ABSTRACT

Title of Dissertation: *WARFIGHTING*: JOHN BOYD'S THEORY OF CONFLICT, THE ORIGINS OF MANEUVER WARFARE, AND THE COMPLEX PROCESS OF DOCTRINAL CHANGE IN THE U.S. MARINE CORPS, 1975-1989

Shawn P. Callahan, Doctor of Philosophy, 2023

Dissertation directed by: Professor Jon T. Sumida
Department of History

Abstract

This dissertation analyzes the origins of the American concept of maneuver warfare and the process through which that concept was first encoded as military doctrine in 1989 by the U.S. Marine Corps in Fleet Marine Force Manual 1 (FMFM 1), *Warfighting*. Examining the process through which these ideas were incepted, matured, and encoded in doctrine makes it clear that the prevailing narrative is deficient in several important ways, and these misconceptions obstruct an accurate understanding of what maneuver warfare is and how military organizations deal with radical new ideas.

A detailed examination of the ideas advanced by John Boyd, the man commonly thought to be the creator of maneuver warfare based upon his Observe-Orient-Decide-Act (OODA) Cycle theory, shows that neither of those concepts was ever his central argument. Rather, Boyd was developing a much more expansive theory of competition and conflict, and his method and ideas are widely misunderstood. It was a military reform colleague of Boyd's named William S. Lind who originated the concept of maneuver warfare based on his own interpretation of German military history. He promoted this style of fighting through a dichotomous model contrasting it with firepower/attrition warfare in an effort to help the U.S. Army understand how it needed to

change its approach to warfare. Ultimately, Lind's ideas about maneuver warfare found better reception within the U.S. Marine Corps, where he worked with Marines in several different organizations to further develop the concept. The way that Lind incorporated Boyd's early ideas to promote maneuver warfare has much to do with why Boyd's role and theory are misunderstood today. The Marines who interacted with Lind, and to a lesser degree Boyd, meanwhile, played an important role in developing the supporting concepts and techniques needed to make maneuver warfare an actionable approach to war.

Efforts to incorporate the new ideas in Marine Corps doctrine were limited less by simple institutional conservatism than they were by the inability of the service's bureaucracy to incorporate fundamentally new concepts, which required a particular new, shared understanding of war. The most important achievement of FMFM 1 was not that it formally adopted maneuver warfare, but its definition of a common conception of war within which maneuver warfare made sense, emphasizing moral and mental factors, the inherent nonlinearity of warfare, and the fundamental uncertainty that surrounded military decision-making. This, defining a new way of thinking about war that all Marines would share, was the most significant accomplishment of FMFM 1. However, this accomplishment has been undercut by several misconceptions about maneuver warfare, all of which were byproducts of the process through which the concept was formed and promoted.

# *WARFIGHTING*: JOHN BOYD'S THEORY OF CONFLICT, THE ORIGINS OF MANEUVER WARFARE, AND THE COMPLEX PROCESS OF DOCTRINAL CHANGE IN THE U.S. MARINE CORPS, 1975-1989

by

Shawn P. Callahan

Dissertation submitted to the Faculty of the Graduate School of the
University of Maryland, College Park, in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy
2023

Advisory Committee:
Professor Emeritus Jon T. Sumida, Chair
Assistant Professor Patrick Chung, Co-Chair
Associate Professor Colleen Woods
Dr. David Rosenberg
Associate Professor Meyer Kestnbaum

© Copyright by
Shawn Patrick Callahan
2023

Acknowledgements

I am indebted to many people for helping me reaching the point where I can make a contribution to my field. First and foremost, I am indebted to Professor Jon T. Sumida, who is the reason I chose the University of Maryland for my doctoral work. Professor Sumida is both an incisive scholar and an intellectual sensei, and I earnestly hope to live up to his example of scholarship and mentorship.

I am also deeply and particularly grateful to two other members of faculty of the Department of History at the University of Maryland. The first is Professor David Freund, who served as my advisor within the American History colloquium. The second is Professor Patrick Chung, who graciously agreed to serve as co-advisor on my dissertation in Dr. Sumida's retirement. Professor Chung provided invaluable advice on this rather lengthy work even in his first months of fatherhood, and there no way I could have finished the project at the time I did without his support. Of course, I am also thankful to the remaining members of my dissertation committee: Professor Colleen Woods of the Department of History, Professor Meyer Kestnbaum of the Department of Sociology, and Dr. David A. Rosenberg of the Institute for Defense Analyses.

My research depended heavily on the materials in Marine Corps Archives. Due to the many personnel changes that have occurred in the Marine Corps History Division over the last decade I had the opportunity to work with numerous archivists and oral historians. I was blessed to interact with Annette Ammerman, Fred Allison, Dominic Amaral, Steve Coode, Andrew Hayt, John Lyles, Alyson Mazzone, Samantha Mayo, Tyler Reed, Nancy Whitfield, and Alisa Whitley. To a person, they were knowledgeable, supportive, and gracious in response to my many requests. They made the Marine Corps Archives the easiest to work with of any I have

had the opportunity to visit over the years. Deborah Rexon, one of the Research Librarians of the Marine Corps University Research Library, was also very helpful on many occasions in scouring the world of online resources to find unique periodicals critical to my study.

The final stage of my dissertation involved trying to translate my thoughts into words, a process that yielded as many errors as it did revisions in how I thought about the subject. My ability to present something intelligible to my committee was primarily the result of the first reviews of my chapters provided by Ken O'Dea, and especially by my colleague, Mark Wakeman.

My studies also benefitted from generous financial assistance. I was honored to be supported by the Marine Corps Heritage Foundation as a General Lemuel C. Shepherd Jr. Memorial Dissertation Fellow. My employer, Davis Defense Group, also supported my doctoral studies with a tuition assistance program that truly demonstrates the company's commitment to delivering excellence in the educational services it provides to its U.S. government customers.

Finally, I am the grateful beneficiary of the moral support provided by a legion of colleagues, friends, and family who encouraged me in this project. Most important of all of these was the one who knows me best, and encouraged me to finally just get it done, my wife of three decades, Lisa.

Table of Contents

Acknowledgements ..... ii
Table of Contents ..... iv
List of Tables ..... vii
List of Figures ..... viii
Chapter 1: Introduction ..... 1
Historiography and Interventions ..... 5
Terms of Art ..... 20
Organization ..... 31
Chapter 2: The Limitations of Status Quo Thinking in the Cold War U.S. Department of Defense and Military Services ..... 37
Late Cold War U.S. Foreign Policy and its Strategic Implications ..... 49
The Policy-Intellectual Context ..... 55
The Technocentrism of the Cold War U.S. Navy ..... 64
Post-Vietnam Doctrinal Change in the U.S. Army: FM 100-5, *Operations* ..... 87
Conclusion ..... 111
Chapter 3: The Military Reform Movement ..... 113
The Origins of the Military Reform Movement ..... 123
The Congressional Military Reform Caucus ..... 140
Assessing the Military Reform Movement ..... 166
Conclusion ..... 169
Chapter 4: The Origins of John Boyd's Theory of Conflict ..... 172
The Most Credible Scholarship on John Boyd ..... 180
Situating "Patterns of Conflict" ..... 187
"Destruction and Creation" ..... 188
Boyd's Point of Departure: The "New Conception for Air to Air Combat" ..... 196
Origins of "Patterns of Conflict" ..... 204
Boyd's Purpose and Historical Method ..... 212
"Patterns of Conflict": Initial Historical Inquiry and Synthesis ..... 224
"Patterns of Conflict": Warps IV through VI of October through December 1976 ..... 239
Sun Tzu, Boyd's "Conceptual Father" ..... 243
ODA: A Proto-concept for OODA ..... 255

Inconspicuousness, Quickness, Fluidity, and Cohesion ..... 266
The Evolution of ODA into OODA ..... 273
Conclusion ..... 282
Chapter 5: William S. Lind and the German Inspiration for Military Reform ..... 285
Lind's Background ..... 293
Conceptualizing Maneuver Warfare and Attrition/Firepower Warfare ..... 298
Lind's Germanocentric Historical Interest ..... 316
The Initial Military Reception of Lind's Attrition versus Maneuver Warfare Dichotomy ..... 324
Lind's Interest in the Marine Corps ..... 329
Lind's Promotion of Mechanization in the Marine Corps ..... 341
Other Sources of Early Thinking on Maneuver Warfare ..... 351
Lind's Relationship with Boyd ..... 362
"Defining maneuver warfare for the Marine Corps" ..... 374
Conclusion ..... 382
Chapter 6: John Boyd's Maturing Theory and Relationship with Maneuver Warfare ..... 384
Boyd's Interpretation of Clausewitz ..... 388
Boyd's Interrogation of German History ..... 394
The Progression of Boyd's Ideas in "Patterns of Conflict": Synthesis and Stabilization ..... 412
Boyd's Initial Incorporation of the Concept of Maneuver ..... 416
Jomini and Formulaic Approaches to a Theory of War ..... 425
Boyd's Expanded Historical Investigation and Concept of Non-Cooperative Centers of Gravity ..... 431
Boyd's Categories of Conflict ..... 442
Variety, Rapidity, Harmony, and Initiative ..... 450
The Importance of August 1981 ..... 457
*A Discourse on Winning and Losing* ..... 461
Contemporary Critiques of "Patterns of Conflict" ..... 474
Recent Critiques ..... 480
Conclusion ..... 482
Chapter 7: William S. Lind's Collaboration with the Marines ..... 484
Collaboration with Michael Wyly and the Amphibious Warfare School ..... 488
Increased Collaboration with Boyd ..... 515
Collaboration with the Second Marine Division ..... 519

The *Maneuver Warfare Handbook* ..... 531
Conclusion ..... 544
Chapter 8: The Marine Corps Maneuver Warfare Movement ..... 546
Professional Activism as a Military Movement ..... 550
The Marine Maneuverists ..... 554
The Professional Debate: General Trends ..... 575
The First Period of Debate: 1979 to 1983 ..... 582
The Second Period of Debate and the Role of the Commandant, 1983-1987 ..... 601
Conclusion ..... 622
Chapter 9: Encoding Maneuver Warfare in Marine Corps Doctrine ..... 626
Maneuver Warfare in Marine Corps Doctrine Before FMFM 1 ..... 632
Changes at the Top ..... 651
Commandant General Gray and his Wider Maneuverist Reforms ..... 660
FMFM 1, *Warfighting*: Process ..... 667
FMFM 1, *Warfighting*: Contents ..... 677
Assessing FMFM 1 and its Legacy ..... 709
Conclusion ..... 723
Chapter 10: Conclusion ..... 727
Bibliography ..... 741
Primary Sources ..... 741
Secondary Sources ..... 749

List of Tables

Table 1. William S. Lind's evolving list of recommended readings on maneuver warfare…… 322

Table 2. Interviews of *Wehrmacht* officers supported by the Battelle Corporation…… 396

