation that adversaries are able to generate against US forces.²⁶⁰ In essence, MDO extrapolated the tactical anti-access/area denial (A2/AD)

²⁵⁶ Colin Clark, "Gen. Hyten on the New American Way of War: All-Domain Operations," February 18, 2020, <https://breakingdefense.com/2020/02/gen-hyten-on-the-new-american-way-of-war-all-domain-operations/>.

²⁵⁷ US Army, TRADOC Pamphlet 525-3-1, *The U.S. Army in Multi-Domain Operations 2028*, v-vii.

²⁵⁸ *Ibid.*, 6-8.

²⁵⁹ *Ibid.*, iii.

²⁶⁰ US Army, *The U.S. Army in Multi-Domain Operations 2028 Base Brief V6 (May 2019)*, 5.

problem to its central operational and strategic problem.

MDO purported to provide additional options for the use of force to policymakers. The concept claimed that the current military options available to US policymakers in the face of aggression by a peer competitor were either to accept adversary actions by doing nothing, because of the accepted idea of challenged deterrence, or to engage in protracted war owing to an inability to prevent a *fait accompli*.²⁶¹ MDO was thus envisioned to provide two additional options: the ability to engage in and win a short conflict, and a regained deterrence through that ability.²⁶² MDO does adequately acknowledge the complexity and wider spectrum of conflict, in contrast to FM 3-0. However, as an operational concept, MDO is firmly focused on the ability to prevail in conventional military conflict under the increased lethality of modern conditions. It envisions this capability as its deterrent to actions below the threshold of war, to attempts at a *fait accompli*, and to the initiation of conflicts that could be protracted. Thus, the belief that a short decisive conflict will provide an alternative to other forms of war remains consistent in US Army doctrine.

The application of MDO was expressed via its five phases: *Compete, Penetrate, Dis-Integrate, Exploit, Re-Compete*. These phases map seamlessly onto the existing Army strategic roles, with *Competition* and *Re-Compete* associating with *Operations to Prevent* and *Operations to Shape* and *Penetrate, Dis-Integrate, and Exploit* associate with *Prevail in Large Scale Ground Combat Operations*.²⁶³ In the competition phases, the Army sees itself in a largely singular role: deterring escalation through presenting a credible ability to deny enemy objectives.²⁶⁴ The *Penetrate, Dis-Integrate, and Exploit* phases associated with armed conflict are the core focus of

²⁶¹ US Army, *The U.S. Army in Multi-Domain Operations 2028 Base Brief V6 (May 2019)*, 16.

²⁶² US Army, TRADOC Pamphlet 525-3-1, *The U.S. Army in Multi-Domain Operations 2028*, 24.

²⁶³ *Ibid.*, 24-26.

²⁶⁴ The concept does make nebulous mention of combatting unconventional and informational efforts, but scant attention is paid these aspects. *Ibid.*, 25.

MDO. These phases are essentially the sequential neutralization and defeat of long, mid, and short-range A2/AD systems leading to the ultimate defeat of enemy land forces.²⁶⁵ Thus, to borrow a phrase, while the words may be different, the grammar and logic of MDO and of Large Scale Combat Operations remain the same.

Beyond the logic of current doctrine, MDO displays other aspects of the current Army paradigm. We see Brian Linn's Managers' desire for reorganization and restructuring in the *Calibrated Force Posture* and *Multi-Domain Formation* and we hear their echoes in MDOs emphasis on the Russian and Chinese threats. Linn's Guardians find embodiment in the concept of *Convergence*, the new intellectual tool that will enable victory, and in the emphasis on technological capabilities as solutions to operational problems. The Heroes too find representation in MDO's acknowledgement that war is a human endeavor and in themes such as "maximizing human potential."

The concept of integrating and synchronizing capabilities across domains is an expression of the same themes captured in the concept of Jointness that has been a consistent aspect of US operational practice. MDO's emphasis on more rapid and continuous synchronization should be seen as a continuing progression and, as such, it was less like the revolutionary impact of the introduction of the iPhone, as a senior Army leader has described, and much more like the evolution of the iPhone over its subsequent generations.²⁶⁶ MDO is consistent with US Army doctrine in that it remains capabilities-based and symmetrical. Its inspiration was the identification of threat capabilities that put US forces and objectives at risk and its response is to develop these same capabilities, simply to a greater degree than its adversaries.²⁶⁷ Not only

²⁶⁵ US Army, *The U.S. Army in Multi-Domain Operations 2028*, 24-26.

²⁶⁶ Stephen Townsend, "Accelerating Multi-Domain Operations: Evolution of an Idea," July 23, 2018, accessed December 17, 2019, <https://mwi.usma.edu/accelerating-multi-domain-operations-evolution-idea/>.

²⁶⁷ US Army, TRADOC Pamphlet 525-3-1, *The U.S. Army in Multi-Domain Operations 2028*, B-1 - B-2.

would US systems have greater range, volume of fire, and lethality, but the Joint force would be able to integrate them faster than rivals. MDO was largely about conventional combat and large formation forces competing against peer adversaries. In the competition phase, its emphasis was on the theater army and field armies and, in the conflict phases, the emphasis expanded to include the corps and division echelons.²⁶⁸ It is instructive that the concept's original title was Multi-Domain Battle, which was intended to serve as a message to the Army to prepare for high-intensity conflict.²⁶⁹ Also instructive is that the options MDO provides policymakers were based on the ability to prevail in the short conflict whether, as in the case of armed conflict, or potentially, as in the case of deterrence.

The elements of MDO that become part of the Joint ADO concept will likely be successful in addressing what inspired them—penetrating A2/AD systems at the operational and tactical environments. But the conceptual separation of competition below the threshold of conflict from conflict itself, as well as the division in responsibility between implements of national power in terms of those definitional boundaries, reaffirms the adherence to the Clausewitzian paradigm of war as a discrete military activity, even as the Army acknowledges its stated rivals' alternative perspectives. As much as MDO accurately described the future operating environment, it did not adequately describe a framework for how to address competition below the threshold of war, presumably leaving that to agencies and departments outside the military, reinforcing the traditional understanding of the military's role as armed conflict against the forces of the enemy state.

The consistency of the operational paradigm in current and future doctrine suggest that it has predated such concepts and should be present in history as well. Indeed, given the American disposition toward history as a source of lessons to be used in creating doctrine, it would be

²⁶⁸ US Army, *The U.S. Army in Multi-Domain Operations 2028*, 24-46.

²⁶⁹ Greer, *Phone Conversation with Author* (March 28, 2020).

surprising if the current operational paradigm was a recent, or theoretical, development. The next section examines recent military campaigns to highlight the continuity of the Army's operational paradigm.

Past Conflicts Demonstrate the Continuity of the LSGCO Paradigm

An extensive analysis of campaigns is beyond the scope of this monograph, however, a few concise observations of the Army's conduct in past campaigns can provide concrete examples of the impact of its culture and beliefs on operational practice. The 1991 Persian Gulf War, Operation Enduring Freedom and Operation Iraqi Freedom all demonstrate the continuity of US Army operational thought, in one case of success and two cases of failure.

The 1991 Persian Gulf war was tailor-made for the US operational paradigm. At the level of policy, the Weinberger-Powell criteria were met in every case. First, securing Middle Eastern oil reserves was a critical interest to the nation. Second, troops were committed with the intent of winning. As President Bush noted, "I instructed our military commanders to take every necessary step to prevail as quickly as possible...this will not be another Vietnam...our troops...will not be asked to fight with one hand tied behind their back."²⁷⁰ Third, political goals were clearly defined: unconditional and complete withdrawal of Iraqi forces from Kuwait, restoration of the legitimate Kuwaiti government, security and stability of the Persian Gulf, and protection of American citizens abroad.²⁷¹ Fourth, the resources to accomplish the goals were adequate—almost a million personnel formed the coalition forces in the war and, in the Kuwait Theater of Operations, the ground forces amounted to 575,000 troops, 3,700 tanks, and 1,500 artillery pieces, all of better quality than the Iraqi forces opposed to them.²⁷² Fifth, the war was presented as a last resort after

²⁷⁰ George H.W. Bush, "January 16, 1991: Address to the Nation on the Invasion of Iraq," University of Virginia, Miller Center, accessed February 14, 2020, <https://millercenter.org/the-presidency/presidential-speeches/january-16-1991-address-nation-invasion-iraq>.

²⁷¹ The White House, *National Security Directive 54* (Washington, DC: National Security Council, 1991).

