Complexity and Design Leadership:
The Design of Active Defense and
AirLand Battle Doctrines

A Monograph

by

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Abstract

Complexity and Design Leadership: The Design of Active Defense and AirLand Battle Doctrines by MAJ Erick M. Nyingi, US Army Reserve, 42 pages.

After the Vietnam War, the US Army faced a complex adaptive problem. Plagued with ebbing confidence after failing to secure a victory in Vietnam, low readiness levels due to personnel cutbacks and lagging modernization, and a waning budget necessitated by the economy and receding popular support for the military, the US Army was at a crisis point. At the same time, in Europe, NATO forces faced a credible Warsaw Pact threat invigorated by nuclear parity, an aggressive modernization program, and superior numbers of personnel. To reinvigorate the US Army and present a credible deterrence against the Warsaw Pact forces, Army Leaders embarked on a doctrinal transformation that began with Active Defense and ended with AirLand Battle. As the Army undergoes a similar doctrinal transformation to adopt Multi-Domain Operations, it is important to recognize that a doctrine's adoption and longevity not only depend on its ability to solve the problems at hand, but also its reception by the community it serves. It is therefore prudent to analyze and compare the leadership of Generals William DePuy and Donn Starry in developing the doctrines they produced.

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Acknowledgments

Acronyms

ADM	Army Design Methodology
ADP	Army Doctrine Publication
ATP	Army Technical Publication
CAC	Combined Arms Center
CACD	Commander's Appreciation and Campaign Design
CONARC	Continental US Army Command
DTAC	Department of Army Tactics
FORSCOM	Army Forces Command
ISIS	Islamic State
TRADOC	Training and Doctrine Command
NATO	North Atlantic Treaty Organization

Illustrations

Introduction

> George C. Marshall once said that the only way human beings can win a war is to prevent it. Now, he and I are from the same home town, so I'll take a little liberty and say that -- on his words and say that the best way to prevent a war is to be prepared to win it. As outlined in the 2018 National Defense Strategy revised earlier this year, we are at an inflection point and have re-entered an era of great power competition.
>
> —Dr. Mark Esper, June 2018

During his reconfirmation hearing before the Senate Armed Services Committee, chairman of the Joint Chiefs of Staff, General Joseph Dunford declared the current security environment the most volatile and complex since World War II. He noted in particular Russia and China's great power competition, Iran's increased influence in the Middle East, North Korea's destabilizing posture, and Violent Extremist Organizations such as al-Qaida and the Islamic State (ISIS).[1] To align the national defense posture with the threats, the US military is currently shifting its focus from counter-insurgency to conventional war against a peer or near-peer threat. While noting that the United States is emerging from "strategic atrophy", the *2018 National Defense Strategy (NDS)* identifies interstate strategic competition, as the primary concern in US national security.[2]

In response to the emerging threats in the global security environment, the US Army is undergoing a doctrinal evolution. In June 2018, while speaking at a foreign policy event at the Brookings Institute, US Army Secretary Mark Esper introduced *The Army Vision*, his and General Milley's vision to support the NDS. The vision, which is the US Army's future end state declares 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

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[1] "Dunford: U.S. Faces Volatile, Complex Security Situations," US Department of Defense, accessed November 14, 2018, https://dod.defense.gov/News/Article/Article/1324953/dunford-us-faces-volatile-complex-security-situations/.

[2] James N. Mattis, *Summary of the 2018 National Defense Strategy (NDS) of the United States of America* (Washington, DC: Government Printing Office, 2018), 1.

simultaneously deterring others and maintaining its ability to conduct irregular warfare."[3]

Secretary Esper further explained that by, with, and through a new doctrine based on multi-domain operations, the US Army will focus on its manning, organization, training, equipment, and leadership to achieve the vision.[4]

Field Manual 3-0, Operations released in October 2017, updated the US Army's operational doctrine, and directed the US Army's focus from counter-insurgency to Large-Scale Combat Operations (LSCO), as part of a holistic effort in preparation for combat operations across the conflict continuum. In December 2018, the US Army Training and Doctrine Command (TRADOC) published *TRADOC Pamphlet 525-3-1, The U.S. Army in Multi-Domain Operations 2028,* which aims to counter enemy layered stand-off by integrating all domains of warfare, to penetrate and disintegrate enemy anti-access and area denial (A2AD) systems.[5] To tackle force modernization, the US Army established the Futures Command in August 2018. The command will spearhead efforts to improve Soldiers' lethality while acquiring updated long-range precision weapons, a next-generation combat vehicle, future vertical lift platforms, a mobile and expeditionary network, and updated air and missile defense capabilities.[6]

As Secretary Esper noted, the US Army uses doctrine as the vehicle to generate change, improve its readiness, and posture itself to handle future uncertain environments. *Joint Publication (JP) 1-02* defines doctrine as the fundamental principles by which the military forces

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[3] Mark T. Esper and Michael O'Hanlon, "*A Discussion on Priorities for the US Army with Secretary Mark Esper"* The Brookings Institute, June 25, 2018, accessed February 16, 2019, www.brookings.edu/wp-content/uploads/2018/06/fp_20180605_army_esper_transcript1.pdf, 6.

[4] Ibid., 6-8.

[5] US Department of the Army, *TRADOC Pamphlet 525-3-1, The U.S. Army in Multi-Domain Operations 2028* (Washington, DC: Government Printing Office, 2018), iii, vi. *TRADOC Pamphlet 525-3-1* defines stand-off as "the political, temporal, spatial, and functional separation that enables freedom of action in any, some, or all domains, the EMS, and the information environment to achieve strategic and/or operational objectives before an adversary can adequately respond."

[6] Joe Lacdan, "Establishment of Army Futures Command Marks a Culture Shift," *Army.mil Webpage,* August 27, 2018, accessed December 12, 2018, https://www.army.mil/article/210371/establishment_of_army_futures_command_marks_a_culture_shift.

or elements, therefore, guide their actions in support of national objectives.[7] The US Army defines its doctrine as "fundamental principles, with supporting tactics, techniques, procedures, and terms and symbols, used for the conduct of operations and which the operating force, and elements of the institutional Army that directly support operations, guide their actions in support of national objectives."[8] While acknowledging that doctrine is authoritative, *Army Doctrine Publication (ADP) 1-01* points out that its application requires judgment and cannot be viewed as a catalog of answers to specific problems.[9] It is the institutional attempt to solve complex adaptive problems hence its application must be viewed in that context.

While doctrine influences the US Army in terms of organizational structure and practice, it is important to note that people and organizations within the US Army also play a critical role in influencing doctrine. Doctrine is a product of human interactions and relationships and its success depends on its credibility and institutional consensus. *ADP 1-01* notes that US Army doctrine gains widespread acceptance because of its ability to account for decades of experience, local procedures, best practices, and lessons learned from operations and training.[10] Historian John Shy postulated that since doctrine, ideas, memory, and prediction fill the void of experience during the first battle of war, when doctrine lacks clarity or credibility, Soldiers at every level fall back on other notions of warfare to include prior experience, film images, and even childish fantasies. [11]

The US Army's current doctrinal revision is reminiscent of that which began in the

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[7] US Department of Defense, Joint Staff, *Joint Publication (JP) 1-02, Department of Defense Dictionary of Military and Associated Terms* (Washington, DC: Government Printing Office, 2010 (As Amended Through 2016)), 71.

[8] US Department of the Army, *Army Doctrine Publication (ADP) 1-01*, *Doctrine Primer* (Washington, DC: Government Printing Office, 2014), 1-2.

[9] Ibid., 1-2 - 1-3.

[10] Ibid., 1-1.

[11] John Shy, "First Battles in Retrospect," in *Americas First Battles: 1776-1965,* ed. Charles E. Heller (Lawrence, KS: Univ. Press of Kansas, 1986), 332-334.

1970s, when it faced a complex adaptive problem. Suffering a confidence crisis after failing in Vietnam, dealing with high levels of indiscipline and fielding outdated weapons, the US Army had to address the threat posed by a technologically and numerically superior Warsaw Pact forces. Events of the Yom Kippur War confirmed American suspicions of the devastating effects of Soviet weaponry and hastened the US Army's efforts to prepare for potential conflict in Europe, as part of the North Atlantic Treaty Organization (NATO). Active Defense in 1976, and later AirLand Battle in 1982, were the results of the US Army's doctrinal solutions in response to these perceived threats.

In 1973 General William DePuy, TRADOC's first commander, oversaw the first major doctrinal statement of the post-Vietnam Army. The revision culminated with TRADOC's release of the *1976 Field Manual (FM) 100-5* and introduced the doctrine commonly referred to as Active Defense. The updated doctrine oriented the US Army on major combat operations in Europe, focusing its efforts on winning the first battle against the Warsaw Pact forces.[12] Active Defense generated doctrinal debates across the US Army. Critics accused it of focusing too much on Europe, being too defensive, and relying excessively on mechanistic calculations (thereby eliminating the human element in warfare). DePuy's decision to relieve Fort Leavenworth's Department of Army Tactics (DTAC) from authorship also affected his doctrine's consensus within the US Army community.[13]

In 1977, General Starry replaced DePuy at TRADOC and embarked upon a revision of *FM 100-5*. His main goal was focusing on the operational level of war to address Warsaw Pact forces' follow-on echelons.[14] He also developed doctrine applicable to worldwide combat operations, not just the European theater. TRADOC's release of AirLand Battle doctrine with the

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[12] Paul H. Herbert, *Deciding What Has to Be Done: General William E. DePuy and the 1976 Edition of FM 100-5, Operations* (Fort Leavenworth, KS: Combat Studies Institute Press, 1988), 1-7.