List of Figures

Figure 1. Timeline of John Boyd's major works ..... 188

Figure 2. The changing size and structure of "Patterns of Conflict" ..... 214

Figure 3. The progressive growth of Boyd's "Patterns of Conflict" study. ..... 223

Figure 4. Boyd's first and only published OODA diagram ..... 279

Figure 5. Boyd's most radical period of synthesis ..... 413

Figure 6. Slide 61 from the November 1, 1978 version of "Patterns of Conflict ..... 421

Figure 7. Slide 140 from the August 1980 version of "Patterns of Conflict" ..... 431

Figure 8. Comparison of typical and mission-type orders ..... 539

Figure 9. Articles in the *Marine Corps Gazette* addressing maneuver warfare, 1979-1989 ..... 580

# Chapter 1: Introduction

In 1989 Headquarters, U.S. Marine Corps published Fleet Marine Force Manual 1 (FMFM 1), *Warfighting*. This compact, pocket-sized, 77-page handbook was significant because it redefined Marine Corps doctrine by incorporating a fundamentally novel philosophical understanding of war. This achievement was the result of a long and contested process in the wake of the Vietnam War, one in which new ideas about war were developed, debated, and incorporated to varying degrees by each of the U.S. military services. Most radical among these was a comprehensive new theory of armed conflict known as maneuver warfare. It was distinctive because it emphasized cognitive competition, adaptation, and bypassing enemy strength, while deemphasizing the physical destruction of enemy forces. The publication of *Warfighting* was an important milestone, as it was the first time a military force deliberately adopted a doctrine based on maneuver warfare. Because the Marine Corps first provided sanction to the new ideas, the Corps became bound to the narrative of its development. Encoding maneuver warfare as doctrine reversed the terms of the debate by establishing a new orthodoxy, but it also served to crystalize some of the misconceptions which had been barriers to understanding and acceptance. The debate which surrounded the development of maneuver warfare has continued to this day and remains focused on many of the same issues.

Popular and academic accounts of the invention of maneuver warfare doctrine hold that it was the product of a genius, a retired U.S. Air Force fighter pilot named John Boyd. The orthodox narratives explain that in the wake of the Vietnam War, Boyd's concept of maneuver warfare appealed to the younger generation of Marine officers, who mounted a grassroots reform effort putting them at loggerheads with the conservative generals leading the Corps. The decisive moment in this conflict was the selection and appointment of General Alfred M. Gray, a

rare advocate of maneuver warfare among the ranks of Marine generals, to lead the Corps as its commandant in 1987. As Commandant of the Marine Corps, General Gray enacted many elements of the reform movement, to include the publication of *Warfighting* as a new foundational philosophy to harmonize all the other efforts and redefine how the Marine Corps approached preparing for and fighting wars. This basic narrative is a common feature of almost all treatments of the subject, from the earliest, popular history, Robert Coram's 2002 *Boyd: The Fighter Pilot Who Changed the Art of War*, to the most recent academically rigorous analysis, Ian Brown's 2018 *A New Conception of War: John Boyd, The U.S. Marines, and Maneuver Warfare*.[1]

In its simplest rendering, the orthodox interpretation generally conforms to superficial notions of military change, holding that technology changes the character of war, individuals inside or outside the military form new ideas about how to capitalize on these changes and obtain advantage in the next war, and a struggle ensues within the organization between the visionaries promoting change and those resistant to the new ideas and technology.[2] The orthodox narrative of the development of maneuver warfare is problematic not only because it oversimplifies the processes of military change, but also because it is entangled with a network of related misconceptions about the origins of maneuver warfare. These misconceptions include the claim that Boyd developed the concept of an Observe-Orient-Decide-Act (OODA) Loop from his experience as a fighter pilot, then selectively applied military history to expand it into a theory of ground combat. Such claims assert that the entire concept of maneuver warfare is invalid

[1] Robert Coram, Boyd: *The Fighter Pilot Who Changed the Art of War* (Boston: Little, Brown and Company, 2002), 369-397; and Ian Brown, *A New Conception of War: John Boyd, The U.S. Marines, and Maneuver Warfare* (Quantico, VA: Marine Corps University Press, 2018), xxv-xxxi. Brown, xxxiii does qualify that this was not a purely bottom-up effort.

[2] Barry R. Posen, *The Sources of Military Doctrine: France, Britain, and Germany between the World Wars* (Ithaca: Cornell University Press, 1984), pp. 224-226, and Stephen Peter Rosen, "New Ways of War: Understanding Military Innovation," *International Security* 13, no. 1 (Summer 1988), 135-140.

because of its fallacious origins, and this discourages serious investigation of the real ideas underlying maneuver warfare.[3] There are, indeed, questions which should be asked about the historical basis and relevance of maneuver warfare, but for the debate to be able to focus on productive questions, myths about its origins must be exposed.

This dissertation will complicate the existing narrative of the development of maneuver warfare and post-Vietnam doctrinal change in the U.S. Marine Corps in several ways. First, it will show that while Boyd was, indeed, very important, the ideas that would become maneuver warfare and *Warfighting* doctrine were not the result of one man's genius, or even one man's genius as adopted and refined by Marine practitioners. Instead, it will demonstrate that while defining a fundamentally new approach to war certainly needed a touch of Boyd's synthetic genius, this was blended into a strong current of military reform activism by a congressional aide named William S. Lind. Lind was seeking to recast the U.S. military to deal with the Cold War problem of impending confrontation with the Soviet Union. The Warsaw Pact's numerical superiority was growing in the 1970s as Soviet military investments also closed the technology and performance gap that had given the U.S. and its NATO allies qualitative advantages. Lind believed the U.S. needed to remake its military services, particularly the ground-oriented Army and Marine Corps, on the model of Prussian military culture and the example of *Wehrmacht* tactical excellence in World War II.

Lind invented a new model for contrasting the dominant American mode of warfare with the German style: a dichotomy which placed attrition/firepower doctrine on one pole hand and maneuver doctrine on the other. Rebuffed by the Army, Lind found the Marine Corps to be most

[3] Antulio J. Echevarria II, War's Logic: Strategic Thought and the American Way of War (New York: Cambridge University Press, 2001) 171-180; and Stephen Robinson, *The Blind Strategist: John Boyd and the American Art of War* (Dunedin, New Zealand: Exisle Publishing, 2021), 16, 18.

receptive to change among the U.S. military services and tapped into an impulse for professional reform within the ranks of Marine officers. Lind used his congressional influence to pressure the Marine Corps into experimenting with mechanizing its forces. These experiments revealed to Lind that his efforts were handicapped by Marines' inability to understand the essence of the maneuver approach to fighting, so he and a network of Marine collaborators turned their attention to defining maneuver warfare. In the process they initiated what can be thought of as a maneuver warfare movement, and developed the supporting concepts that would actually allow Marines to practice maneuver warfare. Boyd's ideas, which were simultaneously evolving, came to incorporate Lind's notion of maneuver as a basis for fighting, and his OODA concept provided the theoretical explanation that had been lacking. How Lind blended the OODA concept into his promotion of maneuver warfare, always as a polar opposite of the dichotomous anti-concept of attrition warfare, has much to do with how maneuver warfare came to be understood, and misunderstood. In the midst of controversy over these ideas, continued engagement between Lind and individual Marines, especially Lieutenant Colonel Michael Wyly, enabled them to work out enough supporting concepts that maneuver warfare would begin to resemble an actionable doctrine. This set of doctrine-ready concepts was captured in Lind's commercially published 1985 *Maneuver Warfare Handbook.*

Though there was much controversy over maneuver warfare, the translation of these ideas into an actual doctrine by the U.S. Marine Corps in 1989 gave the new concept credibility. Though FMFM 1, *Warfighting*, was regarded by many to be a coherent system of thinking capable of reorienting the Corps from an attritional style of warfare to a maneuverist approach, it was far from a perfect expression of maneuver warfare. *Warfighting* failed to resolve some critical misconceptions and contained some inherent contradictions. As a result, though the

Marine Corps imprimatur promoted other organizations and individuals to regard maneuver warfare more seriously, it also helped perpetuate misconceptions and myths about what maneuver warfare actually is, and if it is an efficacious approach to war.

Ultimately, this dissertation, a process history that sits at the intersection of ideas and institutions, refutes the notion that maneuver warfare was a gift of one man's genius, promoted by a small group of grassroots "maverick" reformers at their own peril, and implemented in doctrine only through the timely success of a senior officer who had become their "champion." Rather than focusing on ideas as product and their adoption in doctrine as process, this dissertation examines the growth of new concepts and their encoding in doctrine as process. It shows that the development of new ideas as a basis for doctrine is a process marked by intellectual dynamism among a variety of agents with different ways of thinking. Radical change such as reconceptualizing how an organization should fight is contingent, and accomplished only because of the complex motives of individuals, which interact to shape the ultimate form those ideas take. Further, the process of developing revolutionary ideas requires a synthesis of theory and praxis, and while the forging process can make them practical and actionable, it can also blend them in ways that crystalize deep faults. In its broadest terms, therefore, this dissertation is not simply about dispelling the myths behind maneuver warfare, but asserts that new ideas necessary for radical change cannot be deeply understood without also understanding the most important aspect of their context, their origins and construction.

**Historiography and Interventions**

This dissertation's analysis of ideas and institutions is both intellectual and organizational history, but its focus is more on concepts, and the manner in which they are shaped by institutions. It explores how alternative ideas are first formed in the absence of a clear signal for

change, how they can evolve in an environment where they seem to clash with an organization's status quo and values, and how the promotion of change through new ideas can shape the ultimate form they take, often in unintended ways. In the process, this study intervenes in the historiography of several different subjects: the military theory of John Boyd, the origins and historical basis of maneuver warfare, organizational change in the U.S. Marine Corps, and the larger subject of military adaptation through doctrinal change.