²⁷² William Thomas Allison, *The Gulf War, 1990-1991* (New York, NY: Palgrave, 2012), 125.

the failure of sanctions and diplomacy. In the words of President Bush, the U.S. and United Nations had “exhausted every means at our disposal to bring this crisis to a peaceful end.”²⁷³ Finally, the war had the support of Congress, the United Nations, and a coalition of forty nations.²⁷⁴

In terms of the threat, the U.S. could not have found more favorable conditions. It faced an Army equipped by and trained in the manner of the enemy it had spent the past 45 years preparing to fight. Saddam spoke of, “the Mother of All Battles” telegraphing that his forces intended to fight in the symmetrical, large-scale, conventional mechanized fight that has become the hallmark of the US way of warfare.²⁷⁵ Aerospace blitzkrieg was a critical component of the war. Coalition forces achieved air superiority the first night and, after a six-week air campaign, had depleted Iraqi manpower by 50 percent, destroyed 1,700 tanks and 1,000 artillery pieces, and severed Iraqi command and control and logistical systems. The US leveraged its technological advantages true to form, as in the example of the F-117 stealth aircraft which, while flying only 2 percent of the attack sorties of the war, struck 40 percent of the strategic targets.²⁷⁶ The most iconic imagery of the war is the black and white video feed, marked by a crosshair, of smart bombs striking their targets. In six weeks the coalition dropped more than double the number of laser-guided bombs than had been released over North Vietnam in nine months.²⁷⁷ In the Gulf War, the Big Five had come of age—the M1 and Bradley Fighting Vehicles completely outclassed Iraqi counterparts, while the Blackhawk facilitated the largest air assault in history, and the Patriot missile system saw first combat use, though to mixed results.²⁷⁸ Thermal imaging

²⁷³ Allison, 105.

²⁷⁴ Ibid.

²⁷⁵ Harry G. Summers, *On Strategy II: A Critical Analysis of the Gulf War* (New York, NY: Dell Publishing, 1992), 157.

²⁷⁶ Mahnken, 169.

²⁷⁷ Ibid., 170.

²⁷⁸ Ibid., 174-75.

allowed US forces on the ground and in the air to destroy targets that could not even see them. The Gulf War was the first “Space War” where space-based systems provided position/navigation, weather information, communications, imagery and tactical early missile attack warning.²⁷⁹ GPS systems in particular enabled maneuver in areas that the Iraqis thought impossible to move through, most notably manifested in the “left-hook” through Iraq’s western desert that was hailed as the pinnacle of maneuver warfare.

The most significant challenges and achievements of the Gulf war were strategic and operational. The building of a coalition of 35 nations to fight together to liberate Kuwait represents an unparalleled diplomatic and military accomplishment. Moreover, the Army ability to transition from preparing to fight in a woodland environment on the defense to fighting in a desert environment on the offense deserves significant credit. But the Persian Gulf War, more than any other demonstrated the incredible expeditionary capacity of the Joint force – moving formations, equipment, logistics into theater and sustaining the coalition over the course of the campaign highlight the more significant achievements of the war.

The Army’s operational concept, AirLand Battle, was hailed as the “blueprint for victory in the Persian Gulf War.”²⁸⁰ Large formations of largely mechanized and otherwise mobile forces, under complete air superiority and with greater situational awareness, penetrated, enveloped and annihilated Iraqi forces in 100 hours. The essence of the ground war was embodied in the tank battle, if it can be called a battle, of 73 Easting. Here, a US Army troop of less than 100 men surprised, then obliterated a reinforced Iraqi armor battalion in 23 minutes, with no casualties.²⁸¹ Moving from Vietnam to Desert Storm, the US Army focused on maneuver, firepower and

²⁷⁹ Sharon Watkins Lang, "SMDC History: 25 Years since First 'Space War'," *Army.mil*, January 20, 2016), https://www.army.mil/article/161173/SMDC_History__25_years_since_first__Space_War_/?from=RSS.

²⁸⁰ Summers, 157.

²⁸¹ Daniel P. Bolger, *Why We Lost: A General's inside Account of the Iraq and Afghanistan Wars* (New York, NY: Houghton Mifflin Harcourt, 2014), xviii-xix.

protection as the elements that it needed to maintain; it discarded the draft and older models of training, incorporating the Combat Training Centers; and the Army identified the need to add precision fires and C4ISR capability.

The US Army had become unparalleled in its preferred method of warfare. The Gulf War served as a validation and reaffirmation of the American logic of war, as a powerful vindication of the US Army and its Cold War paradigm. But as is often the case, within victory lay the seeds of defeat. Iraqis learned two lessons that would change the game in their next conflict with the U.S. The first lesson (strategic) was that it is willpower, not tallying up destruction, that decides wars, and the second lesson (operational) was that propaganda trumps reality.²⁸² Meanwhile, for the U.S., the success of Desert Storm only served to reinforce the belief in, “decisive battles at the expense of a more holistic view of war.”²⁸³ After the war, the consensus among military thinkers was that a revolution in military affairs was ongoing, with Desert Storm as the initial manifestation of it; superior command and control and intelligence would reduce fog and friction to allow information to replace mass; rapid and decisive operations would overwhelm the enemy and lead to quick victory. The Army had arrived in the era of precision. George Bush’s comment that, “By God, we’ve kicked the Vietnam Syndrome once and for all,” would turn out to be premature, as the United States would soon find itself losing another war that would be much compared to, and eventually supersede Vietnam as America’s longest war.²⁸⁴

That war would be imposed upon the United States by a violent non-state actor, Osama bin Laden’s Al Qaeda organization, through an act of terrorism on September 11, 2001. The U.S. response was swift. The political objectives of military action in Afghanistan were initially a punitive expedition against Al Qaeda and the Taliban that had harbored them. This mission was overwhelmingly supported by the public, clearly related to U.S. security and straightforward in

²⁸² Bolger, xxxix-xli.

²⁸³ Mansoor, 307.

²⁸⁴ Summers, 7.

guidance. By the end of 2001, these objectives had been achieved or were within reach.²⁸⁵ The objectives, however, rapidly evolved into creating a peaceful and stable—and some might argue democratic and liberal—Afghanistan. But, “the West always lacked the knowledge, power, or legitimacy to fundamentally transform Afghanistan.” So, the U.S. and NATO have consistently struggled with trying to create a strategy to achieve these ends.²⁸⁶

The initial invasion of Afghanistan appears to represent a departure from American traditions but the military components of which were executed by Special Operations Forces—a unique community within the US military with its own sub-culture, often at odds with the larger military culture.²⁸⁷ The campaign that followed was not, however, a counterinsurgency campaign. The United States has not conducted counterinsurgency since the 19th century, but rather every low-intensity conflict conducted since World War II has been large scale, violent, Foreign Internal Defense. This was evident in Afghanistan as the war progressed. Operationally, the U.S. found itself in a new environment where battlefields were fragmented, opposition was multi-polar and variable, tactical action was highly politicized, coercive options were much broader in scope than simply kinetic force, conflicts were more open-ended, and victory as a goal tended to be replaced by stability.²⁸⁸ Even as the U.S. recognized this, an attritional approach to killing/capturing enemy combatants and an emphasis on controlling terrain framed campaign plans. Information superiority was sought as the key to combat asymmetric actions.

The iconic imagery of the war in Afghanistan is of course the Predator feed—the black

²⁸⁵ Leonidas Musashi, "Snatching Defeat from the Jaws of Victory," *The Agoge*, February 15, 2014, accessed April 4, 2020, <https://medium.com/the-agoge/snatching-defeat-from-the-jaws-of-victory-aea92b2effd6>.

²⁸⁶ Craig Whitlock, "At War with the Truth: U.S. Officials Constantly Said They Were Making Progress. They Were Not, and They Knew It, an Exclusive Post Investigation Found.," *Washington Post*, December 9, 2019, https://www.washingtonpost.com/graphics/2019/investigations/afghanistan-papers/afghanistan-war-confidential-documents/?itid=lk_inline_manual_3.

²⁸⁷ Charles H. Briscoe et al., *Weapon of Choice: U.S. Army Special Operations Forces in Afghanistan* (Fort Leavenworth, KS: Combat Studies Institute Press, 2003), 36-38.

²⁸⁸ Emile Simpson, *War from the Ground Up: 21st Century Combat as Politics*, *International Institute For Counterterrorism 14th Annual International Conference* (Herzliya, Israel: 2014), 54-89.

and white video transmitted by unmanned drones hovering over a target or area of interest. This feed is an inherently tactical product, but pumped into headquarters across the theater it provided the impression of consequential knowledge.²⁸⁹ The inborn capabilities-based mindset of the US military led to innovations in electronic warfare, armor for troops and vehicles, Intelligence, reconnaissance and surveillance and communications capabilities. But these developments only enhanced the Army's already formidable tactical performance without altering the operational and strategic morass in which it found itself. If there is a second iconic image of the war in Afghanistan it is of the young Army leader sitting down in a village *shura* conducting a key leader engagement. Both of these images could not be more dissonant with the concept of LSGCO.

Yet, US Army still approached problems by trying to do more of the same, "if a 'surge' seemed to work in Iraq in 2007, why not in Afghanistan in 2010," or so the thought process seemed to go.²⁹⁰ At core, the operational learning model that led to AirLand Battle was ill-suited for the wicked problem of stability in Afghanistan. This model of learning is about error correction—it is internally focused and self-referential. It asks whether things are being done right rather than whether the right things are being done. As such, it fails to allow for relevant operational learning.