[13] Ibid., 104.

[14] John L. Romjue, *From Active Defense to AirLand Battle: The Development of Army Doctrine, 1973-1982* (Fort Monroe, VA: Historical Office, US Army Training and Doctrine Command, 1984), 25.

1982 *FM 100-5* received widespread acceptance across the US Army. Although no major combat operations against the Soviet Union occurred, the larger military community attributed the US Army's overwhelming success during the Gulf War to AirLand Battle.[15]

The US Army's adoption of AirLand Battle doctrine and the modernization instituted during its implementation stands as a clear model of successful complex problem-solving that reinvigorated an army in desperate need of reforms. The study of the complex challenges of the post-Vietnam period, and the two key leaders that spearheaded the US Army's adoption and implementation of Active Defense and AirLand Battle doctrines, merits a closer look given today's parallels in scope and complexity. This monograph analyzes the complexity of the post-Vietnam problems and the resultant doctrinal transformation. It establishes that while there were substantive differences between Active Defense and AirLand Battle, the US Army's acceptance of AirLand Battle and rejection of Active Defense was in part due to General DePuy's failure to garner consensus during the doctrine development and adoption process, in comparison to General Starry's leadership capabilities and capacity to understand complexity.

First, the paper examines the complex adaptive environment the post-Vietnam US Army faced, by looking at the organizational challenges and the global security threats the Warsaw Pact posture in Europe created during the 1970s and the early 1980s. This analysis concludes with an overview of the Yom Kippur War and its significance to the US Army's operational environment. Second, the paper examines today's doctrine to establish the US Army's institutional approach to complex problems, as well as the role for leadership. Third, the paper examines General DePuy's efforts to transform the US Army from its post-Vietnam low point to its adoption of Active Defense, analyzing DePuy's vision and his leadership throughout the doctrine development process. This section also summarizes the key characteristics of Active Defense and concludes

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[15] Stephen Bourque, *Jayhawk! The VII Corps in the Persian Gulf War* (Washington, DC: Center of Military History, 2002), v.

with the doctrine's reception across the US Army. Fourth, the paper examines General Starry 's doctrinal update from Active Defense to AirLand Battle, and in particular considers his experiences implementing Active Defense in Europe as the V Corps commander. This section also scrutinizes Starry's leadership style as he led the doctrine development process as DePuy's successor at TRADOC, and summarizes the key characteristics of AirLand Battle before concluding with the doctrine's reception by the US Army community. Finally, this paper draws lessons from the US Army's transformation to Active Defense and finally to AirLand Battle and the implications to today's environment.

The US Army's post-Vietnam doctrinal transformation has attracted scholarly interest among military historians. Paul Herbert's *Deciding What Has to Be Done* is perhaps the most authoritative account on DePuy's development of Active Defense. John Romjue's *From Active Defense to AirLand Battle* chronicles Starry's development of AirLand Battle while providing an overview of the contentious issues that led to the change from Active Defense. Walter Kretchik's *US Army Doctrine* provides a chronological detail of the Army's doctrine since the American Revolution and like Robert Doughty's *The Evolution of US Army Tactical Doctrine, 1946-76,* provides an overview of the strategic and operational challenges that led to both Active Defense and AirLand Battle.[16]

As with these historical accounts, most military historians focusing on this period and the doctrine development focus on the strategic and environmental factors that led to the doctrine, the details of the doctrine, and the acquisition programs associated with the time. Absent in the literature is an analysis of the complexity of the problems the US Army faced, and Generals DePuy and Starry's leadership as they formed the doctrine writing teams, and led the doctrine

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[16] Herbert, *Deciding What Has to Be Done*; Romjue, *From Active Defense to AirLand Battle*; Walter E. Kretchik, *U.S. Army Doctrine: From the American Revolution to the War on Terror* (Lawrence: University Press of Kansas, 2011); Robert A. Doughty, *The Evolution of US Army Tactical Doctrine, 1946-76* (Fort Leavenworth, KS: Combat Studies Institute Press, 2001).

formulation process from conceptual ideas to publication. Also absent are the effects that their leadership had on the quality of the doctrine and how the leadership differences may have factored in their doctrine's acceptance by the US Army community. Paul Herbert's *Deciding What Has to Be Done* includes a detailed analysis of some of DePuy's failures that this monograph draws upon.[17] While acknowledging that human networks are complex and the difficulty for establishing causal relationships in a complex adaptive system, this paper intends to explore the intangible topics of leadership in relation to power, influence and consensus building and attempts to establish the qualitative effects of these leadership traits.

In today's doctrinal terms, the post-Vietnam Army's complex problem fit the description of an ill-structured or wicked problem, with dynamic interrelated variables, no identifiable single source, and no obvious solutions that military leaders could agree upon.[18] As John Lewis Gaddis posits, "causes always have contexts, and to know the former we must understand the latter."[19] To analyze the US Army's post-Vietnam doctrinal reforms and understand why the Army community rejected Active Defense and embraced AirLand Battle, it is therefore important to explore the environment in which the reforms took place and attain a contextual understanding of the complexity of the problems the Army's leaders leading the doctrinal efforts had to contend with. To evaluate General DePuy and General Starry's leadership throughout their doctrine development processes, this monograph utilizes the design leadership attributes identified by *Army Techniques Publication (ATP) 5-0.1*, *Army Design Methodology*.[20]

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[17] Herbert, *Deciding What Has to Be Done*, 101-107.

[18] US Department of the Army, *TRADOC Pamphlet 525-5-500, Commander's Appreciation and Campaign Design* (Washington, DC: Government Printing Office, 2008), 5.

[19] John Lewis Gaddis, *The Landscape of History: How Historians Map the Past* (Oxford: Oxford University Press, 2004), 97.

[20] US Department of the Army, *Army Techniques Publication (ATP) 5-0.1*, *Army Design Methodology* (Washington, DC: Government Printing Office, 2015), 2-7.

Complexity

Dietrich Dorner defines system complexity as the existence of many interdependent variables in a given system, where the magnitude of the system's complexity depends on the number of its variables and the level of the interdependence between them.[21] In *Power and Influence*, John Kotter introduces the concept of social complexity, or the increasingly complex social milieu in today's working environment. Kotter attributes social complexity to two concepts: diversity and interdependence. He describes diversity as the difference among individuals' perceptions, goals, assumptions, values and stakes; and interdependence as the mutual power that people have over each other, which enables them to influence each other's outcomes. According to Kotter, organizations with high diversity and interdependence experience greater social complexity which leads to a greater difference in opinions and less success in unilateral action than those organizations with low diversity and interdependence.[22]

The US Army does not delineate between system complexity and social complexity. But its concepts of the Operational Environment (OE) incorporates both. *Joint Publication 3-0* defines an OE as a "composite of the conditions, circumstances, and influences that affect the employment of capabilities and bear on the decisions of the commander."[23] The elements of the OE and their behaviors are the determining factors of a situation's complexity. When a group of these elements in the OE are related in function, they form a complex whole or a system.[24]

Rather, the US Army categorizes complexity into structural and dynamic complexity distinguishing the two by the quantity and characteristics of independent parts within the system.

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[21] Dietrich Dorner, The *Logic of Failure: Why Things go Wrong and What We Can Do to Make Them Right* (New York, NY: Metropolitan Books, 1996), 38.

[22] John P. Kotter, *Power and Influence: Beyond Formal Authority* (New York: Free Press, 1985), 17.

[23] US Department of Defense, Joint Staff, *Joint Publication (JP) 3-0, Joint Operations* (Washington, DC: Government Printing Office, 2017), iv-1.

[24] US Army, *ATP 5-0.1*, 1-7, 4-1.

Structural complexity is dependent on the number of independent parts, whereas interactive complexity describes the relationships and resulting behaviors among the parts and subparts of a system.[25] Interactive complexity is determined by the number of linkages of the parts of the system, and by the "freedom of action" that these parts have.[26] The level of a given situation's interactive complexity, and the perception of those involved, determine how the US Army classifies the problem. Problems with little interactive complexity are well-structured, while those with more interactive complexity are medium- or ill-structured (see Figure 1).[27] As evidence will show, the post-Vietnam environment presented the US Army's leaders with both structural and interactive complexity; hence returning the US Army to its pre-war fighting form and effectively deterring the Soviet Union qualified as an ill-structured problem in today's terms.

	Well-structured	*Medium-structured*	*Ill-structured*
Perception	The problem is self-evident.	Leaders easily agree on its structure.	Leaders have difficulty agreeing on problem structure and will have to agree on a shared hypothesis.
Solution development	Solution techniques are available and there are verifiable solutions.	There may be more than one "right" answer. Leaders may disagree on the best solution. Leaders can agree on a desired end state.	Leaders will disagree on— • How the problem can be solved. • The most desirable end state. • Whether the end state can be attained.
Execution of solution	Success requires learning to perfect technique.	Success requires learning to perfect techniques and to adjust the solution.	Success requires learning to perfect technique, adjust the solution, and continuously refine understanding of the problem.
Adaptive iteration	No adaptive iteration required.	Adaptive iteration is required to find the best solution.	Adaptive iteration is required to refine the problem structure and solutions.