John Boyd is widely regarded as the principal theorist behind the maneuver warfare movement. Indeed, its most revolutionary ideas stem from Boyd's synthesis of military history and theory, principally the works of Sun Tzu, Carl von Clausewitz, and Thomas Kuhn. Boyd shared few of his thoughts in formal writing, instead depending on personal contact to spread his ideas in a series of lectures, very few of which were recorded. The lack of a comprehensive written exposition of his ideas in his own words has resulted in Boyd getting remarkably little attention from the academy. What scholars have brought to light has usually stemmed from the military's educational establishment, most significantly Grant Hammond's 2001 *The Mind of War: John Boyd and American Security* and Frans Osinga's 2007 *Science, Strategy and War: The Strategic Theory of John Boyd.* Hammond's account is more biographical, but provides a good sense of Boyd's intellectual growth during his military career and his role in the military reform movement. Osinga complements this work with a closer examination of the theoretical influences on Boyd's ideas, particularly the scientific *Zeitgeist* of his lifetime.[4] Though each of these books helped increase awareness of Boyd's ideas by interpreting them in a publishable

[4] Frans P.B. Osinga, *Science, Strategy, and War: The strategic theory of John Boyd* (New York: Routledge, 2007), 52-127, develops the influences of a wide range of scientific and philosophical theorists including Thomas Kuhn, Michael Polyani, Jean Paiget, Werner Heisenberg, Karl Popper, and Norbert Weiner, as well as Neo-Darwinist and Postmodern thinkers. Osinga, 16 defines *Zeitgeist* as "the intellectual and cultural environment in a particular period."

format and providing suggestions about the ideas that influenced his synthesis, neither closely examines the nature of Boyd's inquiry into military history or the quality of his historical interpretation. Neither Hammond nor Osinga situate Boyd's theory within the evolving ideas of the concurrent maneuver warfare movement, instead seeing the movement simply as the vehicle for translating Boyd's theory into doctrine.[5] Ian Brown's 2018 *A New Conception of War: John Boyd, the U.S. Marines, and Maneuver Warfare* is more focused on Boyd as the thinker behind maneuver warfare than these other works, but carries the same basic assumption: Boyd created the new concept of maneuver warfare, and others promoted and adopted it.[6] Part of the reason for these misconceptions is that these works focus on Boyd's theory as a product, rather than a process. Osinga and Brown examine what Boyd wrote and said. Their insight into his sources and process comes from his final version of his briefs, including some commentary from recordings, and this insight is used to interpret his ideas. Instead of relying on the final product, this study uses 32 different versions of Boyd's "Patterns of Conflict" briefing that were produced over a ten-year period, four transcripts of his presentation, and Boyd's evolving source list to show how his ideas evolved over time in conjunction with his changing research interests. This provides an interior view of Boyd's ideas in the context of the history and theory he was reading. It also situates his evolving ideas with those that others were concurrently developing on maneuver warfare. Doing so dispels common misconceptions, such as the idea that his Observation-Orientation-Decision-Action (OODA) Loop was a product of his experience as a fighter pilot, and was his central argumentative theme about the nature of conflict.

[5] Grant T. Hammond, *The Mind of War: John Boyd and American Security* (Washington: Smithsonian Books, 2001), 154; and Osinga, 46-47.
[6] Brown, 85-176.

It is important to address this particular misconception for a number of reasons. Most central is that some critics who believe Boyd invented the concept of maneuver warfare trace back to this idea, that Boyd's core concept was OODA and that it only applies to aerial combat, to argue that OODA and all the ideas derived from it have no relevance to land warfare. This has been a core critique of Boyd and maneuver warfare, especially within the professional military education (PME) establishment and defense policymaking community, and has remained central to even the most recent and comprehensive treatments, including two books published in 2021.

Antulio Echevarria's *War's Logic: Strategic Thought and the American Way of War* focuses one chapter on Boyd, and argues both that the essence of Boyd's theory was OODA, and that it is inapplicable to ground warfare because it was based on Boyd's experience in aerial combat.[7] Stephen Robinson includes this as part of his book-length critique of maneuver warfare in *The Blind Strategist: John Boyd and the American Art of War* to assert that maneuver warfare is "A Temple Built on Sand" because "The O-O-D-A loop is a useful decision-making tool but is a far cry from being the universal key to victory, and maneuver warfare is essentially based on fraudulent concepts."[8] Robinson connects this claim to another critique of Boyd's ideas, that they were too heavily influenced by Liddell Hart and the post-World War II efforts of former *Wehrmacht* generals to resurrect their reputations. Robinson builds this into an argument that maneuver warfare "rests upon a foundation of deceit," which aligns with Echevarria's assessment that Boyd's research was "superficial at best."[9] Hammond, Osinga, and Brown have all shown how Boyd had a deep interest in the works of Liddell Hart and in German blitzkrieg. This might seem to validate Robinson's charge, especially if one accepts that Boyd was a

[7] Echevarria, 171-180.
[8] Robinson, 16, 18.
[9] Robinson, 18; and Echevarria, 177.

passionate advocate focused on promoting maneuver warfare, if not the person who invented the concept.

By taking a closer look at the evolution of Boyd's ideas and his role in the maneuver warfare movement, this study shows that while Boyd certainly argued that maneuver was preferable to attrition, his brief was never focused on promoting maneuver warfare, but had much higher aims. Further, examining the progressive development of Boyd's ideas shows that his interest in Liddell Hart and the Germans was never determining, but was blended in a more comprehensive study of military history, theory, and philosophy that yielded a much broader synthesis in "Patterns of Conflict." With respect to the military theory of John Boyd, then, this dissertation will intervene by expanding and deepening our understanding of Boyd's method and synthesis particularly as it relates to maneuver warfare.

This leads to the second major intervention, the origins of the ideas behind maneuver warfare. While both the most recent critiques (Echevarria and Robinson) and most thorough academic treatments (Hammond, Osinga, and Brown) stress the importance of Boyd to the maneuver warfare movement, and admit to the participation of other people as promoters, they do not consider the theoretical influence of other intellectuals and practitioners in that movement. Decentering Boyd allows room for considering that others may have had greater roles. As a process history inquiring into the origin of maneuver warfare, this dissertation considers the relationship between Boyd's ideas and the concepts being advanced by other intellectuals in the maneuver warfare movement, most of whom were interpreting German military history. The most notable and influential among this group was William S. Lind. Ultimately, this study shows that while the maneuver warfare movement in the Marine Corps provided critical energy for transforming the concept of maneuver warfare, including some of Boyd's ideas, into doctrine,

Boyd's contribution was relatively small. Marine reformers were much more attuned to the more practical ideas of Germanophile maneuver advocates, and were responding to Lind's campaign for professional and organizational reform. Lind and his Marine collaborators tended to underappreciate the most abstract yet comprehensive aspects of Boyd's theory of conflict, though they did embrace OODA as a device for explaining the workings of maneuver warfare. How they integrated the OODA concept, along with Lind's dichotomy contrasting attrition and firepower with maneuver, promoted misconceptions that became the center of long-standing disputes over the maneuver warfare, even after it was adopted as doctrine in FMFM 1. The encoding of this concept in the Marine Corps' first officially-sanctioned philosophy of war in 1989 helped perpetuate some of these misconceptions, for while its author appreciated some of Boyd's more expansive concepts, these were not included. With respect to the concept of maneuver warfare, then, this dissertation is not intervening by merely complicating the existing narrative; rather, it overturns that simplistic narrative of one man's genius with the first comprehensive history of the American concept of maneuver warfare as an idea and system of thinking.[10]

The third major historiographic subject this dissertation will investigate is that of post-Vietnam doctrinal reform within the U.S. Marine Corps. The contested process by which maneuverist ideas became doctrine in *Warfighting* has received increasing attention in recent years. Popular accounts include Robert Coram's 2002 *Boyd: The Fighter Pilot Who Changed the Art of War* and Gerald Turley's 2010 *The Journey of a Warrior*. These see FMFM 1 as a victory of young maneuverist officers led by General Gray over the conservative leadership of

[10] This dissertation focuses on the American understanding of maneuver warfare, which evolved generally distinct from the British conception of manoeuvre, aside from the interjection of Liddell Hart's ideas. The maneuver warfare movement in the U.S. did energize European interest in the subject, particularly within NATO member nations, as it shaped debate over U.S. Army doctrine and was defined in Marine Corps doctrine.

the Corps, a contest decided when Gray was appointed commandant. Academics have begun to address the topic in recent years as well. Most treat the struggle over new ideas from an organizational perspective: focusing on the tensions between older, conservative officers defending an orthodoxy of attrition warfare against a faction of younger officers embracing a new concept of maneuver warfare. By focusing on the factions rather than the ideas, these studies portray maneuver warfare as an exogenous concept, as if the struggle was over whether or not to adopt a new, fully-formed doctrine. Those that do give Marines some agency in the new ideas tend to regard them as secondary actors. They generally portray Marines as validating the concepts or developing new ideas on how to teach them, rather than shaping the formation of those ideas themselves.[11]

Fideleon Damian's 2008 Kansas State University master's thesis, "The Road to FMFM1: The United States Marine Corps and Maneuver Warfare Doctrine, 1979-1989," is the most serious treatment of the way that Marines engaged with the concept. Damian examines the maneuver warfare movement as "a multi-dimensional approach" that used three mechanisms to transform the Marine Corps intellectually: the "theoretical component" was debate in the pages of the *Marine Corps Gazette* that was "centered on increasing awareness, gaining acceptance, and defending maneuver warfare."[12] Next, a "functional/practical component" involved training to apply maneuver warfare in the physical realm, translating the new ideas into practical skills and actions. These two mechanisms, Damian argues, created a paradigmatic crisis. The actual paradigm shift from attrition to maneuver warfare was completed by the third mechanism,

[11] Hammond, 195-196; Brown, xxx-xxxi, 157-172; and Robinson, 55-61. Robinson, 57 does state "The [Second Marine Division's] Maneuver Warfare Board translated Boyd's concepts into tactics which could be tested during exercises," but otherwise describes maneuver warfare as Boyd's concept embraced by the Marine Corps.
[12] Fideleon Damian, "The Road to FMFM1: The United States Marine Corps and Maneuver Warfare Doctrine, 1979-1989," master's thesis (Manhattan, KS: Kansas State University, 2008), 6.

institutional authority, the official sanctioning of the new ideas in doctrine by Commandant General Gray.[13] The implications of these three mechanisms under Damian's conception is that they were persuasive, rather than creative. While Damian did more than anyone else to give Marines intellectual agency by delving into the conceptual tensions that underlaid the debate and energized resistance to maneuver warfare, to him "[t]he challenge faced by the maneuverists in the 1980s was to convince Marines of the need to adopt a new philosophy and a new way of thinking," not to create a new way of thinking.[14] Similarly, Brown's 2018 *A New Conception of War* presents the debate over maneuver warfare as means by which "Marines and their supporters digested Boyd's packaging of maneuver warfare, to the point that the decade ended with its adoption as the Marine Corps' official capstone doctrine."[15] His analysis highlights the manner in which Lind and three prominent Marines in the process (Lieutenant Colonel Wyly, General Gray, and Captain Schmitt) "transformed Boyd's ideas from debate fodder into policy and made them stick" as doctrine.[16] Again, Marines translated Boyd's ideas, rather than creating or provoking new ideas.[17]

By thoroughly tracing the development of the ideas that would become maneuver warfare and *Warfighting* doctrine back to their origins, this study not only decenters Boyd, but it shows the active and necessary role Marines and soldiers played. Boyd was interested in maneuver

[13] Damian, 5-6, 22-23.
[14] Damian, 6.
[15] Brown, 122.
[16] Brown, 150. Brown, 78-83 does argue the writings of Captain Stephen Miller from 1978 and 1979 anticipated Boyd's work, but his chronology does not acknowledge Lind's role as first introducing the concepts of maneuver and attrition doctrine. Brown 159-161 also argues that General Alfred M. Gray was disposed to a maneuver approach to warfighting before he was exposed to Boyd and his ideas. Together, these arguments support Brown's assertion that certain Marines were disposed to be attracted to Boyd's ideas once they were exposed to the new conceptual framework he allegedly created. The most actively creative role Brown assigns (166-172) is to Captain Schmitt, as the single author of FMFM 1 synthesizing Boyd's ideas into doctrine.
[17] This is also consistent with Hammond, 195-196; and Robinson, 55-61. Robinson, 57 does state "The [Second Marine Division's] Maneuver Warfare Board translated Boyd's concepts into tactics which could be tested during exercises," but otherwise he describes maneuver warfare as Boyd's concept embraced by the Marine Corps.

warfare in an abstract way, while Lind was intimately familiar with German history and had a vision for style of operations that appealed to some Marines, who would become maneuverists. Their debate and lack of progress in adopting that style helped Lind see that elements of Boyd's theory were necessary to help Marines understand the essence of the German way of war. Their debate over these ideas also helped develop maneuver warfare as a system of operational and tactical thinking. It took the active involvement of Marines, particularly in Lind's after-hours seminar at the Marine Corps Amphibious Warfare School (AWS), in Wyly's development of techniques and materials for teaching maneuver warfare at AWS, and in the experimentation at 2nd Marine Division under Gray, to create a fully-formed, actionable concept. Without the active involvement of Marines and the occasional soldier, the concept of maneuver warfare would not have matured sufficiently to become a basis for doctrine. With respect to the historiography of Marine Corps innovation, then, this study shows that the achievement of Marines in instituting maneuver warfare as doctrine was not simply their willingness to embrace new ideas from outside the Corps, but rather their participation in the process of forging abstract concepts derived from a historical model into a system of actionable, practical concepts founded in theory suitable for doctrine.