In 2003, the US Army invaded Iraq a second time. Just as before it faced, "an inferior opposing force established according to a modern, Western model; terrain that allowed for precise targeting; and incompetent enemy leadership."²⁹¹ And just as before, it proved unmatched in conventional conflict. Invasion forces in March 2003 were almost a third of the size of those in 1991, against an Iraqi Army with half as many tanks and armored vehicles, more artillery pieces,

²⁸⁹ Singer, *Tactical Generals: Leaders, Technology, and the Perils*.

²⁹⁰ Bolger, 430-31.

²⁹¹ Mansoor, 299-300.

and a third of the troops it was able to field in 1991.²⁹² This time air and ground operations commenced simultaneously instead of sequentially. The rapid drive on Baghdad, which was captured by mid-April, further supported the idea that speed, precision, knowledge and jointness would enable smaller forces to accomplish quicker victories.²⁹³

But then Kuhnian anomalies began to appear. Some Iraqi units surrendered, and some fought, as predicted, but what was not appreciated fully was the fanatical *Saddam Fedayeen* paramilitary forces that began attacking US units.²⁹⁴ Events like the ambush of the ill-trained 507th Maintenance Company, where eleven soldiers were killed, seven captured and nine wounded, demonstrated the new reality. LTG Wallace, commanding the Corps moving up the Euphrates, admitted, “The enemy we’re fighting is different from the one we war-gamed against.”²⁹⁵ Similarly, the complete failure of a deep attack by the 11th Aviation Brigade caused the Corps commander to call off all such operations for the remainder of the conflict. The brigade lost one aircraft and had over a dozen damaged while its target, the Republican Guards Medina Division, remained unscathed.²⁹⁶ Yet, in spite of advances in air defense capabilities of likely enemies, the deep attack concept remains a key aspect of how US Army divisions anticipate waging war. These key events caused an operational pause in the campaign. Ambushes, roadside bombings and mortar attacks increased dramatically as did sectarian violence, criminal activities and uprisings by militia leaders and warlords.²⁹⁷ As in Afghanistan, the search for technological solutions was often counterproductive—insurgents reacted to up-armored vehicles with bigger and more explosive bombs and “the balance between protection and raw explosive power greatly

²⁹² Mahnken, 206.

²⁹³ Echevarria, *Reconsidering the American Way of War: US Military Practice from the Revolution to Afghanistan*, 154.

²⁹⁴ Mansoor, 310.

²⁹⁵ Bolger, 140.

²⁹⁶ Mansoor, 310.

²⁹⁷ Echevarria, *Reconsidering the American Way of War: US Military Practice from the Revolution to Afghanistan*, 155-56.

avored the latter.”²⁹⁸ Likewise, technological solutions often promoted separation from the population, counterproductive in combating an insurgency, and such short-term solutions often come at the expense of less-obvious and more enduring ones.²⁹⁹

As in Afghanistan, a culture that emphasized tactical excellence and operational concepts over strategic understanding failed to produce the means to handle the “post-war” period. Commanders were encouraged to do what they did best, hunt down and kill or capture terrorists and insurgents, and unit after unit rotated through the theater fighting not a coherent sixteen-year war, but a series of separate, local one-year wars sixteen times. As an unstable Iraq currently demonstrates, the maligned claim by some Army leaders that stabilizing Iraq would require as many soldiers as invading it ultimately proved correct—the rapid, decisive military phase transitioning into the political phase simply did not materialize. In 1991 the policy, strategy, and operational approach pursued were relevant to reality; in Afghanistan and Iraq over the first two decades of the 21st century, none of them were.

Concluding Observations of US Operational Thought

The ways in which the Army is envisioning warfare, equipping itself, educating and training itself, and the manner in which it has conducted itself in past conflicts elucidate its underlying preferences, assumptions, and views of war, warfare, and operational thought, which have remained generally consistent. The central problem that the Army faces is a culture that is focused on tactics over operational art and strategy, on a technical rationalist approach to addressing challenges, and on warfighting over war. It is worth revisiting Carl Builder’s observation that, “...something happened to the Army in its passage through World War II that it liked; and it has not been able to free itself from the sweet memories of the Army that liberated

²⁹⁸ Mahnken, 213.

²⁹⁹ Ibid.

France and swept victoriously into Germany.”³⁰⁰

An inadequate learning system has resulted in the US pursuing concepts that essentially offer few new insights about the strategic lessons we have failed to grasp. What is required is a comprehensive framework of learning that will address the organizational, strategic and operational domains. Only then, can the Army transform itself and its paradigm in the manner necessary to correct its strategic drift.

The Difference Between Reformation and Transformation

While there is no end to commentary on how the Army should change, is changing, and has changed to meet the demands of contemporary conflict, these changes are for the most part single and double-loop learning efforts at best because they all take place within the prevailing system, informed by the existing perspective and worldviews. Triple-loop learning requires an external perspective; it requires stepping outside of the culture, values, assumptions and core beliefs of the system in question. It requires asking questions like, “If we had to recreate the US military from scratch today, would it look at all like it does now?”³⁰¹ It requires the axiological question of, “what do we need to value going forward?” Only with this external view can a new paradigm be formulated, a new way of envisioning warfare that will reconcile the anomalies being observed today. Only with a new paradigm can genuine transformation occur.

³⁰⁰ Builder, 38.

³⁰¹ Shawn Brimley and Paul Scharre, "Ctrl+Alt+Delete: Resetting America's Military," *Foreign Policy*, May 13, 2014, <https://foreignpolicy.com/2014/05/13/ctrl-alt-delete/>; For another example of idealized design see Dr. Russell Ackoff's discussion of Bell Labs efforts in the 1950s. Russell L. Ackoff, "Tape of Ackoff's Bell Lab Lecture", UNK, accessed March 14, 2020, <https://youtu.be/yGN5DBpW93g>; Russell L. Ackoff, Jason Magidson, and Herbert J. Addison, *Idealized Design: How to Dissolve Tomorrow's Crisis...Today* (Upper Saddle River, NJ: Prentice Hall, 2006).

- The realm of learning associated with various US Army phenomena indicates reformation as the primary type of change, rather than true transformation.
- Perspectives from the Triple-loop domain underlie and influence manifestations in the double and triple loop domains. Likewise, double-loop aspects guide single-loop phenomena.

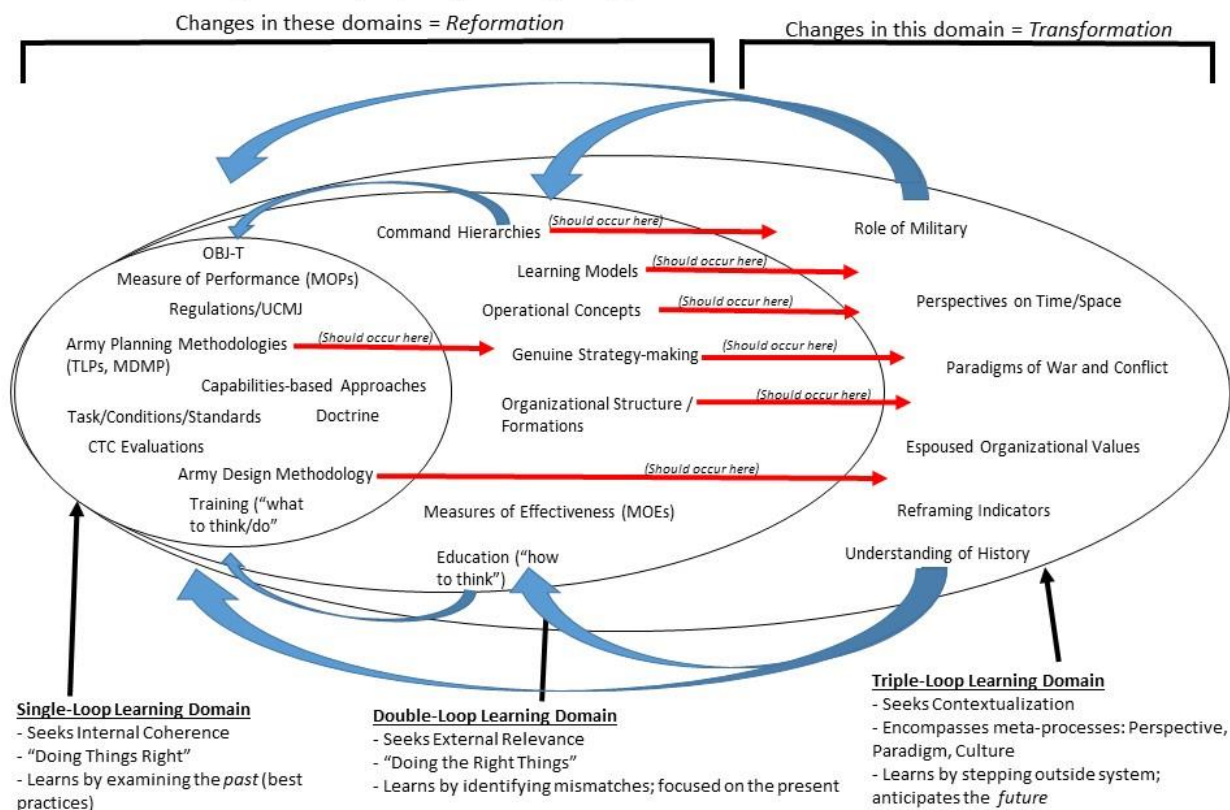


Figure 2. Reformation vs Transformation, created by author.