Figure 1. Types of Problems. US Department of the Army, *Army Techniques Publication (ATP) 5-0.1*, *Army Design Methodology* (Washington, DC: Government Printing Office, 2015), 4-1.

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[25] US Army, *ATP 5-0.1*, 3-1.

[26] US Army, *TRADOC PAM 525-5-500*, 5.

[27] US Army, *ATP 5-0.1*, 4-1.

Army's Approach to Complexity

In 2005, after recognizing that commanders had difficulties understanding complex situations, the Army and the Marine Corps began looking for methods to improve their services' ability to understand and solve complex problems.[28] In 2008, the Army published *TRADOC Pamphlet 525-5-500, The U.S. Army Commander's Appreciation and Campaign Design (CACD)*. CACD proposed design as a method for commanders to "develop a shared understanding of complex operational problems within their commands (commander's appreciation) and design a broad approach for problem resolution that links tactical actions to strategic aims (campaign design)."[29] CACD introduced design into Army doctrine and was the precursor of "Design Thinking", which the Army introduced in 2010. In 2012 the Army published *Army Doctrine Publication (ADP) 5-0, The Operations Process*, and replaced the term "design" with the Army Design Methodology (ADM), codifying design into its doctrine.[30] *Army Techniques Publication (ATP) 5-0.1* describes the Army Design Methodology as a "methodology for applying critical and creative thinking to understand, visualize, and describe unfamiliar problems and approaches to solving them."[31]

Army Design Methodology

ADM emphasizes a nonlinear conceptual framework made up of four activities: framing the environment, framing the problem, framing the solution, and reframing.[32] As opposed to most planning activities in the Army, design does not yield an executable set of instructions, but rather a broad approach that can then inform detailed planning, which *TRADOC PAM 525-5-500* refers to as engineering. *TRADOC PAM 525-5-500* points out that while both design and engineering

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[28] US Army, *ATP 5-0.1*, v.

[29] US Army, *TRADOC PAM 525-5-500*, 1.

[30] US Army, *ATP 5-0.1*, v.

[31] Ibid., 1-3.

[32] Ibid., 1-3 – 1-4.

devise ways to attain the desired end state, design focuses more on learning about the problem while engineering focuses on producing a blueprint, that is, a detailed plan of action based on the understanding of the problem. Designers acquire the problem's understanding by questioning assumptions and the limits of their knowledge, then exploiting this knowledge to develop a broad approach to solve the problem.[33]

Design Leadership

Since the main purpose of the ADM is to provide structure to complex problems, it becomes imperative that the team reaches a shared understanding of the problem. Kotter suggests that teams made of members with a diversity of thought tend to produce more creative products. The challenge of leading such a team comes the conflict that diversity creates.[34] The design leader then must play his or her part to foster a collaborative environment free from unproductive bureaucracy, favoritism, and infighting. *ATP 5-0.1* states that design is best accomplished through discourse. The publication outlines the four attributes of a successful design leader, leading a team attempting to solve a complex problem.[35]

First, to ensure that the team works collaborates effectively, the leader should enable the candid exchange of ideas without fear of retribution, building a trusting environment where team members share ideas openly and feel free to question and debate each other's ideas free from the hierarchy of military rank.[36] An environment devoid of collaboration stifles creative thinking. Second, to prevent groupthink, design leaders should refrain from labeling any ideas as "good or bad", or "right or wrong." Individuals in a group identify with their ideas and draw esteem from being told they are right. If the design leader shows a preference for ideas, team members will tend to refrain from thinking creatively or providing seemingly controversial ideas for the fear of

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[33] US Army, *TRADOC PAM 525-5-500*, 13-14.

[34] Kotter, *Power, and Influence*, 19-20.

[35] US Army, *ATP 5-0.1*, 1-3.

[36] Ibid., 1-3.

being wrong or being judged negatively.[37] In *Leadership Without Easy Answers*, Ronald Heifetz suggests that a leader should "give cover to team members who raise hard questions and generate distress-people who point to the internal contradictions of the society." These individuals are the ones who generate thought-provoking ideas that a design leader seeks.[38]

Third, the design leader must ensure that the design team continues to learn throughout the design process. This means not creating a "zero-defects" command climate, but rather allowing for iterations and heuristics to refine the team's understanding.[39] The leader should also assume a facilitator's role, when required, to enable team learning. In *The Fifth Discipline*, Peter Senge suggests that for team learning to flourish, members should rely on dialog, alignment, a shared language for dealing with complexity, and practice.[40] Finally, the leader should never let the team work in isolation. Bryan Lawson, in *How Designers Think,* specifies that "design cannot be practiced in a social vacuum. Indeed, it is the very existence of the other players such as clients, users, and legislators which makes design so challenging."[41] Interaction with experts outside the design process, or those who will execute the actions related to the design product, gives the team a chance to test their concepts and validate or improve their understanding. The design leader must remain aware of the organizational context and facilitate external interaction for the team.[42] As evidence will demonstrate, General Starry better reflected the design leadership attributes than General DePuy and as a result, AirLand Battle was substantively superior and generated broader consensus compared to Active Defense.

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[37] US Army, *ATP 5-0.1*, 2-7.

[38] Ronald A. Heifetz, *Leadership Without Easy Answers* (Cambridge, MA: Belknap Press of Harvard University Press, 1994), 128.

[39] US Army, *TRADOC PAM 525-5-500*, 15.

[40] Peter M. Senge, *The Fifth Discipline: The Art and Practice of the Learning Organization* (London: Random House Business, 2006), 221- 242.

[41] Bryan Lawson, *How Designers Think: The Design Process Demystified* (Oxford: Architectural, 2006), 2-7.

[42] US Army, *ATP 5-0.1*, 2-7.

Post-Vietnam Complex Adaptive System

External Elements

Externally, three major elements played a role in the US Army's complex adaptive problem. First, by 1970, the Soviets had achieved nuclear parity with the United States, modernized their conventional forces, and fielded a numerically superior Warsaw Pact force on Western Europe's doorstep. Second, if the perceived future battle was to occur in the European theater against Warsaw Pact forces, then the US Army was to fight as part of the NATO alliance. Any operational planning or doctrinal adjustments by the US Army had to consider its NATO partners and, in particular, required the concurrence of the Germans on whose homeland operations would occur. Third, the 1973 Yom Kippur War heightened urgency in which the US Army had to get its house in order. The Egyptian and Syrian forces highlighted the devastating effects of Soviet military modernization and the magnitude of losses over the war's short course demonstrated the lethality of future wars.

In the early 1970s, the Nixon administration focused its efforts away from Vietnam and oriented towards Europe, identifying the Soviets as the most immediate threat to the US nation's security. The. By 1965 the Soviets had achieved nuclear parity with the United States. In response, the United States had successfully convinced its NATO allies to adopt the Flexible Response doctrine in 1967. It called for a symmetrical response to any Warsaw Pact aggression by responding at the level initiated by the Warsaw Forces and escalating to nuclear weapons if the Warsaw Pact used them first, or if, conventional defenses failed.[43] This meant that if Soviet forces achieved conventional superiority, the risk of a nuclear escalation would increase.

During the decade-long conflict in Vietnam, the Soviet Union diligently modernized its military, upgraded its conventional fighting capabilities. Starting in the late 1960s and continuing

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[43] Joseph Lepgold, *The Declining Hegemon: The United States and European Defense, 1960-1990* (New York: Greenwood Press, 1991), 139-141.

through the 1970s the Soviets enhanced their ground combat capabilities by enlarging the size of

the motorized rifle divisions from 10,000 to 12,000 and their tank divisions from 8,000 to

9,500.[44] Between 1968 and 1975, total armored fighting units increased nineteen percent, while

motorized fighting units increased by twenty-two percent (See Figure 2).[45] Increases in major

weapons and vehicles generated more than a fifty percent increase in mobility and firepower.[46]

Full-scale production of the T-72 tanks began about this time, as did the production of the BTR-

60PB and the BMP armored personnel carriers and the BMP infantry fighting vehicles, as well as

a surge in the delivery of self-propelled artillery weapons. The Soviets also produced new

aircraft, including the MIG-21 and the SU-17 fighter-bombers and the SU-19 ground attack

aircraft, they developed a new air to air missiles and air to surface missiles some with electric

optically guided systems. The Soviets also increase production of ground-based air defense

systems beginning with the ZSU-23, the ZSU-24, the SA-7, and the SA-4. By the mid-1970s the

Soviets produced several more to include the SA-6, SA-7, SA-8, and SA-9.[47] By 1975, Warsaw

Pact forces fielded fifty-eight divisions in Central Europe, compared to twenty-seven NATO

divisions; 19,000 tanks compared to 6,100 NATO tanks; and 2,460 tactical aircraft compared to

1,700 NATO aircraft (see Figure 2).[48]

These numbers, coupled with the nuclear parity the Soviets had achieved and the modern

weapons they fielded, put the United States at a tactical, operational, and strategic disadvantage.

And they were exacerbated by the fact that Warsaw Pact forces would have easier access to

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[44] "National Intelligence Estimate: Warsaw Pact Forces Opposite NATO", Central Intelligence Agency, September 4, 1975, 33-34, accessed December 01, 2018, https://www.cia.gov/library/readingroom/DOC_0000278530.pdf.