This intervention relates to the fourth major subject this dissertation will address, the more general topic of military innovation through doctrinal change. The wider process of innovation has been the subject of intense study in recent decades. The predominant scholarly models of military innovation emphasize structural and cultural factors. They stress the inherent conservatism of military organizations, and highlight how bureaucracy will often suppress the expression of cultural values that might otherwise favor innovation. Scholars who favor structural explanations argue that structural solutions are usually necessary, such as the

intervention of national political leaders. In *The Sources of Military Doctrine: France, Britain, and Germany Between the World Wars*, Barry Posen argued that in peacetime the military's organizational conservatism goes relatively unhindered, but in times of war, civilian leaders often get more directly involved, exercising their authority to overcome these obstacles.[18] Stephen Rosen advanced this conversation in 1991 with *Winning the Next War: Innovation and the Modern Military* by representing military organizations as "complex political communities."[19] His focus on internal structure reveals how competition among the various parts of an organization for power, prestige, and resources can promote innovation. Like Posen and most other scholars in the structural group, Rosen also stresses the importance of civilian authority, seeing that civilian policymakers who make their careers outside the military recognize the military's conservatism, challenge its most deeply held assumptions, and exercise the authority needed to impose change. Rosen shows how civilian policymakers can identify, patronize, and protect such mavericks within a military organization to identify promising pathways for change and impose that change on a service's conservative leaders. This is done by forcing the military to create new career opportunities for the innovators, securing their future influence as a durable constituency in the service.[20] Because Posen and Rosen emphasize intercession by external agencies, they can be thought of as exogenous structuralists.

These structuralists privileging outside intervention have prompted the emergence of a faction that might be considered the internal structuralists, historians and political scientists who argue that military leaders and organizations can overcome the conservatism of their own services. Indeed, Benjamin Jensen goes so far as to characterize this sequel to the exogenous

[18] Posen, 57.
[19] Stephen Peter Rosen, *Winning the Next War: Innovation and the Modern Military* (New York: Cornell University Press, 1991), 19.
[20] Rosen, *Winning the Next War*, 20-21.

structuralist interpretation as "the professional strikes back."[21] In fact, this interpretation has a long historiography, perhaps enough to be a prequel. It should be no surprise that many of its works are products of military minds seeking practical advice from history, but which possess strong faith in the agency of military leaders. Captain Timothy Lupfer's 1981 Leavenworth Paper No. 4, *The Dynamics of Doctrine: The Changes in German Tactical Doctrine During the Frist World War*, detailed the German Army's efforts to react to its disadvantaged position in the war by fundamentally remodeling its tactics. Lupfer highlighted the leadership of First Quartermaster General Erich Ludendorff and brilliant officers of lesser rank within the German Army for managing "a dynamic process that requires great intellectual ability and strong character."[22] More recently, Army reserve officer Benjamin Jensen's 2016 *Forging the Sword: Doctrinal Change in the U.S. Army* reexamined the Army's development of AirLand Battle in the 1970s and 1980s as an achievement of professional army officers, who developed incubational organizations and advocacy networks to promote doctrinal change.[23] Trent Hone's 2018 *Learning War: The Evolution of Fighting Doctrine in the U.S. Navy, 1989-1945* presents the U.S. Navy as a complex adaptive system managing evolutionary change. For Hone, the Navy was an organization presided over by professionals who fostered a learning system integrating the activities of sub-organizations to achieve "an effective balance between the *exploration* of new ideas and *exploitation* of successful ones."[24]

In contrast to the structuralists, Williamson Murray has been a leading advocate within the group arguing that organizational culture is the determining factor in a military service's

[21] Benjamin M. Jensen, *Forging the Sword: Doctrinal Change in the U.S. Army* (Stanford: Stanford University Press, 2016), 15.
[22] Timothy T. Lupfer, *The Dynamics of Doctrine: The Changes in German Tactical Doctrine During the First World War*, Leavenworth Paper No. 4 (Fort Leavenworth, KS: Combat Studies Institute, 1981), viii.
[23] Jensen, 1-2.
[24] Trent Hone, *Learning War: The Evolution of Fighting Doctrine in the U.S. Navy, 1898-1945* (Annapolis, Naval Institute Press, 2018), 15.

ability to adapt and innovate by learning from its experiences. In a 1998 book he edited with Alan R. Millett, *Military Innovation in the Interwar Period*, Murray argues that structural solutions, "efforts to institutionalize innovation will inhibit rather than foster the process" for "The bureaucratization of innovation – particularly in the current framework of the U.S. military – guarantees its death."[25] Instead, Murray argues, successful innovation depends on "an officer corps educated and encouraged to innovate" by adjusting its value system to promote disciplined thinking and a willingness to be open-minded to the results of realistic testing of new concepts.[26] For Murray, education and the ability to think unbounded by bureaucracy, both functions of culture, are the biggest antidotes to the military conservatism expressed in doctrinal lethargy.

Studies of doctrinal change in the Marine Corps tend to rest on a blend of cultural and endogenous structural explanations. In general, they focus on the processes through which unofficial (and therefore organizationally incidental) professional discourse among officers provided a parallel pathway, developing and refining ideas alongside organizational efforts to revise doctrine. In some instances, this pathway could bypass organizational disinterest in revising doctrine. In these accounts a culture which embraces innovation mitigates organizational shortcomings through unofficial efforts. Coram and Piscitelli celebrate the Marine Corps as a vessel of an innovative culture, the only military service within the U.S. defense establishment capable of a radical doctrinal change based on Boyd's ideas. They differ primarily in that Coram sees it as a bottom-up victory of innovative culture, while Piscatelli sees the Marine Corps as fundamentally innovative, from top to bottom.

[25] Williamson Murray, "Innovation: Past and Future," in Allan R. Millett and Williamson Murray, eds. *Military Innovation in the Interwar Period* (Cambridge: Cambridge University Press, 1998), 326.
[26] Murray, 325-326.

Rigorous academic works in this group include Terry Terriff's 2006 *Journal of Strategic Studies* article, "'Innovate or Die': Organizational Culture and the Origins of Maneuver Warfare in the United States Marine Corps," and Ian Brown's 2018 *A New Conception of War*. Terriff's study assesses how cultural features such as a deep institutional paranoia determined the service's responses to its strategic challenges, while Brown sees a cultural commitment to delivering defense value as part of the Corps' survival strategy.[27] In essence, in cultural explanations like Murray's, Coram's, Piscatelli's, and Brown's it is the organization's culture which saves it from bureaucratic conservatism by fostering successful adaptation. They privilege cultural bias for change over cultural resistance to change.

This narrative theme, that a culture of innovation overcomes organizational shortcomings, seems to reflect the celebratory narrative tone of Marine Corps history. Where other services' developmental histories have focused on structural change, the Marine Corps, with its comparatively small organization, has stressed the role of insightful leaders shepherding adaptations and innovations in response to organizational threats and operational challenges. Marine Corps history also emphasizes the importance of intangibles such as character and culture over deliberate processes, material, and doctrine. These forces are not only reflected in studies of post-Vietnam doctrinal change through the Marine Corps maneuver warfare movement, but also in studies of earlier periods, such as Keith Bickel's 2001 *Mars Learning: The Marine Corps' Development of Small Wars Doctrine, 1915-1940*. Bickel explained that Marine leaders involved in counterinsurgencies in Central America and the Caribbean circulated

[27] Brown, 33-40. Terry Terriff, "'Innovate or die': Organizational culture and the origins of maneuver warfare in the United States Marine Corps," *Journal of Strategic Studies* 29, vol. 3 (August 2006), 476-477, argues that the Marine Corps' uncertain role in the Cold War made it vulnerable to interservice competition for resources. Terriff, 481-485, uses the term "organizational paranoia" to describe the Marine Corps' response to the longer-term organizational challenge that the Corps faced as a force residing within the Department of the Navy that was often accused of being redundant to Army force structure and capabilities. This perennial concern produced a deep suspicion of external criticism that might energize arguments against its future in the U.S. defense establishment.

their observations and best practices to develop "unofficial" doctrine, a shared understanding of counterinsurgency and the best way to conduct it. This was necessary at the time to capture the Marine Corps approach to small wars at a time when official doctrinal efforts were focused on the Corps' newest mission, amphibious operations. As with accounts of the maneuver warfare movement, Bickel's insightful, innovative officers are the decisive element, undertaking the hard work of creating a new doctrine to move the Marine Corps forward when the Corp's bureaucracy is uninterested in such change.

The larger historiographic debate over the relative power of structure and culture seems to be driven, at least in part, by contemporary pragmatic concerns, namely the desire to promote innovation in the military of today. Marine history's special blend of culture and structure seems equally pragmatic, for in addition to suggesting pathways for future change, it serves to reinforce and validate the importance of Marine Corps values. Pragmatic examination of the process of contesting new ideas, however, can distract attention from another import feature of organizational change. Assessing the relative effectiveness of structural strategies and cultural values for promoting the adoption of new technologies and ideas, however, can elide the way the process interacts with those technologies and ideas, shaping the outcome.