What has actually been occurring within the US Army is reformation, not transformation.

Rather than a re-orientation or the establishment of a new paradigm of warfare, the US Army emphasis on Large Scale Ground Combat Operations represents a continuity. The mindset, ends, ways, and means of US combat forces have remained consistent. Instead of going through a number of Kuhnian paradigm shifts, Echevarria asserts that US operational thought better represents a "tiering," where, as with increasing layers of sediment, new ideas, terms, and metaphors are layered over the same underlying paradigm.³⁰² Linn contends that US strategic thought resembles differing schools of thought, more akin to Thomas Kuhn's *pre-science* period,

³⁰² Echevarria, *Reconsidering the American Way of War: US Military Practice from the Revolution to Afghanistan*, 171-72.

all of which contribute to shifting influence to American operational practice.³⁰³ In neither representation is there reconceptualization of a new paradigm, in neither representation is there transformation.

The Army must not just learn but unlearn. And herein lies its primary challenge for, as Basil Liddell-Hart once wrote, “The only thing harder than getting a new idea into a military mind is to get an old one out.”³⁰⁴ Most organizations operate in the single-loop learning mode, struggle to achieve double-loop learning and far fewer are able to engage in triple-loop learning, especially systematically. Militaries are exceptionally prone to an inability to conduct double and triple-loop learning due to their rigid organizations and hierarchies, tradition-heavy culture, and to a value-system that prioritizes conformity, obedience, discipline, and standards. Further, militaries regularly demonstrate another characteristic that Chris Argyris points out as a hindrance to higher-level learning, the conflicting cultural norms which demand both uncovering and hiding errors.³⁰⁵

The US Army is no exception to any of these trends. A 2015 study by two Army War College professors, titled “Lying to Ourselves: Dishonesty in the Army Profession,” highlights a recent example of Argyris’ conflict of norms in the US Army.³⁰⁶ Throughout two decades of conflict, the Army adapted to battlefield conditions primarily by trying to do what it traditionally did—only better, to apply more of the same tried and true methods and practices of the American way of battle. Its responses reflected a conventional mindset fixated on controlling territory and defeating enemy combatants; it focused on trying to fight and win battles and on limiting casualties by increasing firepower; it relied on technological solutions to battlefield problems; it

³⁰³ Kuhn, 12-22.

³⁰⁴ B.H. Liddell Hart, *Thoughts on War* (London, UK: Faber and Faber, 1943), 115.

³⁰⁵ Chris Argyris, "Double Loop Learning in Organizations," *Harvard Business Review* (1977), accessed February 4, 2020, <https://hbr.org/1977/09/double-loop-learning-in-organizations>.

³⁰⁶ Leonard Wong and Stephen J. Gerras, *Lying to Ourselves: Dishonesty in the Army Profession* (Carlisle, PA: US Army War College, Strategic Studies Institute, 2015).

neglected the political aspects of the conflict as concerns for politicians; it grudgingly waged a war in a manner it was neither practiced in nor favorable to. Most significantly, it has yet to develop and apply new methods of learning, of understanding, so as to better redesign itself to address the problems it faces.

Chapter III: Toward A New Paradigm

[The emerging paradigm of warfare] is not about decision, it is about pursuing potential...it is not about imposing plans on reality but about integrating into the ecology...it regards hybrid realities...breaks away from banal differentiation between war and peace; we will live in a perpetual gray ecology, in which peace and war are synthesized or integrated...the traditional definitions of start and termination are a bit irrelevant...action doesn't necessarily involve killing but can imply different modes of injecting energy: economical, human, etc...no border, no fronts, no rears...no beginning, no end...the military is becoming more civilian and civilian societies are becoming more militarized...the special forces will be conventionalized and the conventional force will be specialized...an army without soldiers...it will be an organ without a body and soldiers without uniforms.

— Dr. Shimon Naveh, Rhizomic Maneuver

To return to David Foster Wallace's analogy, this monograph has been about the water – it has been about the way the paradigm in which we swim shapes our language, doctrine, training, education, uniforms, procurement, and our operational thought. For the young fish to be able to understand the water, for the members of the Army organization to be able to understand the paradigm that characterizes their understanding of war and warfare, they must be able to learn differently than they are currently. They must be able to achieve triple-loop learning.

The U.S. has a very static paradigm of war, increasingly in sharp contrast with the non-state and state actors with which it is engaged in competition. This paradigm of war, warfare, and competition is so ingrained that commentators regularly discuss the changing character of war but in operation they merely project modern terminology onto the same old way of thinking. This tendency has resulted more and more in a mismatch between what is expected and what is occurring, resulting in strategic drift.

The outcome of strategic drift is surprise, which is rarely beneficial for military organizations. Zvi Lanir describes two forms of surprise: situational surprise and fundamental surprise. *Situational surprise* occurs due to failures in “gathering, analyzing or distributing

information,” it is a failure of insufficient information.³⁰⁷ *Fundamental surprise* occurs when there is a gap between one’s mindset and reality, it is the result an irrelevant self and world view.³⁰⁸ Each type of surprise requires different forms of learning to comprehend the unanticipated event’s significance. Situational surprise can be addressed by “problem-solving” type of learning, single-loop and double-loop learning, but recovering from and preventing fundamental surprise requires a different approach which is rare, elusive, and non-experimental.³⁰⁹ Learning in order to address fundamental surprise requires a holistic reexamination of self-perceptions in relation to one’s environment.³¹⁰ This *fundamental thinking* is merely another term for triple-loop learning.

The challenge is not to try to prevent the drift but to accept it - to be positioned for it in such a way we can explain what is happening and why (in relation to our working frame or governing paradigm of the hour) and to do it faster than our opponents. Only then could we appreciate potential of the new emergence and form a new, alternative coupling of strategy-operation.³¹¹

The US failures in Vietnam, in Afghanistan, and in Iraq reflect fundamental surprise, a mindset that is irrelevant to reality, but they are treated as if they were the result of situational surprise. The situational logic is that gathering, synchronizing, and disseminating tactical information will prevent the events we are unable to respond to, events which our inability to deal with result in operational and strategic shortcomings. But, “no amount of situational learning can evoke self-consciousness and no amount of information can help find a new context for self-definition.”³¹² We have not asked ourselves how we are part of the problem, how we contribute to our surprise and our shortcomings. We have not asked how our worldview and our self-view must

³⁰⁷ Zvi Lanir, "Fundamental Surprise - Israeli Lessons," *News Online* (2010): 2-4, accessed January 24, 2017, <http://adchh.com/fundamental-surprise-israeli-lessons/>.

³⁰⁸ Lanir, “Fundamental Surprise - Israeli Lessons.”

³⁰⁹ Zvi Lanir, *Fundamental Surprises* (Ramat Aviv, Israel: Devir, 1983), 31.

³¹⁰ *Ibid.*, 25.

³¹¹ Graicer, 30.

³¹² Lanir, *Fundamental Surprises*, 31.

change in order to better anticipate and adapt to the current conditions of conflict. We have not demonstrated fundamental thinking, triple-loop learning. A new paradigm is required to achieve this.

It is well beyond the scope of this work to attempt to define a new paradigm for understanding war. Such an effort will require a significantly more expansive treatment than possible here. This monograph's purpose has been to reveal that such an effort is necessary if the US Army to remain relevant. However, this monograph implies several requisite characteristics of future paradigm and several directions for further research.

Characteristics of a Relevant Paradigm

As suggested by this work, the US Army's challenges revolve around understanding itself and its opponents, understanding change and moving time, and understanding a place we have not been before. Thus, any new paradigm must address these areas challenges.

First and foremost, the new paradigm must acknowledge change as an inherent aspect of its nature, it must provide a view of moving time. To return to Francois Jullien's observation, "The defining characteristic of warfare is the inevitable distance that separates the reality of it from its model. In short, to think about warfare is to think about the extent to which it is bound to betray the ideal concept of it."³¹³ Any new paradigm that is not doomed to eventual irrelevance must accommodate this law. Our current perspectives see past, present, and future as snapshots rather than movement.³¹⁴ This has resulted in an operational paradigm that dates back to the 1980s, and some may argue the 1940s, and a paradigm of warfare that is nearly 200 years old.