[45] NATO, "NATO and Warsaw Pact: Force Comparisons," NATO, accessed February 08, 2019, https://www.nato.int/cps/fr/natohq/declassified_138256.htm.

[46] Central Intelligence Agency, *National Intelligence Estimate,* 33-34.

[47] Ibid., 33-38.

[48] NATO, *NATO and Warsaw Pact: Force Comparisons*. NATO, accessed February 08, 2019, https://www.nato.int/cps/fr/natohq/declassified_138256.htm.

reinforcements because of the proximity of their manpower resources, whereas the United States would have to transport then across the Atlantic. In short, US planners recognized that Soviet modernization had given the Warsaw Pact conventional superiority, which invalidated NATO nuclear deterrence and the Flexible Response doctrine.
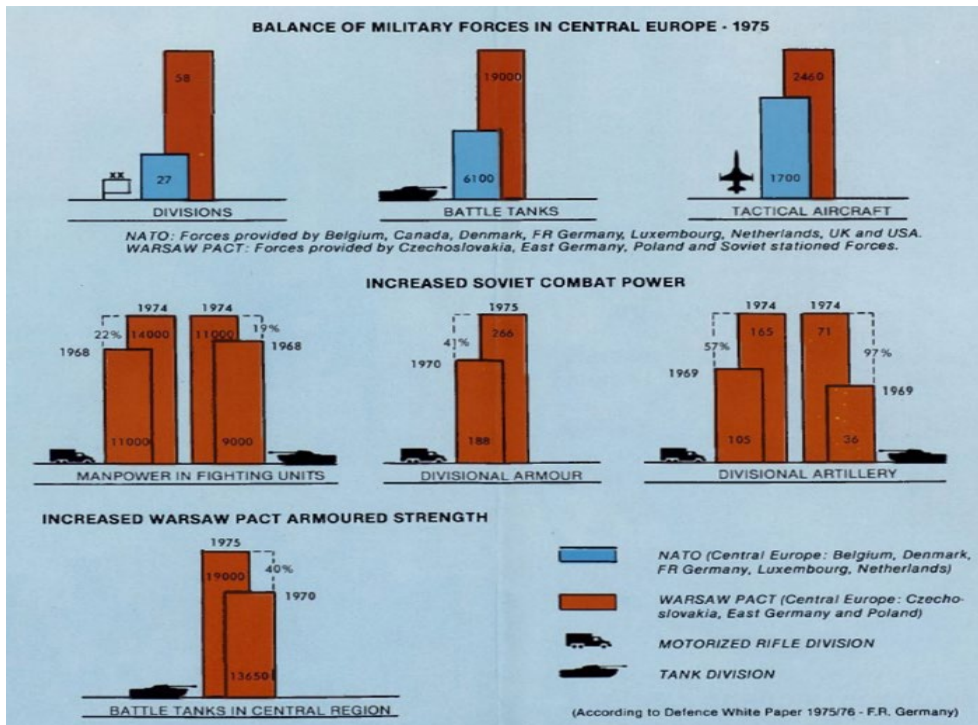
Figure 2. Balance of Forces in Central Europe. NATO, "NATO and Warsaw Pact: Force Comparisons," NATO, accessed February 08, 2019, https://www.nato.int/cps/fr/natohq/declassified_138256.htm.

Any doctrine developed by the US Army had to consider NATO allies and incorporate their input and feedback. This further complicated the environment for the Army's leaders. The biggest concern among NATO's European members, and particularly the Germans, was the possibility of nuclear war on their home soil. For the United States, the main nuclear threats were intercontinental ballistic missiles; for Europeans, they were tactical nuclear weapons. In a 1974 report, Charles Davidson noted that for the Germans, tactical nuclear weapons had strategic consequences and yielded unacceptable collateral damage. Davidson highlighted that during the Carte Blanche simulated nuclear exercise in 1955, NATO's Supreme Headquarters Allied

Powers, Europe (SHAPE) estimated the resultant casualties after 335 nuclear detonations on West German soil would exceed five million people.[49] For this reason, the US Army's leadership faced more pressure to develop solutions that would keep any future conflict below the nuclear threshold.

Perhaps no external event was more significant in shaping in the post-Vietnam doctrinal reforms than the 1973 Yom Kippur War. Though short-lived, it had long-lasting consequences due to the level of urgency it created upon the Army's leadership. The war confirmed suspected Soviet weapons advances and introduced the world to what most referred to as the "new lethality." For the US Army, the greatest realization was that it could not rely on mobilizing additional manpower before the war ended, as it had in previous conflicts.[50]

Six years after Israel's decisive victory against the Arabs in the 1967 Six-Day War, peace with its Arab neighbors was still elusive. Israel had cemented itself as a regional power and enjoyed military superiority guaranteed by its airpower. On October 6th, 1973, during Yom Kippur, the most solemn religious holiday in the Jewish religion, Soviet-armed Egyptian and Syrian forces staged a surprise attack that threatened Israel's existence.[51] Using Soviet surface-to-air missiles (SAM) and SCUD missiles, Arab forces neutralized Israel's air superiority and caused devastating loses to Israeli armored forces.[52] Although the Israeli Defense Forces (IDF) recovered from the initial shock and achieved victory in twenty-one days, the war was costly. The IDF suffered 11,000 casualties, over 800 tanks destroyed, and lost more than 100 aircraft; for

[49] Charles N. Davidson, *Tactical Nuclear Defense-The West German View* (Fort Belvoir, VA: Army Nuclear Agency, 1974), 48-56, accessed February 4, 2019, https://apps.dtic.mil/dtic/tr/fulltext/u2/a510953.pdf.

[50] Saul. Bronfeld, "Fighting Outnumbered: The Impact of the Yom Kippur War on the U.S. Army," *The Journal of Military History* 71, no. 2 (2007), 470-479.

[51] Abraham Rabinovich, *The Yom Kippur War: The Epic Encounter That Transformed the Middle East* (New York: Schocken Books, 2017), 5-9.

[52] David T. Buckwalter, "The 1973 Arab-Israeli War," In *Case Studies in Policy Making & Implementation, ed* David A. Williams (Newport, RI: Naval War College, 2002), 121.

Arab forces, these numbers were 28,000 casualties, 1,850, and 450, respectively.[53]

The Yom Kippur War generated tremendous interest in the US Army. For General DePuy, its significance was that the "Syrians and Egyptians lost (destroyed) as many tanks as we have in Europe in the Seventh Army plus all the prepositioned equipment there."[54] The war pitted Soviet techniques and weapons against Western ones, and was seen as a preview of what a conflict in Europe would look like. The war's lethality demonstrated that future wars could be short but have major strategic implications (such as the United States not being able to rely on a mobilization to prepare for the next war). Learning its lessons would become a major priority for the newly stood-up TRADOC and its inaugural commander, General William DePuy.

Internal Elements

Internally, the Army's problems fell into three major categories. First, the Army faced resource constraints. Budgetary cuts and the end of the draft meant that low funding limited the Army's modernization.[55] Second, the US Army as an organization was in disarray. Defeat in Vietnam had produced a confidence crisis: morale was low, disciplinary problems were high, and public trust in the institution was ebbing.[56] Third, internal organizational culture was an impediment to problem-solving. Differences between the infantry and the armor community, and a lack of consensus between the two on the role of tanks and air cavalry in future battles, put the lessons learned in Vietnam in jeopardy.[57]

In January 1973, President Richard Nixon signed the Paris Peace Accords which formally ended the Vietnam War. The US Army began redeploying from a theater that had consumed its

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[53] Buckwalter, *The 1973 Arab-Israeli War*, 126-130.

[54] William E. DePuy et al., *Selected Papers of General William E. DePuy: First Commander, U.S. Army, Training and Doctrine Command*, 1 July 1973 (Fort Leavenworth, KS: Combat Studies Institute Press, 1994), 112.

[55] Richard W. Stewart, *American Military History, Volume II: The United States Army in a Global Era, 1917-2008* (Washington, DC: Center of Military History, US Army, 2010), 377-379.

[56] Bronfeld, *Fighting Outnumbered*, 469.

[57] Herbert, *Deciding What Has to Be Done*, 89.

resources for over a decade. Of the 58,000 American service members killed in Vietnam, the

Army bore the brunt with 38,000 Soldiers killed, yet victory had been elusive.[58] The American

public's reception of the returning troops stood in stark contrast from that of the previous wars.

There was no consensus on the American public's support for the military.[59] A narrative of

excessive use of force and unjustified killings overshadowed the efforts of the US military in

Vietnam. In a 1967 memo to President Lyndon Johnson, Defense Secretary Robert McNamara

had written that "There may be a limit beyond which many Americans and much of the world

will not permit the United States to go. The picture of the world's greatest superpower killing or

seriously injuring 1,000 non-combatants a week, while trying to pound a tiny, backward nation

into submission on an issue whose merits are hotly disputed, is not a pretty one."[60] As soldiers

returned home from Vietnam, the public showed their discontent. Protesters on the Golden Gate

Bridge spit threw garbage and dumped red paint on returning military ships.[61]

As a result of low public support for the military, the US Congress increased oversight on

military spending. Between 1970 and 1975, US defense spending dropped about six percent.[62]

The Nixon administration abandoned the two-and-a-half war policy that had required the military

to be prepared to fight simultaneous major wars in Asia and Europe, as well as a small war

anywhere else in the world, and adopted a one-and-a-half war policy. This policy meant that the

US armed forces would be manned and equipped to deal with only one major war, and one

smaller war simultaneously.[63] Moreover, to retain an all-volunteer force, the Army had to fund

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[58] Vietnam War US Military Fatal Casualty Statistics, National Archives and Records Administration, accessed February 10, 2019, https://www.archives.gov/research/military/vietnam-war/casualty-statistics.