This study examines the interaction between new ideas and the individuals and organizations that encountered them, and the manner in which the promotion of these ideas, or opposition to them, shaped those ideas and their expression, and determined the doctrinal form they would ultimately take. Most critical among its findings on this matter, the dichotomous model of attrition warfare and maneuver warfare Lind created to promote military reform on the German model became central to the concept of maneuver warfare, and ultimately became the source of major misconceptions. Further, when Lind began focusing on the promotion of

maneuver doctrine within the U.S. Marine Corps, the way he infused Boyd's still-evolving OODA concept planted a seed that has become a major source of misunderstanding for both maneuver warfare and Boyd's theory of conflict. Finally, the way maneuver warfare was encoded in Marine Corps *Warfighting* doctrine reinforced these misconceptions, and fostered additional misconceptions about maneuver warfare.

This dissertation's final contribution to the field of military change and innovation will be to analyze maneuver warfare as a significant doctrinal innovation devoid of technical elements. This is rare in a field where technology is privileged, if not considered determining. The most influential works, to include Posen, Rosen, and even Murray's cultural treatment, all hold technological change as a central feature or the stimulus for military change. Often the innovation considered engenders internal conflict, but such conflict centers on the incorporation or optimization of new technologies. Within the Marines' professional discourse and doctrine, maneuver warfare was held to be an inherently atechnological matter, consistent with John Boyd's emphasis that "terrain doesn't wage wars; machines don't wage wars; people do, and they use their minds."[28] For the Marines to embrace this philosophy put them at odds with contemporary military and societal thinking about the centrality of technology to innovative progress and military advantage, a prejudice still extant in the historiography of military change. The atechnological nature of this doctrinal change makes the Marine Corps case exceptional, and a particularly valuable subject for considering the development of doctrine as a process of ideas. By defining a new service philosophy of war based purely on theoretical developments and interpretation of history, the evolving ideas of behind maneuver depended solely on cultural and

[28] John R. Boyd, "Patterns of Conflict," presentation, circa 1986, transcript prepared by Shawn P. Callahan, in the hands of Shawn P. Callahan, slide 9.

intellectual preferences untainted by speculation about future technological capabilities and the bureaucratic pressures of weapons development and procurement.

**Terms of Art**

There are, of course, some terms and ideas that do need careful definition from the start, as academics and military professionals often disagree about what they mean. Military servicemembers in the United States, and some military historians, have come to think of war as armed conflict occurring on three levels: strategy, operations, and tactics. This is not a central subject or theme of this study, but at times evolving ideas about maneuver warfare were framed specifically in these terms. Also, the very notion of operational art as an intermediary between strategy and tactics emerged in this same period, and this study will show it was bound to the emerging ideas of maneuver warfare. Without delving into the extensive debate on what strategy, operations, and tactics are and how they should be described, readers unfamiliar with these topics deserve at least a functional explanation of how they are used in a military context. At the lowest "level" of war (for it may, indeed, be unhelpful to view these three as distinct levels) exists tactics. Tactics are the very practical decisions taken for the purpose of winning advantage in battle. They are the defensive measures taken to minimize losses or offensive actions taken to destroy or neutralize one's adversary, bringing about a clear victory, or at least avoiding defeat. Tactics are interior to battle, and generally unconcerned with factors other than bringing about victory in that battle. Tactics are immediate and specific, though rapid tactical action can be facilitated by training to common routines or procedures so that they become a sort of repertoire or "playbook" for rapid, coordinated action.

On the other end, the top "level" of war, is strategy, the abstract development of general ideas about how military force should be applied, often in concert with other elements of power,

to bring about the successful attainment of political objectives. Strategy is the decisions made about what military objectives can realistically be obtained in pursuit of those political ends, what resources should be used, and generally how they should be used. These are often called ends, means, and ways, and are necessarily more abstract than tactics, which deal with immediate realities. Strategy is the general design for winning a war, and in a wider sense, winning the peace that should follow.

Operations, the middle "level," is the connective tissue. Operational decisions involve plans for using tactical actions, or the threat of tactical actions, to make strategic progress. Most often this means planning to conduct a series of tactical actions, or battles, known collectively as a campaign, to make incremental progress towards an ultimate strategic goal. In operations, strategy is given needed specificity. Tactical resources cannot be applied to make strategic progress unless they are assigned specific objectives in terms of times to do things, places to go, and adversaries to be dealt with. Operations are the place where strategy is "made real" by putting forces in a time and place to accomplish a specific task. Because this act requires inherently creative and often intuitive decisions, and prefabricated templates for action can be more harmful than helpful, operational decision-making is more creative than tactics, and is sometimes known as operational art.

Readers have every reason to expect that a dissertation on maneuver warfare should provide a precise definition of that term. This is problematic. Indeed, this entire dissertation narrates the conceptual origins, debate over, and eventual definition of maneuver warfare in doctrine. This narrative shows that the concept was not an easy one to define or brand, and disputes about what it meant and what to call it were vital to the process of figuring out if maneuver warfare should be adopted and how it should be done. Put another way, the very idea

of what maneuver warfare is evolved over time, and defining the concept was a critical challenge that had to be overcome, and which begat new problems. To this day, many misunderstand the concept because they have not invested the hard intellectual work in studying its underlying concepts.[29] This dissertation directly addresses that problem, and necessarily does so at length. By intention, it exposes the reader to the progressive development of ideas behind maneuver warfare, until the concept as described in FMFM 1, *Warfighting*, ultimately emerges. By design, exposing the reader to the origins, debate, fleshing out, and doctrinal definition of the concept of maneuver warfare, this dissertation provides the reader with a better understanding of not just what was being argued from time to time, but also, in the end, what maneuver warfare actually is.

Despite this ambiguity, the reader will benefit from a working definition, yet even today the best source for this definition is not clear. The fact that maneuver warfare was not a product of one person's genius, but part of a long period of debate and development with many participants, contributed to its lack of a definitional center. Even the *Maneuver Warfare Handbook* of 1985, which this dissertation argues was the first coherent, fully-formed, and actionable expression of maneuver warfare, did not define maneuver warfare. The first widely accepted definition of maneuver warfare did not emerge until the need for definition was inescapable, when maneuver warfare was encoded in doctrine for the first time, in FMFM 1 in 1989. This dissertation argues that even that definition was flawed.

There are, however, important continuities that existed in the way maneuver warfare was described throughout its development, and comparing the starting and end points is instructive.

[29] Scott H. Helminski, "No Room for Maneuver: The Reduction of Maneuver Warfare from Cognitive Approach to Physical Concept in Marine Corps Doctrine, Discourse, and Education," (research paper, U.S. Marine Corps Command and Staff College, 2017), 12-18; Daniel R. Grazier and William S. Lind, "Maneuver Warfare: Making it real in the Marine Corps," *Marine Corps Gazette* 99, no. 4 (April 2015), 24-26.

This study asserts that the concept of maneuver warfare originated in a critique William S. Lind wrote of a new draft of a U.S. Army doctrinal manual in 1976. In that unpublished critique, Lind explained something he then called maneuver doctrine by stating, "The purpose of action is to break the mind and will of the opposing command by creating unexpected operational or strategic situations, not to kill enemy troops or destroy enemy equipment."[30] Thirteen years later, FMFM 1 offered the first definition of maneuver warfare as, "a warfighting philosophy that seeks to shatter the enemy's cohesion through a series of rapid, violent, and unexpected actions which create a turbulent and rapidly deteriorating situation with which he cannot cope."[31] The problems with this definition, and the reasons they emerged, will be analyzed in chapter 9. Most germane to providing a working definition of maneuver warfare here is the assertion that maneuver warfare constitutes a philosophy, which avoids an explicit statement as to whether maneuver warfare applies to strategy, operations, and tactics, or to some subset of those three levels of war. This dissertation asserts that maneuver warfare should be thought of as a concept applicable to operations and tactics, but not strategy. The value of tempo at the strategic level is much less apparent, and it is not clear that it can bring about systemic shock. Strategy is more abstract than operations and tactics and therefore less conducive to doctrine, which must contain some element of prescription, and is more susceptible to general principles. In the case of strategy, maneuver warfare would look more like a general avoidance of set patterns; ensuring the coherent action of large, more dispersed organizations; deploying resources so that extended space does not become an insurmountable obstacle to their timely application; and capitalizing

[30] William S. Lind, "Some Questions for TRADOC," unpublished draft paper, undated. Donn A. Starry Collection. Box 5A, Folder 7: Correspondence Files July 1976. U.S. Army Heritage and Education Center. Carlisle, Pennsylvania, 8.
[31] U.S. Marine Corps, Fleet Marine Force Manual 1 (FMFM 1), *Warfighting* (Washington DC: Headquarters United States Marine Corps, 1989), 59.

on opportunities in theaters as they arise. Put another way, in strategy these principles look much less like maneuver warfare than Boyd's overarching theory of conflict promoting variety, rapidity, harmony, and initiative.

Therefore, the reader should start this dissertation with a working definition of maneuver warfare as a style of operational and tactical activity that emphasizes high tempo and fluid action to create dynamic and menacing situations, thereby confounding an adversary's ability to understand his situation and act effectively, and defeating his will and ability to fight through mental disruption and shock without necessarily inflicting large amounts of physical destruction. The prominence of "maneuver" in the concept's name was, and continues to be, misleading. It is therefore important to note that it is the *dynamic* aspect of maneuver that applies, not necessarily the idea that this style requires movement to achieve a positional advantage over one's adversary.

This working definition does not include an aspect of intention, as in the Marine Corps' definition, which states maneuver warfare "seeks to shatter the enemy's cohesion…" This is for good reason. Critics of the concept have argued that many of the historical examples upheld by advocates as examples of maneuver warfare are invalid because the aspect of disruptive intent was absent. For example, though the *Wehrmacht* is seen by maneuver warfare advocates as a prime example, Robinson has argued that the Germans were not seeking to disrupt their adversaries, but instead to encircle and destroy them in the fashion of *Kesselschlacht*, literally, "cauldron battle."[32] This dissertation makes a distinction between maneuver warfare, a style of fighting, and maneuver warfare doctrine, a set of concepts deliberately designed to promote that style of fighting within an organization. With this distinction, maneuver warfare is something

[32] Robinson, 133-140.

that long existed as a style embraced by some leaders and armies, even when they lacked a specific name or explanation for it.