Second, a new paradigm must help us contend with places we have not been before. Our current paradigm looks to history and by analogy conceptualizes the future. This has resulted in a

³¹³ Jullien, *A Treatise on Efficacy: Between Western and Chinese Thinking*, 11.

³¹⁴ Paul Virilio, *The Aesthetics of Disappearance* (Los Angeles, CA: Semiotext(e), 2009), 26-28.

situation where, “We are always one war behind.”³¹⁵ Robert Leonhard, in noting the bloody toll of World War I where military leaders failed to appreciate the changed character of war, dismisses the notion that these leaders could be excused for the tragedy they oversaw.³¹⁶ Being products of the time, of their education, and of their experiences does not acquit them of their failure of imagination.³¹⁷

LTG (Ret) Daniel Bolger expresses a similar belief in his assessment of the wars in Iraq and Afghanistan, stating that, “Time after time, despite the fact that I and my fellow generals saw it wasn’t working, we failed to reconsider our basic assumptions. We failed to question our flawed understanding of our foe and ourselves...I got it wrong. And I did so in the company of my peers.”³¹⁸ The US Army risks the same outcomes unless it is able to develop a paradigm that can allow it to ask the right questions about what the future will look like and how the Army must transform to succeed in that future. Doing so requires a paradigm that is centered on theory creation. This new paradigm must generate imaginative, creative approaches to understanding our environment and focus more on probing-stimulating-responding/adapting rather than modeling-implementing-testing-revising. This approach is best captured through the process of design and design thinking, envisioning things that have not existed before.

Lastly, the new paradigm must enable the organization to step outside itself and take an exterior view; it must allow the organization to see the world through its rival’s perception; it must allow the organization to see how it relates to its broader context and how the organization itself contributes to the problems it faces. Thus, the new paradigm must be built around a systemic view and incorporate systems thinking as a central methodology. It must be inherently

³¹⁵ Paul Virilio, *Ground Zero*, trans. Chris Turner (New York, NY: Verso, 2002), 35.

³¹⁶ Robert R. Leonhard, *The Principles of War for the Information Age* (New York, NY: Ballantine Books, 1998), 248-50.

³¹⁷ Karl Weick, "Organizing and Failures of Imagination," *International Public Management Journal* 8, no. 3 (2005): 425-31.

³¹⁸ Bolger, xvi.

self-referential and capable of meta-cognition. It must be self-skeptical and heretical in orientation in order to allow for transformation.³¹⁹ It must have built in mechanisms and processes to allow for deconstructing and reimagining itself. A starting point for developing such a paradigm should emerge from the work of John Boyd, particularly “Destruction and Creation,” which provides a theoretical foundation for such a paradigm.

A new paradigm along these lines should be the priority of US Army intellectual thought, as it will enable the US Army see movement and change and thus prevent ossified views and obsolete assumptions. It will allow the Army to see itself from the outside, see itself in terms of the broader system in which it lives, and see how it contributes to the problems it faces. Most importantly a paradigm along these lines will enable the Army to change itself in response to the movement and change it identifies as the environment changes.

Avenues for Further Exploration

The new paradigm must be focused on learning and developing cultural, institutional, and operational learning systems is the most critical effort the US Army currently faces. A cultural learning framework would perform the function attempted by this work, to examine the current culture from an exterior perspective and identify aspects that contribute to a mismatch with current realities. The institutional learning framework would examine the formal organizational, structural and policy systems for relevance and identify and enable transformation of these aspects. The operational learning framework would first acknowledge that unique learning mechanisms must be designed and implemented for every operation and its primary focus would educate to enable the designing of such approaches. The paradigm must be a self-innovating mechanism that disrupts modes of thinking, understandings, and organizations.³²⁰

³¹⁹ Naveh, *Operational Art, Operational Command, Systemic Operational Design: Transforming the Triad, Extending the Potential*, 5.

³²⁰ Graicer, 32.

But in order to effect learning, there must be a proponent, with authority, to drive the learning process. This would be one of the primary functions of a true General Staff system, modeled on the original German conception, which is also worth investigating. “The General Staff’s primary concern is to generate learning and constitute strategic inquiries.”³²¹ Aside from acting as the central learning catalyst, such a system has other merits. First, such a system will create a proponent for operational and strategic theoretical development, an area with little current focus but of vital importance to the operation of the aforementioned learning systems. Second, such an organization can act as a reservoir for operational and strategic expertise and serve as a developmental path to such expertise, providing the experience in operational and strategic environments that is necessary for future leaders in those echelons. Third, such an organization reduces vertical stovepipes and creates shared understanding across the broader organization through a body of officers at critical positions who understand how their subculture thinks and operates.”³²² Fourth, it would reduce the fragility of the Army’s command-centric system wherein the commander’s vision and intent can become a single point of failure; it also provides an additive means, adjacent to command channels, for communication from the senior leadership to the force.

Likewise, research into how assessment, selection, training and education systems must be revised is a necessary area of focus. The Army must seek to abandon its anti-intellectual bias, and prioritize critical and creative thinking and intellectual rigor in greater proportion as the rank and scope of missions increase. The Army must develop and populate itself with “intellectual practitioners” instead of separating operators/doers and intellectuals/thinkers, as its cultural norms predispose it to doing. This will be difficult but that is not a reason to shy away from it. Example

³²¹ Naveh, ""Beware of the Power of the Dark Side" - the Inevitable Coupling of Doctrine and Design," 34.

³²² Trevor N. Dupuy, *A Genius for War: The German Army and the General Staff, 1807-1945* (Virginia Beach, VA: NOVA Publications, 1984), 34; John R. Boyd, *Patterns of Conflict* (Atlanta, GA: Defense and the National Interest, 1986), 74.

can be taken from efforts in the Israel Defense Forces in introducing operational design:

I read a comment made by an analyst that it was very hard to learn. You know, wars are very hard to fight and yet we go and fight them. If indeed this is crucial and important, it is not an option. We should go and do it. I think, from what I've learned from both in my home country and here, is that you don't need to be a genius to be able to study. All you need is some intellectual stamina, some energy. If you're serious about your profession, then you'll go through it.³²³

Testing of knowledge, intelligence, and reasoning skills must be a part of all promotion selection and Professional Military Education entry requirements (PME) and PME standards should be made more rigorous. The entire scheme of military education and training must be revisited. How to conduct learning from exploiting difference, rather than recycling past lessons, should be an area of investigation.³²⁴ Inculcating systems thinking, operational thinking, design thinking, and theory construction must be prioritized, and especially for those serving in roles focused on operational and strategic matters.

Beyond the changes to broader PME, the identification and cultivation of leaders with operational and strategic potential must begin much earlier in career timelines and be supported by special developmental tracks. As has been noted, "The commander's ability to think operationally...is usually not an innate trait but is acquired and nurtured for many years prior to assuming a position of responsibility at the operational level."³²⁵ Efforts at reconceptualizing strategy and operational art offer an important area of research, as does the approach to educating in these fields.

A paradigm centered on change requires a fundamental shift in perspectives on warfare. This requires theorists; it requires an emphasis on intellectual and theoretical thinking to balance out the tactical, practical and operative thinking preferred and incentivized by the Army. In terms

³²³ Shimon Naveh, *Interview with Bg(Ret.) Shimon Naveh* (Fort Leavenworth, KS: US Army Combat Studies Institute, 2007), 4.

³²⁴ Naveh, "Beware of the Power of the Dark Side' - the Inevitable Coupling of Doctrine and Design," 36.

³²⁵ Vego, "Systems Versus Classical Approach to Warfare," 44.

of doctrine, the outdated doctrinal principles, tenets, characteristics and elements upon which many assumptions are made must be revisited and revised. More importantly, mechanisms must be put in place to ensure this happens as needed based on changes to the operational environment, capabilities, threats and context. Structure, organization, roles and responsibilities should be reassessed. Examination of how the Army culture can be made more flexible and adaptable in virtually all respects would provide benefit.

In addition to the question of determining what changes need to be made, the more challenging question of how to implement these changes is also an area in need of examination. Implementing such significant and wide-ranging changes in the DOTMLPF-P will be difficult politically, culturally, and fiscally. But ultimately, answering such questions will be necessary, if only because it is far less costly to transform now and be at the fore end of the emerging paradigm, than having it imposed upon us through failure. For this is the very mandate of a leader: “It is, after all, the responsibility of the expert to operate the familiar and that of the leader to transcend it.”³²⁶

³²⁶ Henry Kissinger, *Years of Upheaval* (Boston, MA: Little Brown, 1982), 445.

Bibliography

10 U.S.C. § 7062, 2020.

Ackoff, Russell L. "From Mechanistic to Systemic Thinking". 1993. Accessed February 9, 2020. <https://youtu.be/yGN5DBpW93g>.

———. "Systems Thinking Speech by Dr. Russell Ackoff". UNK. Accessed February 16, 2020. <https://youtu.be/EbLh7rZ3rhU>.