[59]Stewart, *American Military History*, 373.

[60] In Paul K. Harker, *Desecration of American Culture: The Loss of Citizen Liberties in a Politically Correct Society* (Balian Press, 2016), 166.

[61] Ibid., 22.

[62] Lepgold, *The Declining Hegemon*, 147-148.

[63] Herbert, *Deciding What Has to Be Done*, 5; Lepgold, *The Declining Hegemon*, 148.

quality-of-life programs that had been neglected during the draft years.[64]

Because of budgetary constraints, there were fears that the Army's cuts would result in a 500,000-man Army, which were not meritless. In *My American Journey*, General Collin Powell notes that in 1972, while working as a major at the Planning and Programming Analysis Directorate, then-Assistant Vice Chief of Staff of the Army General DePuy had asked him to lead a team in planning the structure of a 500,000-man Army. Considering that Army strength at the time was 1.6 million, the possibility of such cuts astonished the planners.[65] Instead General Creighton Abrams, the Chief of Staff of the Army, negotiated an arrangement with Secretary of Defense James Schlesinger to keep the end strength Army at 785,000.[66]

There were serious doubts that the US Army could fulfill its obligations if the need arose. Reflecting on its situation, General DePuy latter stated that "I think the whole American Army after the Vietnam war was in some state of disarray, certainly had lost some of its confidence."[67] In Europe the US Army was supposed to be at its highest level of readiness. Yet between 1962 and 1970, US personnel in Europe had decreased from 416,000 to 291,000, with over $10 billion worth of equipment removed.[68] Moreover, President Nixon faced congressional pressure in 1971 with a bill (sponsored by Senator Michael Mansfield, the Senate majority leader from Montana) that would have reduced US forces in Europe by half.[69] It failed, but highlighted the state of affairs and a political environment that military leaders had to navigate.

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[64] Stewart, *American Military History*, 370-371.

[65] Colin Powell*, My American Journey* (New York: Random House Audio, 1995), 156-157.

[66] Suzanne C. Nielsen, *An Army Transformed: The U.S. Army's Post-Vietnam Recovery and the Dynamics of Change in Military Organizations* (Carlisle, PA: Strategic Studies Institute, US Army War College, 2010), 42.

[67] William E. DePuy, Romie L. Brownlee, and William J. Mullen, *Changing an Army: An Oral History of General William E. DePuy, USA Retired* (Carlisle Barracks, PA: US Military History Institute, 1988), 25.

[68] Lepgold, *The Declining Hegemon*, 144.

[69] Ibid., 139-141.

As part of the US response to this complex environment, the Army embarked on ways to improve and to prepare itself for its role in defending the nation. To improve efficiencies, General Abrams oversaw organizational changes that split the Continental US Army Command (CONARC) into US Army Forces Command (FORSCOM) and TRADOC, giving TRADOC oversight of individual training and combat developments while CONARC assumed command and readiness of all divisions and corps in the continental United States.[70] Anticipating a smaller force, Abrams also lobbied for the Army's modernization initiative that ultimately led to the acquisition of the M1 Abrams battle tank, the Bradley infantry fighting vehicle, the Black Hawk utility helicopter, the Apache attack helicopter, and the Patriot air defense system.[71] TRADOC, under its first commander General DePuy, initiated the doctrinal review process with a goal to turn the Army around, apply lessons learned from the Yom Kippur War, and position the Army to accomplish its mission and win against its adversaries.

General DePuy and Active Defense

> There is nothing complicated about the command of men in combat and, no matter how sophisticated leadership courses may become, there are only three steps to be performed, easy to state and not difficult to accomplish. First, a leader of troops in war must decide in each tactical situation, or, for that matter, each administrative situation, exactly what it is he wants to do with his unit... Second, he must tell his men precisely what it is he wants them to do... And then, lastly, he must insist that they do exactly what he has told them to do.
>
> —William E. DePuy, January 1969

General William DePuy's contributions while serving as the first TRADOC commander earned him recognition as one of the US Army's most transformative leaders. In his introduction to the *Selected Papers of General William DePuy*, Richard Swain termed Depuy as "likely the most important figure in the recovery of the United States Army from its collapse after the defeat

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[70] John L. Romjue, Susan Canedy, and Anne W. Chapman, *Prepare the Army for War: A Historical Overview of the Army Training and Doctrine Command 1973-1993* (Honolulu, HI: University Press of the Pacific, 2002), 1.

[71] Bronfeld, *Fighting Outnumbered*, 470.

in Vietnam."[72] His experiences during World War II played a significant role in shaping his views on the Army and specifically on leadership and were influential throughout his thirty-six-year military career. Concerned by the state of the Army after the Vietnam War and jolted by the events of the Yom Kippur War, DePuy renewed the US Army's emphasis on doctrine, by spearheading a major revision of the Army's basic warfighting manual, *FM 100-5*, *Operations*.[73]

During the doctrinal revision, his authoritative style, quick judgment, intolerance for opposing views, and lack of transparency diminished DePuy's ability to lead a team attempting to solve a complex adaptive problem. As a result, TRADOC published a revised *FM 100-5* within two years, but the speed at which the team produced the revisions came at the cost of a well thought through plan to solve the root problem. Active Defense, as it became known, was criticized for its narrow focus on Europe, its reliance on mechanistic formulas, and its defensive emphasis. Consequently, the 1976 *FM 100-5* suffered a short shelf life and became the subject of a major revision less than two years after its publication.

General DePuy received his commission in 1941 through the Reserve Officers' Training Corps (ROTC) after attaining a bachelor's degree in Economics from South Dakota State University.[74] As a lieutenant, he served with the 90th Infantry Division during World War II and was present through the unit's most bruising campaigns. During its initial battles after the Normandy landing, DePuy's battalion suffered ninety-nine casualties and within the first two months of fighting, the 90th Division replaced 100 percent of its initial strength in riflemen.[75] During World War II, DePuy rose from serving as a battalion operations officer as a lieutenant to commanding the 1st Battalion, 357th Infantry. He was wounded twice and decorated for valor

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[72] DePuy et al., *Selected Papers*, vii.

[73] Romjue, Canedy, and Chapman, *Prepare the Army for War*, 51-52.

[74] "Military Science," South Dakota State University, accessed November 21, 2018, https://www.sdstate.edu/military-science/general-william-depuy.

[75] Herbert, *Deciding What Has to Be Done*, 13.

four times.[76] DePuy attributed his unit's misfortunes to poor training and bad leadership and was determined to do his part to ensure that his Soldiers never experienced the lack of training and leadership that he had experienced during World War II.[77]

Throughout his thirty-six years of service, DePuy served in a multitude of positions, including as the assistant attaché in Hungary, counterintelligence officer at US Army Europe (USAREUR), a tour with the Central Intelligence Agency (CIA), assistant J-3 at the US Military Assistance Command, Vietnam (MACV), and commander of the 1st Infantry Division. As a Division Commander in Vietnam, DePuy's no-nonsense approach and impatience for poor combat leadership earned him notoriety after he relieved eleven officers to include seven battalion commanders. This prompted a visit from the Chief of Staff General Harold Johnson who implored DePuy to give his officers second chances.[78] After his assignment in Vietnam, DePuy served at the Pentagon as the Assistant Vice Chief of Staff, where he worked on the US Army's reorganization changes that oversaw the CONARC split into TRADOC and FORSCOM. In 1973 after the Army officially established TRADOC, General Abrams named DePuy as its inaugural commander.[79]

When DePuy assumed TRADOC command, his guidance from General Abrams and Secretary of the Army Howard Callaway reflected the US Army's priorities of the time. Abrams charged DePuy with eliminating any project or activity that did not directly contribute to the attainment of the required force. Abrams' goal was to increase the Army's active divisions from thirteen to sixteen while maintaining manpower levels at 785,000 soldiers. Secretary Callaway asked DePuy to pay attention to recruiting, retention, personal quality, management and training

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[76] DePuy et al., *Selected Papers*, iii-ix.

[77] Herbert, *Deciding What Has to Be Done*, 21.

[78] Thomas E. Ricks, *The Generals: American Military Command from World War II to Today* (New York, NY: Penguin Books, 2013), 241-244.

[79] DePuy et al., *Selected Papers*, iii-ix.

practices, Soldier lifestyle and the Army's public image.[80] It was not after the Yom Kippur war that DePuy shifted his focus to revising the Army's doctrine.