The maneuver warfare advocates of the late Cold War did not discover or invent maneuver warfare, rather they developed a theoretical explanation for an existing phenomenon, including a system of theoretical and practical concepts which could be encoded in doctrine. When John Boyd integrated maneuver warfare (though he called it maneuver conflict) in his briefings, he explained, "looking back on the panorama of military history we can imagine three kinds of human conflict," with maneuver conflict being that "practiced by the Mongols, General Bonaparte, Confederate General Stonewall Jackson, Union General Ulysses S. Grant, Hitler's Generals (in particular Manstein, Guderian, Balck, Rommel) and the Americans under Generals Patton and MacArthur."[33] When William S. Lind began promoting reform of the U.S. military he was inspired by the model of Prussian military culture and the *Wehrmacht's* tactical and operational prowess, and only over time came to realize that progress was stymied by the lack of coherent system of concepts to help Marines understand the essence of the German way of fighting. The maneuver warfare doctrine that Lind and the Marines developed combined elements of Boyd's theory with concepts drawn from German history to give the Marines a system of concepts for teaching, training, and practicing maneuver warfare. The maneuver warfare advocates of the 1970s and 1980s did not invent maneuver warfare any more than Isaac Newton invented gravity. Like Newton, they developed an explanation for observed phenomena which made those phenomena repeatable, and therefore a basis for intellectual progress and professional achievement. In Newton's case, physicists eventually put men on the moon. In the maneuverists' case, they developed a doctrine for what had beforehand "never became organic to

[33] John R Boyd. "Patterns of Conflict," December 1986. John R. Boyd Collection, Collection 2062, box 7, folder 2: Patterns of Conflict, December 1986. Marine Corps Archives, slide 111.

the national traditional of warfare" and had "remained the trade secrets and personal attributes of men such as Douglas MacArthur, Patton" and other great captains.[34]

This study does employ two invented words that will not be found in any dictionary: maneuverist and attritionist. These words first appeared in the dialog about maneuver warfare in the 1980s. They were used both as nouns (to describe a person who favored a particular style of warfare) and as adjectives (to associate an idea with one style of warfare or the other). This study makes use of those terms in the same manner. The preceding paragraph shows how ungainly and monotonous repeated use of phrases such as "maneuver warfare advocates" can be. "Maneuverist" is employed as shorthand for "a person who favored the maneuver warfare concepts as they were understood at the time" or "tending toward the ideas of maneuver warfare as they were understood at the time." This study will show that the term "attritionist" or "attritional" is a bit more problematic, as the idea of attrition warfare was not a coherent school of thought, but a habitual mode of acting and thinking, and to some degree, a strawman the maneuverists employed to promote maneuver warfare. Therefore, "attritionist" is used in this dissertation only as others deployed the term at the time, not to denote a person or idea which favored attrition warfare, but rather a person who was opposed to maneuver warfare. In the 1980s both terms, "maneuverist" and "attritionist," were often used pejoratively. While their use in this study is still subjective, they are employed descriptively, without invidious connotation.

This dissertation also introduces the term "proto-concepts." As an analysis of the progressive development of ideas, the identification of specific concepts in theory and doctrine is critical. Sometimes ideas are relatively mature when they are first expressed. In such cases a study into the origins of those ideas needs do little more than identify the sources and component

[34] Edward N. Luttwak, "The Operational Level of War," *International Security* 5, no. 3 (Winter 1980/1981), 62.

ideas which are synthesized in the new form, the seeds that germinated new concepts. Other times, as was the case with maneuver warfare and with Boyd's greater theory of conflict, complex ideas require significant development and revision. This dissertation asserts that understanding the evolution of these ideas helps reveal more about the process involved and the final form they take. Most notable to this study, though Boyd is widely recognized as the originator of the OODA Loop concept, and to a lesser degree as an advocate of Variety, Rapidity, Harmony, and Initiative (VRHI), these concepts grew out of others that Boyd invented and explored the role of Observation-Decision-Action (ODA) activities in military conflict, and four essential traits for competitive adaptation: Initiative, Quickness, Fluidity, and Cohesion (IQFC). These earlier versions of Boyd's most important concepts bear closer examination, as the timing, inspiration, and form of his initial, tentative synthesis reveals much about Boyd's thinking, and the real roots of his theory. These are more than the seeds of new ideas, but newly germinated forms which would only later ripen into the concepts we now recognize in Boyd's final products. Identifying these germinal forms as "proto-concepts" is a narrative and analytic tool to help the reader understand their significance to the final forms they would take.

A final important, yet ambiguous, concept in this dissertation is doctrine. As the largest producer of doctrine in the world, one might think the U.S. Department of Defense would have a useful definition.[35] The Joint Chiefs of Staff define doctrine as "fundamental principles that guide the employment of U.S. military forces in coordinated action toward a common objective and may include tactics, techniques, and procedures (TTP)."[36] Here bureaucratic double-talk is evident, as it is an inherent contradiction to suggest that fundamental principles for the

[35] Bert Chapman, *Military Doctrine: A Reference Handbook* (Santa Barbara, CA: Praeger Security International, 2009), 2.
[36] U.S. Joint Chiefs of Staff, Chairman of the Joint Chiefs of Staff Instruction (CJCSI) 5120.02D, Joint Doctrine Development System (Washington, D.C., 5 January 2015), A-1.

employment of military force could include such specific matters as techniques and procedures. In this vague definition, and in the eleven unhelpful elaborating points which follow it, the Joint Chiefs reveal a fundamental flaw of U.S. joint doctrine: by trying to satisfy many different constituent organizations, it often says little of real meaning, including in the very definition of "doctrine" itself. A study of doctrine must therefore leave behind, for a moment, the experts who actually develop and use doctrine in the U.S., and turn to the academy to explain what it is and what it does.

One of the seminal works in the study of this subject is Barry Posen's 1984 *The Sources of Military Doctrine: France, Britain, and Germany Between the World Wars*, which defined military doctrine as a "Set of prescriptions…specifying how military forces should be structured and employed to respond to recognized threats and opportunities."[37] He elaborated, "Military doctrine includes the preferred mode of a group of services, a single service, or a subservice for fighting wars."[38] Such functionally-oriented understandings of doctrine persist to this day, probably because most studies have focused on U.S. Army doctrine, which, as explained below, tends to be very prescriptive. They are probably not what J.F.C. Fuller meant when in 1961 he described doctrine as "central idea" of an army.[39] It is certainly not what John Boyd or William S. Lind were advocating, either. Chapters 4 and 6 show that while Boyd appreciated the need for shared ways of thinking to promote organizational harmony and focus effort, he was relentless in condemning "stereotyped" patterns of behavior. Chapters 5, 7, and 8 show that Lind and his followers were equally persistent in rejecting fixed patterns while advocating for the adoption of maneuver warfare. This is important because the Marine Corps doctrine that is the subject of

[37] Posen, 13.
[38] Posen, 14.
[39] Jensen, 4.

this study is a product of Boyd's and Lind's thinking, not to mention the officers who drafted and signed the publication, Schmitt and Gray. What they produced was the Corps' officially sanctioned theoretical understanding of war rather than simply a guide to how it should be fought. Ian Brown pointed out that FMFM 1 was exceptional for its time, for

> General Gray believed maneuver warfare to be so important that every Marine should learn it—and not just learn it but use it as the foundation for contextualizing all other military knowledge. Thus, the Marine Corps stood alone among the other Services in having as their capstone doctrine something that was not really doctrine at all but a theory of conflict with all the temporal endurance that the most valuable theories enjoy…[40]

Indeed, since the publication of *Warfighting*, and perhaps even in reaction to it, the other U.S. military services have moved in that direction, using doctrine to explain the "why" of military operations before delving into the "how." As a Canadian officer wrote in 2000, "modern writers of doctrine are generally at pains to avoid prescribing overly precise, drill-like procedures. They are seeking rather to describe the conceptual framework of how best to prosecute military operations."[41]

In 1984, the same year that Posen wrote *The Sources of Military Doctrine*, he introduced a more abstract notion of doctrine in an article for *International Security*, writing, "Every military organization, explicitly or implicitly, has a theory of victory, a notion of the combination of human and material resources and tactics that it believes is most likely to produce success on the battlefield. This theory of victory is the organization's military doctrine."[42] Posen's phrase, "theory of victory," has become so creatively and prolifically used in military literature that its original meaning is virtually unknown, but Posen was suggesting that doctrine, while

[40] Brown, xlvi.
[41] Paul Johnston, "Doctrine Is Not Enough: The Effect of Doctrine on the Behavior of Armies," *Parameters* 30, no. 3 (Autumn 2000), 30.
[42] Barry R. Posen, "Measuring the European Conventional Balance: Coping with Complexity in Threat Assessment." *International Security* 9, No. 3 (Winter 1984-1985), 51.

intentional, is also speculative. It is theory adapted to the particular needs of a military organization, or the way it intends to apply the insights of theory. Doctrine is an organization's application of theory to the problem of winning its next conflicts, and the implications it derives for preparing itself to do so. This is what General Gray meant when he first introduced FMFM 1 as "a philosophy for action which, in war and in peace, in the field and in the rear, dictates our approach to duty."[43] This was not hyperbole. As chapter 9 shows, the first two chapters of FMFM-1, more than half the book, provide a theoretical explanation of what war is and its essential nature. Commandant General Gray and the manual's author, Captain John Schmitt, understood that redefining how Marines approached war, and the professional expectations of preparing for it, meant first defining how they should understand war and their profession. Gray and Schmitt developed this understanding, at least in part, because of the ideas originally advanced by John Boyd and William S. Lind, who abhorred prescription. Only in is final chapter, "The Conduct of War," does *Warfighting* explain maneuver warfare as its preferred way of fighting, the more traditional understanding of doctrine. This one chapter conforms to the more utilitarian understanding of doctrine, including Benjamin Jensen's assertion that "As a foundational script, it prescribes how the Army should execute critical tasks,"[44] and the current JCS definition provided above that encompasses such mechanical matters as techniques and procedures. In the end, what all of these definitions agree upon is that military doctrine is an accepted set of ideas meant to bring cohesion to a military force, endorsing common beliefs, assumptions, and ideas about the best practices for expressing armed force so the organization can act as a coherent whole, rather than as an unfocused and poorly-bonded mass of juxtaposed

[43] U.S. Marine Corps, FMFM 1, foreword.
[44] Jensen, 4.

subcomponents. Doctrine, as the formal encoding of certain ideas by military authority, therefore, represents the most tangible intersection of ideas and institutions.

**Organization**

To make its interrelated arguments about the ideas behind maneuver warfare and the nature of military innovation, this dissertation follows a generally chronological narrative. The first two analytical chapters provide the policy, intellectual, and political context for maneuver warfare and span the entire period of this dissertation, from 1975 to 1989. Chapter 2, The Limitations of Status Quo Thinking in the Cold War U.S. Department of Defense and Military Services, begins by describing the strategic challenges driving U.S. military strategy and policy during the Cold War. This longer narrative is necessary not just for understanding the context of the changes strategic situation the U.S. faced after the Vietnam War, but also the emergence of a new force in defense policymaking, the rise of civilian expertise which challenged the traditional professional authority of military leaders, and promoted a particularly analytical approach to policy-making and war exemplified by a new discipline: Operations Research and Systems Analysis (ORSA). This chapter then examines two of the military services in this war, the U.S. Navy and U.S. Army, to show how these influences impacted strategic planning and doctrinal reform. Chapter 3, The Military Reform Movement, continues to provide needed context for the development of maneuver warfare by explaining the civil-military reaction to perceived shortcomings in the responses of the services. This movement of civilian defense intellectuals, uniformed servicemembers, and congressional activists served as a source of external ideas and pressure on the military services. Particular attention is given to the motive force for this movement, the Congressional Military Reform Caucus, and its intellectual core, a group of six men known as the Military Reform Institute. It is significant that the most important ideas on

maneuver warfare came from two members of this small group, William S. Lind and John Boyd, and their advocacy of maneuver warfare must be understood as part of this larger impulse and more comprehensive goals for military reform.