———. "Tape of Ackoff's Bell Lab Lecture". UNK. Accessed March 14, 2020. <https://youtu.be/yGN5DBpW93g>.

Ackoff, Russell L., Jason Magidson, and Herbert J. Addison. *Idealized Design: How to Dissolve Tomorrow's Crisis...Today*. Upper Saddle River, NJ: Prentice Hall, 2006.

Adamsky, Dima. *The Culture of Military Innovation: The Impact of Cultural Factors on the Revolution in Military Affairs in Russia, the US, and Israel*. Stanford, CA: Stanford University Press, 2010.

Allison, William Thomas. *The Gulf War, 1990-1991*. New York, NY: Palgrave, 2012.

Argyris, Chris. "Double Loop Learning in Organizations." *Harvard Business Review* (1977). Accessed February 4, 2020. <https://hbr.org/1977/09/double-loop-learning-in-organizations>.

Argyris, Chris and Donald Schön. *Theory in Practice: Increasing Professional Effectiveness*. San Francisco, CA: Jossey-Bass Publishers, 1978.

Association of United States Army, Institute of Land Warfare. *Strategic Mobility: Enabling Global Responsiveness for America's Force of Decisive Action*. Arlington, VA: Association of the United States Army, Institute of Land Warfare, 2013.

Bateman, Robert L. "Force XXI and the Death of Auftragstaktik." *Armor* 105, no. 1 (1996): 13-15.

Berger, Peter L. and Thomas Luckmann. *The Social Construction of Reality: A Treatise on the Sociology of Knowledge*. New York, NY: Anchor Books, 1967.

Bolger, Daniel P. *Why We Lost: A General's inside Account of the Iraq and Afghanistan Wars*. New York, NY: Houghton Mifflin Harcourt, 2014.

Boot, Max. *The Savage Wars of Peace*. New York, NY: Basic Books, 2014.

- Boyd, John R. *Destruction and Creation*. 1976.
- . "Patterns of Conflict." Atlanta, GA: Defense and the National Interest, 1986.
- . *Discourse on Winning and Losing*. Quantico, VA: USMC Command and Staff College, Marine Corps University, 1989.
- Brann, Eva. *The Logos of Heraclitus*. Philadelphia, PA: Paul Dry Books, 2011.
- Briscoe, Charles H., Richard L. Kiper, James A. Shroder, and Kalev I. Sepp. *Weapon of Choice: U.S. Army Special Operations Forces in Afghanistan*. Fort Leavenworth, KS: Combat Studies Institute Press, 2003.
- Builder, Carl H. *The Masks of War*. Baltimore, MD: Johns Hopkins University Press, 1989.
- Bush, George H.W. "January 16, 1991: Address to the Nation on the Invasion of Iraq." University of Virginia, Miller Center. Last modified 1991. Accessed February 14, 2020. <https://millercenter.org/the-presidency/presidential-speeches/january-16-1991-address-nation-invasion-iraq>.
- Large Scale Combat Operations*. 7 vols., edited by Lynne M. Chandler Garcia, Dianne R. Walker, and Michael L. Hogg. Fort Leavenworth, KS: Army University Press, 2019.
- Citino, Robert M. *The German Way of War: From the Thirty Years' War to the Third Reich*. Lawrence, KS: University Press of Kansas, 2005.
- Cohen, Eliot A. *Military Misfortunes: The Anatomy of Failure in War*. New York, NY: Free Press, 2006.
- Coumbe, Arthur T., Steven J. Condly, and William L. Skimmyhorn. *Still Soldiers and Scholars? An Analysis of Army Officer Testing*. Carlisle, PA: US Army War College, Strategic Studies Institute, 2017.
- van Creveld, Martin. *Technology and War: From 2000 B.C. The Present*. New York, NY: The Free Press, 1989.
- . *The Transformation of War*. New York, NY: The Free Press, 1991.
- Dolman, Everett. *Pure Strategy: Power and Principle in the Space and Information Age*. New York, NY: Frank Cass, 2005.
- Dubik, James M. "Winning Battles, Losing Wars." *Army Magazine* 64, no. 12 (2014): 16-17.

- Dupuy, Trevor N. *A Genius for War: The German Army and the General Staff, 1807-1945*. Virginia Beach, VA: NOVA Publications, 1984.
- Echevarria II, Antulio J. *Toward an American Way of War*. Carlisle, PA: US Army War College, Strategic Studies Institute, 2004.
- . *Preparing for One War and Getting Another?* Carlisle, PA: U.S. Army War College, Strategic Studies Institute, 2010.
- . "American Operational Art, 1917-2008." In *The Evolution of Operational Art: From Napoleon to the Present*, edited by John Andreas Olsen and Martin van Creveld. New York, NY: Oxford University Press, 2011.
- . *Reconsidering the American Way of War: US Military Practice from the Revolution to Afghanistan*. Washington, DC: Georgetown University Press, 2014.
- Fehrenbach, T.R. *This Kind of War*. Washington, DC: Brassey's, 2000.
- Fitzgerald, David. *Learning to Forget: US Army Counterinsurgency Doctrine and Practice from Vietnam to Iraq*. Stanford, CA: Stanford University Press, 2013.
- Gat, Azar. *A History of Military Thought: From the Enlightenment to the Cold War*. Oxford, UK: Oxford University Press, 2001.
- Gerras, Stephen J. *Thinking Critically About Critical Thinking: A Fundamental Guide for Strategic Leaders*. Carlisle, PA: US Army War College, 2006.
- Gharajedaghi, Jamshid. *Systems Thinking: Managing Chaos and Complexity*. Burlington, MA: Elsevier, 2011.
- Graicer, Ofra. "Self Disruption: Seizing the High Ground of Systemic Operational Design." *Journal of Military and Strategic Studies* 17, no. 4 (2017): 21-37.
- Gray, Colin. *Irregular Enemies and the Essence of Strategy: Can the American Way of War Adapt?* Ann Arbor, MI: University of Michigan Library, 2006.
- Greer, James K. "Operational Art for the Objective Force." *Military Review* 82, no. 5 (2002): 22-29.
- . *Phone Conversation with Author*. March 28, 2020.
- Gronk, Justin. *Russia's Military: Is It Really a Threat?* : Roundtable, 2019.
- Hall, Edward T. *Beyond Culture*. New York, NY: Anchor Books, 1977.

- Hamley, Edward Bruce. *Operations of War*. London, UK: William Blackwood and Sons, 1914.
- Hanne, William G. *Airland Battle and the Operational Maneuver Group*. Carlisle, PA: US Army War College, Strategic Studies Institute, 1983.
- Hart, B.H. Liddell. *Thoughts on War*. London, UK: Faber and Faber, 1943.
- Hatch, Mary Jo. *Organization Theory: Modern, Symbolic and Postmodern Perspectives*. Oxford, UK: Oxford University Press, 2013.
- Huntington, Samuel P. *The Soldier and the State*. Cambridge, MA: Harvard University Press, 1985.
- Jackson, Aaron P. "A Brief History of Military Design Thinking." (February 6 2019). Accessed February 9, 2020. <https://medium.com/@aaronpjackson/a-brief-history-of-military-design-thinking-b27ba9571b89>.
- Jullien, Francois. *The Propensity of Things: Toward a History of Efficacy in China*. New York, NY: Urzone, 1995.
- . *A Treatise on Efficacy: Between Western and Chinese Thinking*. Honolulu, HI: University of Hawaii Press, 2004.
- Kagan, Frederick W. *Finding the Target: The Transformation of American Military Policy*. New York, NY: Encounter Books, 2006.
- Kissinger, Henry. *Years of Upheaval*. Boston, MA: Little Brown, 1982.
- Koehrsen, Will. "Has Global Violence Declined? A Look at the Data." (January 5 2019). Accessed February 16, 2020. <https://towardsdatascience.com/has-global-violence-declined-a-look-at-the-data-5af708f47fba>.
- Kofman, Michael. "Drivers of Russian Grand Strategy." *Frivärld*, no. 6 (2019).
- Kruglov, V. V. and V. I. Yakupov. "On the Methodology of Forecasting Armed Struggle." *Voennaya Mysl' (Military Thought)*, no. 3 (2017): 5-13.
- Kuhn, Thomas S. *The Structure of Scientific Revolutions*. Chicago, IL: The University of Chicago Press, 1962.
- Lacquement, Richard A. "Casualty-Aversion Myth." *Naval War College Review* 57, no. 1 (2004): 39-57.