To DePuy, the clock was ticking and solving the strategic issues in Europe was forefront in his mind. He saw the Warsaw Pact as the greatest threat to the United States, and a war against it as the Army's most difficult challenge. Because of the personnel disparity, DePuy believed that the US Army would be fighting outnumbered. The Yom Kippur War indicated that a war with the Warsaw Pact would pit the United States against more advanced weapons, and that the US Army could expect significant losses early in the conflict. For these reasons, DePuy's focus became winning the first battle, with the idea that doing so would allow the US government a political settlement from a position of advantage before the war escalated to a nuclear confirmation.[81]

To this end, DePuy decided to revise US Army doctrine, orient it to Europe and refocus it on conventional warfare. Ostensibly, for DePuy, the way implement these priorities was from the bottom up, that is, from the individual and small unit levels.[82] However, in terms of the doctrinal writing process, he favored the top-down approach, where TRADOC leaders at schools such as the US Army Infantry School at Fort Benning, Georgia; the US Army Armor School at Fort Knox, Kentucky; and the US Army Field Artillery School at Fort Sill, Oklahoma first wrote prescriptive "how to fight" manuals specific to their Army branch, and considered a thorough preparation of the students follow-on assignments, then taught the doctrine at the schools without input from the field. DePuy's World War II experience clearly influenced his approach. Herbert succinctly summarized DePuy's world view by stating that "he believed real initiative was rare in human beings and that an organization functioned best when its members were frequently told in simple terms what to do."[83] For this reason, when DePuy started working with the schools to

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[80] Herbert, *Deciding What Has to Be Done*, 25.

[81] Ibid., 31.

[82] Ibid., 21.

[83] Ibid., 54.

develop "How to Fight" manuals prior to revising *FM 100-5*, he began by distributing a concept paper written under his direct supervision, which was to ensure that the initiatives undertaken by the schools emanated from his own ideas. In response to Starry's suggestion that there be a dialog with field commanders, General DePuy clearly laid out his preference for maintaining control throughout the doctrine writing process. He informed Starry that TRADOC would hold dialog only after it had written the doctrine and taught it in the schools and TRADOC trained officers had permeated the field Army. DePuy also insisted that this dialogue would consist of his own visits to the field headquarters.[84]

To revise *FM 100-5* DePuy initially looked to the Department of Army Tactics at the Combined Arms Center (CAC) at Fort Leavenworth, which was the primary authority for writing combined arms doctrine. CAC Commander Major General John H. Cushman shared DePuy's sense of urgency in revising doctrine and grounding it in relevant situations and circumstances.[85] DePuy and Cushman's relationship, however, was defined by their differences in regards to doctrine. While DePuy viewed doctrine at a tool whose purpose was to teach the Army what to do, Cushman viewed doctrine as a non-binding guide. In his memoir, *Fort Leavenworth*, Cushman identified the primary difference between them as being DePuy's determination to teach the Army "how to fight," while Cushman wanted to teach his students "how to think about how to fight."[86] These fundamental differences became obvious after Cushman submitted his initial draft of *FM 100-5* to General DePuy during the first drafting meeting held at Fort A. P. Hill, Virginia, in December 1974. According to Cushman, DePuy remarked that, "'there was no substance to the presentation, in fact, the concept had never gotten beyond what I would call the romantic stage.'"[87] DePuy asked Cushman to rewrite, though the latter thought that the

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[84] Herbert, *Deciding What Has to Be Done*, 42-46.

[85] Ibid., 42-43.

[86] John H. Cushman, *Fort Leavenworth, a Memoir* (Annapolis, MD: J. Cushman, 2001), 44-46.

[87] Cushman, *Fort Leavenworth*., 44-46.

differences between them were too far apart.[88]

During the second drafting meeting at Fort A.P. Hill in April 1975, DePuy came prepared for Cushman's refusal to write a second draft. He formally shifted the responsibility for rewriting the doctrine from CAC to DePuy's headquarters at Fort Monroe, where he would provide direct supervision over the process. Another decision DePuy made at this meeting would have significant ramifications. DePuy tapped General Donn Starry, who commanded Fort Knox and the Armor school, to help rewrite the new doctrine because of his expertise in mechanization. But DePuy had previously selected Starry over the Infantry school's commander Major General Thomas Tarpley to write the Combined Arms Instruction Manual, which had incensed and alienated the latter. At this meeting, although DePuy had assigned Tarpley to write the defense portion of the new *FM 100-5*; by its end, though, he had relieved the Infantry School commander of that responsibility and decided to compose it himself. Apart from himself and Starry, DePuy tasked Major General Paul Gorman, his deputy at TRADOC, with writing responsibility. General DePuy had hand selected only those who agreed with his vision to write the doctrine.[89]

To reassure NATO allies that the United States was serious about defending Western Europe, DePuy also sought buy-in from the German Army. But as with the writing process itself, DePuy wanted to control interactions with the Germans. He used his authority to realign the US liaison officers to the Germany Army from USAREUR to TRADOC, and insisted on personally meeting with representatives from the German Army to discuss matters related to doctrine, further reducing USAREUR's influence in the process. He also personally picked elements of German doctrine that he wanted to incorporate into the new *FM 100-5*.[90]

DePuy did not begin building consensus in earnest until the doctrine was almost completed in the fall of 1975. In October he participated in the FORSCOM/TRADOC conference

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[88] Herbert, *Deciding What Has to Be Done*, 57.

[89] Ibid., 58-59.

[90] Ibid., 65-68.

on air mobility where he sought to reassure skeptics that his doctrine had not abandoned lessons from Vietnam on air mobility in favor of mechanized warfare. He then headed to Europe to brief the West German Army on the new *FM 100-5*, believing their acceptance would give this new doctrine legitimacy and reduce any resistance from USAREUR. General George Blanchard from the 7th US Army did, however, point out that the draft lacked any material on urban and coalition warfare to which General DePuy responded by asking USAREUR to submit materials on the subjects to for addition to the doctrine.[91]

In November 1975, DePuy, Starry, and Gorman had a final drafting workshop at Fort A.P. Hill where they completed the version that General DePuy briefed at the Department of the Army Commanders' Conference in December 1975.[92] Shortly thereafter, Army Chief of Staff General Bernard Rogers approved the final draft in July 1976, copies of *FM 100-5* made their way to Army units. The manual's cover left no doubts about its tactical focus, which had a camouflage pattern.[93] The contents of the manual were a departure from the norm as well. It was prescriptive in nature, specifically focused on operations against Warsaw Pact forces in Europe. In describing the future battle, the manual echoed DePuy's view of a short quick war and specifically stated "Battle in Central Europe against forces of the Warsaw Pact is the most demanding mission the US Army could be assigned. Because the US Army is structured primarily for that contingency and has large forces deployed in that area, this manual is designed mainly to deal with the realities of such operations."[94] The manual placed emphasis on weapons systems and the defense, and cautioned commanders against going on the offensive unless they were certain that maneuver and fires could inflict heavy losses on the enemy.[95]

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[91] Herbert, *Deciding What Has to Be Done*, 88-90.

[92] Ibid., 92-93.

[93] Kretchik, *U.S. Army Doctrine*, 197-198.

[94] US Department of the Army, *Field Manual (FM) 100-5, Operations* (Washington, DC: Government Printing Office, 1976), 1-2.

[95] Kretchik, *U.S. Army Doctrine*, 199.

The manual initially drew mixed reviews, but as it flooded the force, the Army widely rejected it – including senior leaders. The main criticisms were its focus on the tactical level and on the European theater, its emphasis on defense at the expense of offense, its prescriptive nature, and its attention to weapons systems with no regard for the human element in war.[96] Starry later recalled that the doctrine he had labored over did not apply to any unit larger than a division.[97] While DePuy might not have expected a complete endorsement, the sharp critique apparently surprised him.[98]

While these critiques focused on the doctrine's content, they also reflected the process that DePuy had taken to write it. DePuy failed to build consensus and relied upon his formal authority to eliminate conflicts caused by the diversity of thought. To DePuy, diversity was an impediment to progress and as a result, he did not serve as the arbiter he could have been. He had failed to recognize the interdependence between different players that were critical to doctrinal acceptance.

Evidence suggests that General DePuy had a firm grasp of the Army's external problems. Although he may have identified all the major elements of the complex problem, it is not clear that he understood the dynamic nature of the system. DePuy acknowledged the threats Soviet advanced weapons posed and clearly understood the Soviet doctrine as well. This drove his emphasis on weapon systems to make up for the personnel disparity, as well as his defensive orientation. Similarly, DePuy recognized the importance of the allies' concurrence with his reforms, and worked with the *Bundeswehr* – albeit by carefully controlling access of US officers to the Germans. DePuy also left no doubt that the Yom Kippur War made the most impact on his urgency to revise the Army's doctrine.

But DePuy failed to account for Soviet learning from the Yom Kippur War and reactions

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[96] Herbert, *Deciding What Has to Be Done*, 105-106.

[97] Kretchik, *U.S. Army Doctrine*, 200-210.

[98] Herbert, *Deciding What Has to Be Done*, 100-105.

to American doctrinal updates, which Starry would later address with AirLand Battle. After the Yom Kippur War exposed the BMP infantry fighting vehicle's vulnerability to anti-tank guided missiles, the Soviets abandoned their doctrine of employing an armored breakthrough maneuver on narrow fronts in favor of a multi-pronged attack by initial forces reinforced by follow-on echelons.[99] Once the Soviets updated their doctrine, it rendered Active Defense obsolete. But DePuy assumed that the lessons of the Yom Kippur War would hold true in any other theater in the future. Overall, he and his team adopted a narrow view, developing rigid doctrine that did not address global threats, but which also failed to address the dynamic nature of the specific problem it tried to solve.

DePuy also demonstrated an understanding of most of the internal challenges that the Army faced. He understood the role doctrine played in modernizing the Army. Active Defense's focus on weapon systems served the dual purpose of preparing for future combat and driving the Army's combat-weapons development process. In view of the speed and lethality of the Yom Kippur War, DePuy extrapolated the Army's inability to depend on mobilization in future wars and prepared to field a force that would deliver a victory during the initial clashes of a future conflict.