The next two chapters explore the intellectual origins of maneuver warfare by focusing on two individuals in the late 1970s: John Boyd and William S. Lind. Chapter 4: The Origins of John Boyd's Theory of Conflict, argues that the OODA loop, for which Boyd is best known, was neither a product of his aviation experience nor the center of his theoretical investigation. This chapter lays the groundwork for Chapter 6 by showing that Boyd's early work between 1975 and 1978 did not include the concept of maneuver warfare, and the development of the OODA loop was paralleled by other important theoretical concepts. Decentering the OODA loop as the heart of Boyd's theory reveals that this central theoretical argument is much more consistent with his larger body of work, and properly situates Boyd's concept of maneuver conflict as just one small part of his comprehensive theory of conflict, even though it received disproportionate attention later.

Chapter 5: William S. Lind and the German Inspiration for Military Reform, addresses the thinking and efforts of the political operative who originated the concept of maneuver warfare during this same period. Even before Boyd began his broad investigation into military history, Lind invented the dichotomous concept of maneuver doctrine and firepower/attrition doctrine to persuade the U.S. Army to adopt a German model of professionalism and a fluid style of mechanized fighting. Rebuffed by the Army, Lind focused his attention on the Marine Corps. While the Marine Corps was not enthusiastic about mechanization, Lind cultivated a relationship with a number of Marines who were attracted to his new ideas and agenda for professional reform. Ultimately Lind found his efforts to promote mechanization handicapped because a

broader theoretical concept was needed, and he sought to rectify this by shifting his effort to defining and developing a concept now known as maneuver warfare.

The next two chapters return to show how Boyd's and Lind's ideas matured, indicating how in some ways they interacted, while also highlighting a critical difference. Boyd had a tangential interest in maneuver warfare as a concept, while one of Lind's focal efforts was to cooperate with a relatively small group of reform-minded Marines to create an actionable doctrine for maneuver warfare. Chapter 6 examines John Boyd's developing ideas as expressed in his maturing "Patterns of Conflict" brief between 1978 and 1986, when it took its final form. "Patterns of Conflict" never focused on promoting maneuver warfare, but instead remained a wider inquiry into the nature of human armed and political conflict. Boyd integrated the concept of maneuver conflict not as part of a dichotomous contrast with attrition, but as part of a three-level model that included Attrition Warfare, Maneuver Conflict, and Moral Conflict. While many thought Boyd was the main theorist behind maneuver warfare, Boyd's main argument was that the vital qualities an organization needed to adopt for competitive success were Variety, Rapidity, Harmony, and Initiative. As Lind and the Marines began important work to make the concept of maneuver warfare more tangible in the early 1980s, Boyd's interests turned toward more abstract matters as he sought to explain a universal theory of conflict and competition.

Chapter 7: William S. Lind's Collaboration with the Marines focuses on the period from 1980 to 1985. It argues that Lind developed a collaborative relationship with a number of Marines, allowing them to develop the supporting concepts needed to turn maneuver warfare into an actionable doctrine. This was done not at the direction or with the sanction of Headquarters Marine Corps, but within the scope of their authority as members of the faculty at the Amphibious Warfare School and as members of General Alfred M. Gray's 2d Marine Division.

Most notable was a Marine lieutenant colonel serving as the head of tactics instruction at AWS, Michael Wyly. While it is impossible to assign credit for these ideas (and that is not the point), it is clear that Marines with practical concerns were a vital part of this process. Even if Lind was the most continuous thread involved in developing the concept into something approaching suitability for military doctrine, he depended upon Marines to make maneuver warfare doctrine real. The most tangible product of this effort was Lind's 1985 *Maneuver Warfare Handbook*, a doctrine-ready set of concepts the Marine Corps could use to being preparing for and practicing maneuver warfare. Why this was not done for another four years and how it was eventually done is the subject of the last two chapters, which focus on Marines and the Marine Corps, and how they engaged with the new ideas from 1981 to 1989.

Chapter 8: The Marine Corps Maneuver Warfare Movement analyzes the discourse among Marines over the ideas that constituted maneuver warfare between when that concept was first comprehensively described in 1981 through its encoding in doctrine in 1989. Dissecting this debate reveals which features they found attractive, and which concepts were more problematic. Part of the debate was not about the concepts themselves, but about conflicting reformist ideas of professional expectations, and the credibility of arguments made by civilians without military experience. A considerable portion of the debate revolved around misconceptions about what maneuver warfare was and how it operated, brought about by Lind's dichotomous contrast of maneuver warfare with attrition warfare, among others. Through this analysis, this chapter shows that the very concepts which appeared to promote maneuver warfare also constituted obstacles to its acceptance.

Chapter 9: Encoding Maneuver Warfare in Marine Corps Doctrine focuses on the period from 1980 to 1989, when several attempts were made to incorporate maneuverist ideas in Marine

Corps doctrine. Understanding the obstacles which limited success prior to 1989 is important to understanding how maneuver warfare was eventually translated into actual military doctrine for the first time in that year. This was the result of a watershed change which occurred in 1987 when General Alfred M. Gray, the most senior officer to embrace maneuver warfare, became Commandant of the Marine Corps. Gray instituted a number of professionalizing reforms, of which developing a doctrine based on maneuver warfare was just a part. To develop the new doctrine Gray made a highly unorthodox decision to appoint a young officer to be the sole author, Captain John F. Schmitt. Schmitt had been a member of the 2d Marine Division during its earlier experimentation with maneuver warfare, and developed the new doctrine with very little oversight. The way Schmitt wrote FMFM-1, *Warfighting*, the first official endorsement of maneuver warfare as doctrine by any military organization, has much to do with how maneuver warfare is understood, and misunderstood today. The doctrine's strengths and faults are deeply rooted in the way the concepts behind maneuver warfare were developed. Ultimately, though *Warfighting* was an achievement and is celebrated as such, this chapter reconsiders its value as a definitive statement on the theory and conduct of maneuver warfare.

In essence, as this dissertation progresses, the narrative becomes progressively less about outsiders and more about Marines, less about abstraction and speculative ideas and more about practical concepts and enacting formal doctrine, less about instinct and belief and more about rational explanation, and less about individuals and more about the organization. It is hoped that this shifting emphasis reinforces a vital point, one that deserves greater academic attention as much as it should already be a deeply-held belief of military professionals: Even if daily life within a military bureaucracy sometimes suggests otherwise, military organizations are not irrational and fundamentally conservative bureaucracies, but complex organisms which

assimilate or resist new ideas based on their relationship to organizational values and perceived utility. The way they digest and incorporate these ideas is a highly contingent process which shapes the outcome, and in which individuals and ideas count very much.

## Chapter 2: The Limitations of Status Quo Thinking in the Cold War U.S. Department of Defense and Military Services

For three days in the first week of June 1982 the U.S. Army convened a forum to debate doctrine and force structure at the U.S. Military Academy at West Point, New York. Known as Senior Conference XX, this was the twentieth such annual event sponsored by the Academy's Department of Social Sciences. West Point saw these conferences as part of the ongoing support its faculty provided to the Army's staff in the form of policy advice, research, and analytical work. Unlike many of the other such efforts, the Senior Conferences didn't yield any formal analyses, but were instead closed forums for "informal and off-the-record exchanges on complex and controversial topics by members of the Administration, Congress, the military, business, academic, and the press."[45] While none of the earlier Senior Conferences seems to have attracted significant attention at the time they were held, or from historians since, Senior Conference XX was exceptional because its subject, "The 'Military Reform' Debate," was the center of great controversy at the time.

The selection of this theme in 1982 was a deliberate reaction to the emergence of a self-described reform movement started by a small group of defense policy critics. The members of this Military Reform Movement, which is the subject of the next chapter of this dissertation, had pointed out flaws in U.S. military strategy, doctrine, force structure, weapons acquisition, and defense organization, and had begun to garner support among Members of Congress, the military, the press, and the public.[46] Among Senior Conference XX's 83 participants were most

[45] U.S. Military Academy, "The 'Military Reform' Debate: Directions for the Defense Establishment for the Remainder of the Century." Senior Conference XX Background Pamphlet, 3-5 June 1982 (West Point, NY: U.S. Military Academy, 1982), iii.

[46] U.S. Military Academy, "The 'Military Reform' Debate: Directions for the Defense Establishment for the Remainder of the Century." Senior Conference XX Final Proceedings, 3-5 June 1982. William S. Lind Papers, Collection 4939, Box 30, no folder, Marine Corps Archives, Quantico, Virginia, 3. Hereafter "Senior Conference XX Final Proceedings."

of the critics identified as the original sources of the debate were in attendance. Also present was Representative Newt Gingerich, who was helping form a new, bipartisan congressional caucus to promote military reform. The conference included several reform-minded younger officers from within the Army, usually in ranks between captain and lieutenant colonel, as well as twelve Army generals from various parts of the Army bureaucracy which had been targeted by the military reformers. The power of the reform movement and the great concern it aroused in the Army is attested to by the organizer of Senior Conference XX, who observed that in 1982, the forum "brought together, for the first time, the most prominent advocates of the various positions being articulated."[47]

There was a lot at stake for the Army, which was in the middle of a controversial debate within its own ranks over its doctrine. This had begun with the revision of its doctrinal manual for ground combat operations, Field Manual (FM) 100-5, *Operations*, in 1976. Many within the Army regarded this doctrine, known as Active Defense, as a mistake. The primary critique was that it adopted a relatively passive defense of West Germany against the massive forces the Warsaw Pact could be expected to devote to any invasion. The military reform critics had further energized this debate by branding the Army approach as fundamentally attritional, focused on gradually wearing down Soviet forces, in a war where the U.S. would be at a severe disadvantage in numbers. These critics called instead for the adoption of a new form of fighting modeled on the German army in World War II, which the reformers called maneuver warfare. While the Army as a service had shown little interest in exploring this new idea, it had been embraced by several organizations within the U.S. Marine Corps. The reformers were applying

[47] Senior Conference XX Final Proceedings, 1.

pressure to the Army by contrasting the Army's doctrinal conservatism with the more progressive thinking within the Marine Corps.

Faced with the inadequacies of Active Defense, in 1979 the Army had put its best minds to the project of rewriting the doctrine. This effort was led by Colonel Huba Wass de Czege, of the Department of Tactics at the U.S. Army Command and General Staff College in Fort Leavenworth, Kansas. Wass de Czege had invited the most prominent advocates of maneuver warfare, William S. Lind and John Boyd, to contribute ideas to the project, and had a draft version of the new doctrine by the spring of 1982. The discussion of these doctrinal questions was so central to Senior Conference XX that it was selected the first of three topics to be discussed at round table sessions over the next three days. With "Future Threats and the Need for Doctrinal Innovation" as the first thing on the agenda for the four breakout groups of experts and concerned policymakers to discuss, seminar discussion was preceded by pair of paper presentations "outlining contrasting positions" to frame the debates that would follow.