- Lanir, Zvi. *Fundamental Surprises*. Ramat Aviv, Israel: Devir, 1983.
- . "Fundamental Surprise - Israeli Lessons." *News Online* (2010). Accessed January 24, 2017. <http://adchh.com/fundamental-surprise-israeli-lessons/>.
- Leonhard, Robert. *The Art of Maneuver*. New York: Ballantine Books, 1991.
- . *The Principles of War for the Information Age*. NY, New York: Ballantine Books, 1998.
- Liang, Qiao and Wang Xiangsui. *Unrestricted Warfare*. Beijing: PLA Literature and Arts Publishing House, 1999.
- Linn, Brian McAllister. *The Echo of Battle: The Army's Way of War*. Cambridge, MA: Harvard University Press, 2007.
- Lundy, Mike and Rich Creed. "The Return of U.S. Army Field Manual 3-0, Operations." *Military Review* 97, no. 6 (2019): 14-21.
- Lykke, Arthur F. "Defining Military Strategy." *Military Review* 69, no. 5 (1989): 2-8.
- Lyle, David. "Chessmasters and Game Designers, and Why Sound Strategy Requires Both." *The Strategy Blog* (blog), February 28, 2018. Accessed April 27, 2020. <https://community.apan.org/wg/aucoi/strategy/b/announcements/posts/chessmasters-and-game-designers-and-why-sound-strategy-requires-both>.
- . *Email Message to Author*. March 9, 2020.
- Mahnken, Thomas G. *Technology and the American Way of War since 1945*. New York, NY: Columbia University Press, 2008.
- Mansoor, Peter R. "US Army Culture, 1973-2017." In *The Culture of Military Organizations*, edited by Peter R. Mansoor and Williamson Murray, 299-318. Cambridge, UK: Cambridge University Press, 2019.
- Matheny, Michael R. *Carrying the War to the Enemy: American Operational Art to 1945*. Norman, OK: University of Oklahoma Press, 2011.
- Matthews, Lloyd J. "The Uniformed Intellectual and His Place in American Arms: Part I." (July 24 2002). Accessed March 2, 2020. <https://www.ausa.org/articles/uniformed-intellectual-and-his-place-american-arms-part-i>.
- . "Anti-Intellectualism and the Army Profession." In *The Future of the Army Profession*, edited by Don Snider and Lloyd J. Matthews, 61-92. Boston, MA: McGraw Hill Custom Publishing, 2005.

- Maurais, Michael G. "Thinking Beyond the Point of Contact." U.S. Army School of Advanced Military Studies, 2020.
- Meiser, Jeffrey W. "Ends + Ways + Means = (Bad) Strategy." *Parameters* 46, no. 4 (2017): 81-91.
- Musashi, Leonidas. "Snatching Defeat from the Jaws of Victory." *The Agoge* (blog), February 15, 2014. Accessed April 4, 2020. <https://medium.com/the-agoce/snatching-defeat-from-the-jaws-of-victory-aea92b2effd6>.
- Naveh, Shimon. "Rhizomic Maneuver." *The Agoge*, May 28, 2017. Accessed October 17, 2019. <https://medium.com/the-agoce/rhizomic-maneuver-119de7afcf20>.
- . *Interview with Bg(Ret.) Shimon Naveh*. Fort Leavenworth, KS: US Army Combat Studies Institute, 2007.
- . *Operational Art and the IDF: A Critical Study of a Command Culture*. Washington, DC: Center for Strategic & Budgetary Assessment (CSBA), 2007.
- . *Operational Art, Operational Command, Systemic Operational Design: Transforming the Triad, Extending the Potential*. Fort Leavenworth, KS: School of Advanced Military Studies, 2007.
- . "'Beware of the Power of the Dark Side' - the Inevitable Coupling of Doctrine and Design." *Experticia Militar*, no. 2 (2017): 30-37.
- Naveh, Shimon, Jim Schneider, and Timothy Challans. *The Structure of Operational Revolution: A Prolegomena*. Washington, DC: Booz Allen Hamilton, Center for the Application of Design, 2009.
- Nietzsche, Friedrich. *Beyone Good and Evil: Prelude to a Philosophy of the Future*. Translated by Walter Kaufmann. New York, NY: Vintage Books, 1989.
- Nolan, Cathal J. *The Allure of Battle: A History of How Wars Have Been Won and Lost*. New York, NY: Oxford University Press, 2017.
- O'Hanlon, Michael. "The Future of Land Warfare". Posted January 16, 2016, 2016. Accessed 08 December, 2019. <https://youtu.be/vF3g-3famd0>.
- Owen, William F. "Victory Is Not Success." *British Army Review*, no. 176 (2019): 28-35.
- Paparone, Chris. *The Sociology of Military Science*. New York, NY: Bloomsbury Academic, 2013.

- Powell, Colin L. "U.S. Forces: Challenges Ahead." *Foreign Affairs* 71, no. 5 (1992): 32-45.
- Ramo, Joshua Cooper. *The Seventh Sense*. New York, NY: Back Bay Books, 2016.
- Rogers, Bernard W. "Follow-on Forces Attack (FOFA): Myths and Realities." *NATO Review*, no. 6 (1984): 1-4.
- Romjue, John L. *From Active Defense to Airland Battle: The Development of Army Doctrine 1973-1982*. Fort Monroe, VA: United States Army Training and Doctrine Command, 1984.
- Ryan, Alex. "A Personal Reflection on Introducing Design to the U.S. Army." *The Overlap* (blog) November 4, 2016), <https://medium.com/the-overlap/a-personal-reflection-on-introducing-design-to-the-u-s-army-3f8bd76adcb2>.
- Samuels, Martin. *Command or Control? Command, Training and Tactics in the British and German Armies, 1888-1918*. London, UK: Frank Cass, 1995.
- Scales, Robert H. "Are You a Strategic Genius? Not Likely, Given Army's System for Selecting, Educating Leaders." (October 13 2016). Accessed March 9, 2020. <https://www.ausa.org/articles/army-system-selecting-educating-leaders>.
- Schelling, Thomas C. *Arms and Influence*. New Haven, CT: Yale University Press, 2008.
- Schneider, James J. "Introductory Essay." In *The Evolution of Operational Art*, vii-xxii. Fort Leavenworth, KS: Combat Studies Institute Press, 2013.
- Schon, Donald A. *The Reflective Practitioner: How Professionals Think in Action*. New York, NY: Vincent Torre, 1983.
- Senate Armed Service Committee. *FY 2020 National Defense Authorization Act Executive Summary*. Washington, DC: Library Of Congress, 2019.
- Shy, John. "First Battles in Retrospect." In *America's First Battles: 1776-1965*, edited by Charles E. Heller and William A. Stofft. Lawrence, KS: University of Kansas Press, 1986.
- Simpson, Emile. *War from the Ground Up: 21st Century Combat as Politics*. International Institute for Counterterrorism 14th Annual International Conference. Herzliya, Israel, 2014.
- Sinek, Simon. *The Infinite Game*. New York, NY: Portfolio, 2019.

- Singer, Peter W. "Tactical Generals: Leaders, Technology, and the Perils." (July 7 2009). Accessed February 10, 2020. <https://www.brookings.edu/articles/tactical-generals-leaders-technology-and-the-perils/>.
- Skinner, Douglas W. *Airland Battle Doctrine*. Alexandria, VA: Hudson Institute, Center for Naval Analyses, 1988.
- Smith, Mark K. "Chris Argyris: Theories of Action, Double-Loop Learning and Organizational Learning." *The Encyclopedia of Informal Education* (2013). Accessed February 4, 2020. <http://infed.org/mobi/chris-argyris-theories-of-action-double-loop-learning-and-organizational-learning/>.
- Snider, Don. "Strategic Insights: Whiskey over Books, Again? Anti-Intellectualism and the Future Effectiveness of the Army 2025." Last modified 2016. Accessed March 2, 2020. <https://ssi.armywarcollege.edu/strategic-insights-whiskey-over-books-again-anti-intellectualism-and-the-future-effectiveness-of-army-2025-2/>.
- Sorrells, William T., Glen R. Downing, Paul J. Blakesley, David W. Pendall, Jason K. Walk, and Richard D. Wallwork. "Systemic Operational Design: An Introduction." United States Army School of Advanced Military Studies, 2005.
- Stanley, Kenneth O. and Joel Lehman. *Why Greatness Cannot Be Planned: The Myth of the Objective*. New York, NY: Springer, 2015.
- Summers, Harry G. *On Strategy II: A Critical Analysis of the Gulf War*. New York, NY: Dell Publishing, 1992.
- Swain, Richard M. "Filling the Void: The Operational Art and the U.S. Army." In *The Operational Art: Developments in the Theories of War*, edited by B.J.C. McKercher and Michael A. Hennessy. Westport, CT: Praeger Publishers, 1996.
- . "Army Officership for the Joint Expeditionary Mindset." In *The Future of the Army Profession*, edited by Don Snider and Lloyd J. Matthews, 175-87. Boston, MA: McGraw Hill Custom Publishing, 2005.
- Thomas, Timothy L. "Russian Forecasts of Future War." *Military Review* 99, no. 3 (2019): 84-93.
- Toffler, Alvin and Heidi Toffler. *War and Anti-War: Survival at the Dawn of the 21st Century*. New York, NY: Little, Brown and Company, 1993.
- Tosey, Paul, Max Visser, and Mark Saunders. "The Origins and Conceptualizations of 'Triple-Loop' Learning: A Critical Review." *Management Learning* 43, no. 3 (2012): 291-307.