Yet DePuy's leadership failures undermined his attempts to address these challenges. His was unwilling to "get off the dancefloor" and to "get on the balcony" – terms Heifetz has coined to explain a leader's obligation to disengage from the details of the work, and to garner a wider perspective and identify the adaptive challenge the design team faces.[100] Active Defense's failures to resonate with the Army's population at large, and to provide a comprehensive solution to the Army's problems, resulted from General DePuy's authoritative approach. Comparing DePuy's leadership through this process against the four design leadership characteristics

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[99] Romjue, *From Active Defense to AirLand Battle*, 16-17.

[100] Heifetz, *Leadership Without Easy Answers*, 128.

highlighted by *ATP 5-0.1*, his shortfalls are clear. DePuy's personality did not allow him to create a collaborative environment, and his impatience and rush to label ideas as "wrong" facilitated groupthink. His sense of urgency and elimination of those he saw as resistant did not improve his team's learning, while his resistance to sharing details of the doctrine prior to publication limited external interaction. These factors produced qualitative deficiencies, and prevented DePuy from cultivating a consensus for Active Defense's successful implementation.

DePuy did not try to resolve any conflicts that resulted from a diversity of thought, and consolidated his power throughout the doctrinal writing process. He used his formal authority as a commander to relieve Fort Leavenworth of the doctrinal writing responsibility, and to avoid understanding the difference in opinions between the infantry and armored community. By selecting Donn Starry as one of the main writers, he further alienated the former.

Moving the doctrinal writing process to Fort Monroe under his direct supervision, relieving the US Army liaison to the German Army to TRADOC, and diminishing the role of the Infantry School eliminated diversity from the process. More importantly, he failed to recognize the interdependence in the complex system and assumed that by publishing doctrine approved only by the US Army Chief of Staff and endorsed by the German Army, the US Army would have no choice but to adopt and endorse it. He saw the publishing as the end of the process and took the implementation for granted. He did not realize the credibility that CAC would have given Active Defense, given its tradition role developing US Army doctrinal, and that officers educated by Fort Leavenworth permeated the force. By alienating CAC he undermined his doctrine's chances at success.

Moreover, in relieving CAC of its responsibility in doctrine writing, DePuy had reduced the 1976 *FM 100-5* to a Jominian training manual. General Cushman's involvement would have incorporated thoughts from a diverse population, improving the quality of the doctrine. Similarly, by dismissing Tarpley's input, DePuy excluded the perspective from the infantry school. Although DePuy brought in FORSCOM, he did so once the doctrine was almost completed. It is

possible that the October conference was nothing more than a late consensus building effort: Herbert notes that most commanders of key operational units were infantry officers with close ties to Cushman at CAC and Tarpley at Fort Benning; having alienated this community, General DePuy may have belated approached them to give credibility to his doctrine.[101]

As Herbert puts it, DePuy's "methods discouraged reflection, critique, debate, and compromise."[102] As a result, Active Defense was a hurried solution to a complex adaptive problem that reflected opinions and assumptions influenced by DePuy's world-view. In contrast, as DePuy's successor at TRADOC, General Starry's trust in his subordinates, and his belief in consensus building, re-framed the problem and produced a solution that better addressed the challenges the US Army faced.

In addition to the lack of consensus among the Army on Active Defense, a major reason for the doctrine's demise was the negative reception it received from among the Army's most senior officers. General Alexander Haig, Supreme Allied Commander, Europe, disliked the defensive emphasis of the 1976 *FM 100-5*. Lieutenant General Richard Cavazos, Commander of the III Corps, saw a lack of psychological preparation for combat due to the manual's emphasis on weapons systems.[103] In June 1979 soon to be Chief of Staff of the Army, Lieutenant General Richard Myer, expressed two key concerns with Active Defense to the TRADOC Commander, General Starry: the doctrine's defensive orientation, and its regional focus on Europe, given his belief that wars outside Europe were more likely to occur.[104] Myer would later task Starry with revising the 1976 *FM 100-5*.

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[101] Herbert, *Deciding What Has to Be Done*, 104-105.

[102] Ibid., 106.

[103] Kretchik, *U.S. Army Doctrine*, 201-202.

[104] Romjue, *From Active Defense to AirLand Battle*, 29-30.

General Donn Starry and AirLand Battle

I waited twenty years for this command only to find that I didn't command at all everyone up the line commands for me.

—Donn Starry, US Army War College, 1966

General Donn Starry's innovative leadership and prolific writing on doctrine cemented his status as one of the Army's most visionary leaders. Best remembered for his work on AirLand Battle – a doctrine that is still relevant in today's operational environment – Starry has been credited for the Army's decisive victory against Saddam Hussein's in the Persian Gulf War. After playing a significant role in writing Active Defense, Starry's experience as the V Corps Commander in Europe gave him a chance to test the doctrine, which he found lacking. His desire to address the shortfalls in Active Defense and his participative leadership style enabled him to produce successful doctrine that was embraced by the Army community, and remains relevant in today.

Donn Starry enlisted in the US Army in 1943. A year later he received a deferment to attend West Point with the wartime class of 1947. As a young lieutenant, Starry served with the 63rd Tank Battalion in Germany where he served under Captain George Patton IV—General George Patton Jr's son —and then lieutenant colonel, later General Creighton Abrams. He went on to serve in a wide array of positions including a tour with the 8th Army forward in Korea, a combat arms and nuclear weapons instructor, Battalion Commander in Germany at the height of the Cold War, and two tours in Vietnam the last one as a Commander of the 11th Armored Cavalry Regiment. After the latter, Starry worked on resource management and force structure at the pentagon before attaining the rank of Major General and being assigned to Fort Knox as the Commandant of the Armor School – where he worked with General DePuy on the 1976 revision of *FM 100-5*. His follow-on assignment was commanding the V Corps in Germany before succeeding DePuy as TRADOC Commander; his final assignment prior to retirement was

commanding the United States Readiness Command.[105]

Starry's leadership style was the polar opposite of DePuy's. He detested micromanagement and preferred harnessing the strength of an organization. He valued the contribution of subordinates and was frustrated by "the military's inflexibility characteristic which made leaders less willing to accept innovative solutions from younger subordinates resulting in over supervision from superiors and resentment from subordinates."[106] Like DePuy, Starry's views may have stemmed from his World War II experiences. Starry's first unit in the Army was comprised of seasoned combat veterans. He was smart but humble, and looked to his sergeant to train and guide him in his early days.[107] This factor may have shaped his outlook throughout his career.

After Israel's victory in the Yom Kippur War, Starry was one of the US Army officers asked by General Abrams, the Chief of Staff of the Army to garner lessons from the conflict to inform the US Army's future development and doctrine. During his travel to Israel, Starry took a slightly different view than DePuy later adopted with Active Defense. Both noted how role of mechanization, high lethality rates, and accelerated tempo necessitated doctrinal changes. But whereas DePuy saw the critical nature of the first battle and the need to understand new weapons systems, Starry saw the irreplaceable value of intangibles such as morale, leadership, and training displayed by Israeli forces while fighting outnumbered.[108] In the TRADOC analysis of the Yom Kippur War, Starry noted that in modern battles, "regardless of which side outnumbers the others and regardless who attacked who, the outcome of the battle at tactical and operational levels will be decided by factors other than numbers… in the end, the side that somehow at some time

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[105] Donn A. Starry and Lewis Sorley, *Press On!: Selected Works of General Donn A. Starry* (Fort Leavenworth, KS: Combat Studies Institute Press, US Army Combined Arms Center, 2009), i-ix.

[106] Starry and Sorley, *Press On!*, 567

[107] Ibid., vi.

[108] Ibid., i-ix.

somewhere in the course of the battle seizes the initiative and holds it to the end will be the side that wins… it is strikingly evident that the battles are yet won by the courage of soldiers, the character of leaders, and the combat excellence of well-trained units."[109]

Shortly after its release, Starry put Active Defense to the test after he assumed command of the V Corps in Germany, one of the two corps expected to directly implement it. Starry quickly realized its shortcomings. The commanders did not believe that they could defeat the Warsaw Pact forces with Active Defense and, most important to Starry, it did not address changes in Soviet doctrine that called for units to be arranged in multi-echelon attack waves.[110] US Army commanders realized that even if they could hold off the initial assault, they had no answer for Warsaw Pact follow-on forces.[111] For these reasons, and because of the general discontent with Active Defense across the US Army, General Starry made rewriting doctrine a priority soon after he took command of TRADOC.

Although DePuy had selected Starry as one of his primary writers of Active Defense, there were clear differences in how they approached the doctrine writing process. While DePuy favored a directed approach, where the doctrine was written by generals with no input from the field, Starry preferred to begin by distributing ideas in the form of concept papers for testing and validation. With input from the field, these concepts would be updated as seen fit, or discarded if found impractical. Only those that withstood scrutiny would be published as doctrine.[112]

Starry's principles and vision of the problem he sought to address in his version of *FM 100-5* contrasted with DePuy's, and reflected his understanding of Active Defense's weaknesses. He saw the battle unfold from the perspective of a Corps commander, and utilized his understanding. He envisioned a "central battle" akin to DePuy's first battle, but with a wider

[109]Starry and Sorley, *Press On!*, 50.

[110] Romjue, *From Active Defense to AirLand Battle*, 23-25.

[111] Starry and Sorley, *Press On!*, 27.

[112] Romjue, *From Active Defense to AirLand Battle*, 29.

aperture, one that looked at combat systems and combat support systems as they interacted in the battlefield.[113] He looked beyond the tactical level, considering the operational level and its impact on tactical actions. Like DePuy, Starry emphasized on how to fight outnumbered and win. But to account for the Soviet doctrinal updates Starry wanted the enemy follow-on-echelons to be rendered ineffective by either destroying them or eliminating their ability to participate in the battle.[114] He saw that close air support in particular would be crucial to delay the additional echelons and provide defending forces the ability to retake the initiative.[115] More broadly, Central Battle would be the "part of the battlefield where all the elements of firepower and maneuver come together to cause a decision."[116]

In writing AirLand Battle, Starry was determined to produce a practical solution to the Soviet doctrinal updates. But more importantly, he wanted to deliver doctrine that the US forces would embrace. Starry believed that "doctrine is not truly doctrine until fifty-one percent of the Army believed in it."[117] In 1980 General Starry told his subordinate commanders to begin writing a second generation of "how to fight" manuals.[118] Recognizing that part of why the Army rejected Active Defense was due to DePuy's bureaucratic snub of CAC, Starry returned doctrine formulation and writing responsibilities to DTAC at Fort Leavenworth.[119] By doing so, Starry restored credibility in the doctrine writing process and by involving an academic institution ensured that the process of writing doctrine would develop in a collaborative environment that

[113] Romjue, *From Active Defense to AirLand Battle*, 23.

[114] Mike Guardia and Martin Dempsey, *Crusader General Donn Starry and the Army of His Times* (Havertown: Casemate Publishers & Book Distributors, 2018), 151.

[115] Romjue, *From Active Defense to AirLand Battle*, 23-24.

[116] Ibid., 23.

[117] Quoted in John J. McGrath, *Army at War: Change in the Midst of Conflict* (Fort Leavenworth, KS: Combat Studies Institute Press, US Army Combined Arms Center, 2005), 18.

[118] Romjue, *From Active Defense to AirLand Battle*, 23-26.

[119] George F. Hofmann and Donn A. Starry*, Camp Colt to Desert Storm: The History of U.*S. *Armored Forces* (Lexington: University Press of Kentucky, 2014), 381-382

allowed for debating ideas and questioning assumptions.

When the Chief of Staff of the Army General Edward Myer informed General Starry of his decision to have TRADOC revise the *FM 100-5*, the TRADOC doctrine writing community had been working collaboratively on the "how to fight" manuals. The field Artillery school, CAC planners, TRADOC headquarters and other schools were trying to solve the challenges posed by the Soviet follow-on echelons. In particular, the field artillery school developed the concept of using long-range fires and tactical air strikes to regulate the pace of the Central Battle, by targeting the follow-on echelon deep in enemy territory. Through interdiction the Army would depend upon intelligence, target acquisition, long-range strike capabilities and improved communication systems to solve the Warsaw Pact challenge negating the numerical advantage and if necessary, providing allied commanders enough time to secure authorization for nuclear weapons employment.[120]

Led by Lieutenant Colonel Huba Wass de Czege and Lieutenant Colonel L.D. Holder, the DTAC doctrine writers rewrote *FM 100-5* informed by the debates across the Army, and discussions that had developed the Central Battle concept as it developed into the AirLand Battle concept. Although Starry stayed out of the writing process itself, he collaborated with the team receiving drafts in the mail and returning them with his edits. As a result of the collaboration, wide distribution, and testing AirLand Battle developed as a well-rounded complete solution to the challenges the Army faced. Although it represented Starry's original idea, it was layered with influence from other senior leaders from the field, doctrine writers and the Army in general.[121] As opposed to DePuy's hands-on approach, Starry kept a distance from the writing process, giving the doctrine development team-wide latitude to write the doctrine.[122]

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[120] Romjue, *From Active Defense to AirLand Battle*, 23-29. The concept worked by the field artillery school became known as the Integrated Battlefield concept, which later changed to the Extended Battlefield concept before finally becoming the AirLand Battle concept published in March 1981.

[121] Hofmann and Starry*, Camp Colt to Desert Storm*, 375-383.

[122] Guardia and Dempsey, *Crusader General Donn Starry*, 154.

Starry used both his superiors and his subordinates to rally support for AirLand Battle at the Department of Defense (DOD) and Congress. Chief of Staff of the Army General Myer promoted Active Defense within the DOD and to the US Congress, generating support that later funded research development and weapons acquisition programs.[123] Starry appointed Brigadier General Donald Morelli as the TRADOC Deputy Chief of Staff for Doctrine, and asked him to address TRADOC's critics and work with consultants on doctrinal matters.[124] General Morelli also worked closely with the Congressional Reform Caucus to gain support for AirLand Battle from the Armed Forces Committees of both houses.[125]

To further bolster support for the new *FM 100-5*, Starry asked that initial drafts be widely distributed to incorporate input from the field. The writing team also took the concepts on the road for briefings and seminars across the Army.[126] Starry himself briefed the concepts around the World and a year and a half later, the concepts were committed to paper for publication.[127] TRADOC published the revised *FM100-5* in August 1982. The manual reintroduced the psychological elements of war and widened its aperture by not focusing on a single theater of operation. The 1982 *FM 100-5* introduced the operational level of war and solved the Soviet second echelon problem by viewing the battlefield from three dimensions, using long range fires and the Air force to target the enemy deep in his territory and by relying on long range reconnaissance assets to enable targeting.[128]

General Starry's AirLand Battle doctrine development mirrors the ADM in multiple ways. By writing the doctrine as a broad concept that served as the starting point for commanders

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[123] Ibid., 154.

[124] Hofmann and Starry, *Camp Colt to Desert Storm*, 381.

[125] Guardia and Dempsey, *Crusader General Donn Starry*, 154.

[126] Romjue, *From Active Defense to AirLand Battle*, 56-58.

[127] McGrath Combat. Studies, *Army at War: Change in the Midst of Conflict*, 16.

[128] Kretchik, *U.S. Army Doctrine*, 202-204.

to take and tailor it to their circumstances, AirLand Battle was comparable to the operational approach that is a result of the solution framing activity of ADM. Starry also began with broad concepts that he allowed to be debated and tested before they were codified as doctrine, giving the writing team multiple iterations and opportunities to re-frame the problem, as delineated in ADM.

Most important, Starry's leadership conforms to the four characteristics of a design leader. By giving the writing responsibility back to DTAC Starry ensured that AirLand Battle's writing process was collaborative, as that organization widely shared the progress of their work and sought input from multiple sources. Second, Starry believed that his subordinates possessed the ability to innovate, and hence gave them the opportunity to be creative and seek unconventional solutions. Third, by sharing their progress with the field, the doctrine writers never stopped learning. Starry incorporated feedback from every session that he briefed, thus improving the product as he went on. Finally, Starry did not allow his team to work in a vacuum. TRADOC shared the concepts across the Army down to battalion level before they became doctrine. A year and a half later when TRADOC published AirLand Battle the field was familiar with it and had embraced it already.

Conclusion

> Doctrine is the blueprint the Army uses to educate the force and execute in a complex environment.
>
> —General Ray Odierno, October 2012

The contributions of General DePuy and General Starry remain among the most transformative in the US Army's history. Faced with a complex adaptive problem, both leaders set the US Army on a path that saw a dejected force reeling from an internal turmoil, and at risk of losing to a superior Warsaw Pact force, regain its vigor and transform into a lethal professional organization. Both officers had developed leadership styles based on their past experiences, and both leaders attempted to solve a similar problem within four years. Yet their results varied

significantly with respect to developing doctrine.

While DePuy was a successful combat leader at different echelons, his experiences from WWII affected his worldview. He saw little initiative in subordinates and believed that doctrine should be clear, precise, and prescriptive. Determined not to put soldiers through what he had experienced during WWII, he saw his role as a trainer and focused at the tactical level. As a result, DePuy's authoritative approach to doctrine writing yielded an incomplete solution. DePuy's failure to create a collaborative environment, his rush to judgment, inability to foster team learning, and his insistence that the doctrine writers have minimal external input, led to an incomplete, tactically focused doctrine that did not account for adversary reactions and thus the US Army at large rejected Active Defense.

On the contrary, General Starry's background and experiences enabled him to adopt a leadership style that developed trust in subordinates. His view that published doctrine was the residual product of concepts that had been tested and agreed upon, his decision to place the doctrine writing responsibility back to DTAC at Fort Leavenworth, and his willingness to allow the doctrine-development team wide latitude, were contributing factors to the overwhelming success of AirLand Battle. As a result, it remained a broad operational concept descriptive in nature and applicable in different environments. Its wide circulation before official publication and adjustments to incorporate input from the field, slowed its development, but facilitated its endorsement across the Army.

In conclusion, as the Army undergoes doctrinal changes to adopt multi-domain operations in response to the complex adaptive problems posed by its adversaries, a review of the post-Vietnam era challenges and the approaches that the Army's leaders took is beneficial. The post-Vietnam challenges and the doctrinal transformation associated with the challenges can serve as informative history that demonstrates that doctrine's substance and acceptance by those it serves is significantly impacted by the leadership traits of those leading its development.

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