Townsend, Stephen. "Accelerating Multi-Domain Operations: Evolution of an Idea." (July 23, 2018. Accessed December 17, 2019. <https://mwi.usma.edu/accelerating-multi-domain-operations-evolution-idea/>).

Trybula, David C. *"Big Five" Lessons for Today and Tomorrow*. Alexandria, VA: Institute For Defense Analyses, 2012.

US Department of the Army. *17 Large Scale Combat Operations Gaps: Advanced Strategic Leadership Studies Program Address*, by Mike Lundy. Fort Leavenworth, KS: US Army Combined Arms Center, 2019.

———. *A Brief History of the Army Values*, by Frank Licameli. Fort Leavenworth, KS: Center for the Army Profession and Ethics, 2018.

———. *Combined Arms Doctrine Directorate AOC FM 3-0 Briefing*. Fort Leavenworth, KS: US Army Combined Arms Center, 2019.

———. *Army Combined Arms Operations above Brigade, 2025-2045: Winning the Continuum of Competition*. Fort Leavenworth, KS: US Army Combined Arms Center, 2018.

———. *Army Doctrine Publication (ADP) 3-0, Offense and Defense*. Washington, DC: Government Printing Office, 2019.

———. *Army Doctrine Reference Publication (ADRP) 1, The Army Profession*. Washington, DC: Government Printing Office, 2015.

———. *Army Doctrine Reference Publication (ADRP) 5-0, The Operations Process*. Washington, DC: Government Printing Office, 2012.

———. *Army Futures Command Top-Down Futures Development Process*. Austin, TX: US Army Futures Command, 2019.

———. *The Army Posture Statement*. Washington, DC: Government Printing Office, 2019.

———. *Army Regulation (AR) 600-20: Army Command Policy*. Washington, DC: Government Printing Office, 2014.

———. *Army Strategic Planning Guidance*. Washington, DC: Government Printing Office, 2014.

———. *Army Training Publication (ATP) 5-0.1: Army Design Methodology*. Washington, DC: Government Printing Office, 2015.

- . *The Army Vision*. Washington, DC: Government Printing Office, 2018.
- . *Art of Design: Student Text Version 2.0*. Fort Leavenworth, KS: School of Advanced Military Studies, 2009.
- . Field Manual (FM) 3-0, *Operations*. Washington, DC: Government Printing Office, 2017.
- . Field Manual (FM) 3-0, *Operations*. Washington, DC: Government Printing Office, 2019.
- . Field Manual (FM) 3-24, *Counterinsurgency (2006)*. Washington, DC: Government Printing Office, 2006.
- . Field Manual (FM) 100-5, *Operations (1986)*. Washington, DC: Government Printing Office, 1986.
- . Field Manual-Interim (FMI) 5-2, *Design (DRAFT)*. Washington, DC: Government Printing Office, 2009.
- . *Modernization Priorities for the United States Army*, by Mark A. Milley and Ryan D. McCarthy. Washington, DC: Government Printing Office, 2017.
- . TRADOC Pamphlet 525-3-1, *The U.S. Army in Multi-Domain Operations 2028*. Fort Eustis, VA: US Army Training and Doctrine Command, 2018.
- . TRADOC Pamphlet 525-5-500, *Commander's Appreciation and Campaign Design*. Fort Monroe, VA: TRADOC, US Army Capabilities Integration Center, 2008.
- . *The U.S. Army Concept for Multi-Domain Combined Arms Operations at Echelons above Brigade 2025-2045: Versatile, Agile, and Lethal*. Fort Leavenworth, KS: US Army Combined Arms Center, 2018.
- . *The U.S. Army in Multi-Domain Operations 2028 Base Brief V6 (May 2019)*. Austin, TX: US Army Futures Command, Futures and Concepts Center, 2019.
- US Department of Defense. *Mobility Capabilities and Requirements Study (MCRS) 2018 Executive Summary*. Scott Air Force Base, IL: United States Transportation Command, 2019.
- . *Summary of the 2018 National Defense Strategy of the United States of America: Sharpening the American Military's Competitive Edge*. Washington, DC: Government Printing Office, 2018.

- . *Summary of Lessons Learned*, by Donald H. Rumsfeld and Tommy R. Franks. Washington, DC: United States Senate, Senate Armed Services Committee, 2003.
- US Department of Defense, The Joint Staff. *Description of the National Military Strategy*. Washington, DC: Government Printing Office, 2018.
- . Joint Publication (JP) 1, Change 1, *Doctrine for the Armed Forces of the United States*. Washington, DC: Government Printing Office, 2017.
- US Department of State. *Policy Planning Staff Memorandum 269: The Inauguration of Organized Political Warfare*, by George Kennan,. Washington, DC: Government Printing Office, 1948.
- Vandergriff, Donald. *The Path to Victory*. Novato, CA: Presidio Press Inc., 2002.
- . Vandergriff, Donald. "The Myth of Mission Command: How "Synchronization Warfare" Has Removed the Human from Modern Warfare." *The Bridge* (blog). March 30, 2014. Accessed April 27, 2019. <https://thestrategybridge.org/the-bridge/2014/3/30/the-myth-of-mission-command>.
- Vangjel, Peter C. "Mission Command: A Clarification." In *Mission Command: The Who, What, Where, When, and Why*, edited by Donald Vandergriff and Stephen Webber, vol II, 3-18. Virginia, USA: CreateSpace Independent Publishing Platform, 2018.
- Vego, Milan N. "A Case against Systemic Operational Design." *Joint Force Quarterly*, no. 53 (2009): 69-75.
- . "Systems Versus Classical Approach to Warfare." *Joint Force Quarterly*, no. 52 (2009): 40-48.
- Virilio, Paul. *Ground Zero*. Translated by Chris Turner. New York, NY: Verso, 2002.
- . *The Aesthetics of Disappearance*. Los Angeles, CA: Semiotext(e), 2009.
- Vought, Donald B. "Preparing for the Wrong War?" *Military Review* 57, no. 5 (1977): 16-34.
- Vrolyk, John. "Insurgency, Not War, Is China's Most Likely Course of Action." (December 19, 2019). Accessed December 19, 2019. <https://warontherocks.com/2019/12/insurgency-not-war-is-chinas-most-likely-course-of-action/>.
- Wallace, David Foster. *This Is Water: Some Thoughts, Delivered on a Significant Occasion, About Living a Compassionate Life*. New York, NY: Little, Brown and Company, 2009.

- Weigley, Russel F. *The American Way of War: A History of United States Military Strategy and Policy*. Bloomington, IN: Indiana University Press, 1977.
- Weick, Karl. "Organizing and Failures of Imagination." *International Public Management Journal* 8, no. 3 (2005): 425-38.
- . "The Role of Imagination in the Organizing of Knowledge." *European Journal of Information Systems* 15, no. 5 (2006): 446-52.
- Weinberger, Caspar W. "The Uses of Military Power." *Frontline* (1984). Accessed November 28, 1984. <https://www.pbs.org/wgbh/pages/frontline/shows/military/force/weinberger.html>.
- Wesley, Eric J. "Let's Talk Multi-Domain Operations." *Modern War Institute Podcast*. United States Military Academy, Modern War Institute, February 24, 2020, accessed April 4, 2020, <https://podcasts.apple.com/us/podcast/modern-war-institute/id1079958510?i=1000466591730>.
- The White House. *National Security Directive 54*. Washington, DC: National Security Council, 1991.
- The White House. *National Security Strategy of the United States of America*. Washington, DC: Government Printing Office, 2017.
- The White House. *Sustaining U.S. Global Leadership: Priorities for 21st Century Defense*. Washington, DC: Government Printing Office, 2012.
- Winerman, Lea. "The Culture-Cognition Connection." *Monitor On Psychology* 37, no. 2 (2006): 64.
- Wittgenstein, Ludwig. *Tractatus Logico-Philosophicus*. Translated by C.K. Ogden. Mineola, NY: Dover Publications, 1999.
- Wong, Leonard and Stephen J. Gerras. *Lying to Ourselves: Dishonesty in the Army Profession*. Carlisle, PA: US Army War College, Strategic Studies Institute, 2015.
- Wylie, J.C. *Military Strategy: A General Theory of Power and Control*. Annapolis, MD: Naval Institute Press, 1989.
- Zinni, Anthony C. "Farewell Remarks at the U.S. Naval Institute - March 2000." US Naval Institute. Last modified 2000. Accessed January 3, 2020. <https://web.archive.org/web/20060330163243/http://www.rcaca.org/News-Zinni.htm>.
- Zweibelson, Ben. "An Application of Theory: Second Generation Military Design on the Horizon." *Small Wars Journal* (February 20, 2017 2017). Accessed February 4, 2020.

<https://smallwarsjournal.com/jrnl/art/an-application-of-theory-second-generation-military-design-on-the-horizon>.