In the two lead-in presentations, the reform-minded maneuverists were represented by Lind, the man who initiated the entire public debate on Army doctrine six years earlier, and one of the maneuver warfare advocates Wass de Czege had been consulting as he developed the Army's new doctrine. Lind, with insider knowledge of that project, did allow, "Some maneuver warfare concepts have already been incorporated into doctrine by the Army's Training and Doctrine command," and "The new version of FM 100-5 also includes some maneuver warfare ideas."[48] His central argument, however, was that the U.S. Army was at a crossroads. The U.S. military had over time, "more a result of historical evolution than deliberate choice", come to adopt a style of warfare based on firepower and attrition, but the Army now needed to decide to

[48] Senior Conference XX Final Proceedings, 86.

fully adopt maneuver warfare as the more appropriate alternative.[49] The bulk of Lind's paper was devoted to a concise restatement of arguments made in numerous other forums since 1976, explaining what maneuver warfare was, addressing some of the misconceptions about it, and explaining some of the some of the techniques that would enable the Army to practice maneuver warfare. Almost half of Lind's paper was dedicating to explaining the widespread organizational reforms that would be required because Lind argued that merely defining maneuver warfare as doctrine would be insufficient. The most important characteristic for the Army to adopt would be agility, the basis for maneuver warfare, and this could "only be achieved with consistency if everything in the Army's structure and behavior is designed to create and foster it."[50]

The Army's response to Lind's argument, well known as a result of his extensive lecturing and writing on the topic by this point, was composed and delivered by Wass de Czege himself. He asserted the newest version of FM 100-5 was "one definite and determined step in the direction of a new American approach to warfare."[51] At the same time, Wass de Czege carefully avoided associating this new way of fighting with the concept of maneuver warfare. Indeed, and rather than accepting Lind's endorsement of the Army's moves in the right direction, Wass de Czege explicitly dismissed the argument for maneuver warfare, going so far as to call the very term a "debater's trick in part."[52] In a lecture more than twice as long as Lind's, Wass de Czege defended the Army as a progressive institution already embarking on ambitious reforms, and its new doctrine as a viable solution to the challenge of fighting the Warsaw Pact while outnumbered in central Europe.[53]

[49] Senior Conference XX Final Proceedings, 86.
[50] Senior Conference XX Final Proceedings, 93.
[51] Senior Conference XX Final Proceedings, 54.
[52] Senior Conference XX Final Proceedings, 56.
[53] Senior Conference XX Final Proceedings, 59-81.

It is clear why Lind had felt the Army had made some progress towards implementing ideas associated with the concept of maneuver warfare, even as Wass de Czege discounted this influence. Wass de Czege argued that the new Army's new doctrine was oriented "more strongly than the previous manual toward offensive operations and maneuver," and highlighted four basic characteristics as "the essence" of the new doctrine: initiative, depth, agility, and synchronization.[54] The inclusion of Agility as one of its four fundamental principles, a trait which Lind considered the basis for maneuver warfare, must have met with Lind's approval. The last of these four principles, however, met with immediate objection, for it was a lightning rod for the maneuverists: Synchronization. Of the four characteristics, Wass de Czege provided the least explanation of Synchronization, which "combines the ideas of economy of force and unity of effort" and "requires that no effort be wasted initially or as operations develop."[55] Despite this rather vague and seemingly uncontroversial definition, Synchronization became a central point of debate in the question and answer session afterwards. Boyd in particular thought that Synchronization was a grave mistake.[56] In Boyd's mind, in practice Synchronization would require an over-centralization of command that would slow tempo and inhibit the initiative of lower-level leaders, all of which were antithetical to maneuver warfare's emphasis on decentralized command, rapid tempo, and capitalizing on the initiative of lower-level leaders to exploit opportunities as soon as they arose. Where the Army saw Synchronization as necessary to maximize efficiency and focus effort against a numerically superior enemy, Boyd and the maneuverists saw it as a prohibitive impediment to agility. There is no record of the extended conversations that occurred in the four seminar groups afterwards, but it is likely that such

[54] Senior Conference XX Final Proceedings, 74.
[55] Senior Conference XX Final Proceedings, 75.
[56] William S. Lind, interview by Shawn P. Callahan, 29 January 2020, digital recording. Oral Histories Collection, Marine Corps Archives.

fundamental tensions were a part of each discussion. Each of the four discussion groups included members of the Army establishment, as well as several prominent civilian reformers and at least one Marine officer, often a leading advocate of maneuver warfare.[57]

There is no evidence that the Army took advantage of the forum it created in West Point's Senior Conference to reconsider its new draft of FM 100-5. Indeed, the new doctrine, known as AirLand Battle, was finalized and adopted just two months later, indicating that the entire discussion came very late in the development process, when it had little chance of changing the outcome without a major bureaucratic intervention. As with Wass de Czege's presentation to the Senior Conference, superficially it appeared to embrace much of what the maneuver warfare advocates had called for. It began with a discussion of the future battlefield as a place where "linear warfare will most often be a temporary condition at best," and it would be important for the Army to be able "to fight campaigns of considerable movement."[58] The 1982 version of FM 100-5 insisted that "The AirLand Battle will be dominated by the force that retains the initiative and, with deep attack and decisive maneuver, destroys its opponent's abilities to fight and to organize in depth."[59] It even defined maneuver as "the dynamic element of combat, the means of concentrating forces in critical areas to gain and to use the advantages of surprise, psychological shock, position, and momentum which enable smaller forces to defeat larger ones."[60] These were terms that mirrored those at the heart of maneuver warfare. Three of the four principles of AirLand Battle, now called guiding operational concepts, were also unlikely to arouse protest from maneuver warfare advocates: Initiative, Depth, and Agility. The

[57] Senior Conference XX Final Proceedings, 29-32.
[58] U.S. Army, Field Manual 100-5 (FM 100-5), *Operations* (Washington DC: Headquarters, Department of the Army, 1982), 1-2. Hereafter, "FM 100-5, version of 1982."
[59] FM 100-5, version of 1982, 1-5.
[60] FM 100-5, version of 1982, 2-4.

fourth, however, remained Synchronization. After the publication of AirLand Battle in 1982, the Army's doctrine writers ceased consultation with the maneuver warfare advocates, and Synchronization continued to attract harsh criticism from Boyd and the other reformers because they considered that it fundamentally undermined agility and initiative.[61] When the Army revised FM 100-5 again four years later, the new doctrine retained its emphasis on Synchronization as one of the four tenets of AirLand Battle.[62] This chapter will show that many analysts considered that other aspects of the 1986 revision backed off from the maneuverist concepts that had been included in 1982.

Senior Conference XX is relevant to this study of the development of the ideas that made up maneuver warfare because it represented the high-water mark for maneuverism in the Army, and illustrates the challenges the maneuver warfare advocates faced. By the time the conference convened in June 1982, the Army had put its best minds to the task of remedying the defects in an FM 100-5 that had been branded fundamentally attritional. In consultation with the leading maneuver warfare advocates it had integrated many maneuver warfare concepts. It understood that there was enormous pressure for change, and invited the most prominent maneuver warfare advocates, a host of other reformers, and experts to converse with the army's doctrine writers and leaders at West Point, in a forum for a free exchange of ideas, at a place isolated from the normal bureaucratic structures which tend to suppress innovative change. Yet, despite all their progress and the promise of such a forum, the Army's doctrine writers found they could not openly admit to the influence of the maneuverists, and had a point of fundamental disagreement

[61] U.S. Congress, Center for Legislative Archives and Historical Office, U.S. House of Representatives. "Military Reform Caucus Oral History Seminar," unpublished draft transcript, 27 June 1992. William S. Lind Papers, Collection 4939, Box 31, no folder. Marine Corps Archives. Quantico, Virginia, 84-86. Hereafter, "Military Reform Caucus Oral History Seminar."

[62] U.S. Army, Field Manual 100-5 (FM 100-5), *Operations* (Washington DC: Headquarters, Department of the Army, 1986), 17-18. Hereafter, "FM 100-5, version of 1986."

with these reformers, the issue of Synchronization. They would budge no further. The Army, to the degree that a complex organization can be described as doing such, had made up its mind. It published the 1982 version of FM 100-5 enshrining Synchronization as one of its four guiding principles. Four years later, in the 1986 version of AirLand Battle, the Army retained Synchronization and removed some of the concepts associated with maneuver warfare that had been included in the 1982 version.

Understanding why this occurred is important to understanding the development of maneuver warfare, as it illustrates both the organizational and conceptual obstacles that maneuver warfare advocates faced. The existing studies of the development of maneuver warfare focus on the Marine Corps because that is the service where the military reformers were most successful in promoting the new doctrine. These studies highlight endogenous organizational factors, both those that militated against the adoption of maneuver warfare such as doctrinal conservatism, anti-intellectualism, and organizational inertia; and those that promoted its adoption, such as the Marines Corps' innovative culture and organizational flexibility.[63] There is little discussion in these studies of how these factors conditioned the acceptance of the actual ideas themselves. Likewise, the histories of Army doctrinal change in the same period also tend to focus on organizational concerns such as how doctrine evolved, without considering why certain ideas were adopted, modified, or rejected.[64] Collectively, then, the few studies which do examine doctrinal change in the U.S Army and Marine Corps in this era, concentrate on the organization's acceptance or rejection of maneuver warfare as a part of the military

[63] See Terry C. Pierce, *Warfighting and Disruptive Technologies: Disguising Innovation* (New York: Frank Cass, 2004), 85-103; Terry Terriff, "'Innovate or die': Organizational culture and the origins of maneuver warfare in the United States Marine Corps," *Journal of Strategic Studies* 29, vol. 3 (August 2006): 475-503; and Ian T. Brown, *A New Conception of War: John Boyd, the U.S. Marines, and Maneuver Warfare* (Quantico, VA: Marine Corps University Press, 2018).

[64] The exception is John L. Romjue, "From Active Defense to AirLand Battle: The Development of Army Doctrine 1973-1982" (Fort Monroe, VA: Historical Office, U.S. Army Training and Doctrine Command, 1984).

reform movement's agenda, as if it was a binary choice. In so doing, they do not consider the way the soldiers and Marines were shaped by the new ideas to greater or lesser degrees, and shaped those ideas in return. This reflects the practical orientation of the official army historians and political scientists who authored them.

This chapter addresses that deficiency in the existing scholarship by analyzing the strategic, intellectual, and organizational context for the maneuver warfare movement and the ideas that made up maneuver warfare in the decades following the Vietnam War. It begins in the final years of that war, for this era required a significant reorientation in U.S. foreign policy, fostered identification of a new set of strategic challenges, and created a complex set of problems for the U.S. military services to address. Some of these problems resulted from the war in Vietnam and the way the U.S. fought it, some were brought about by external social forces, and yet others created by the new strategic realities the nation faced. Understanding how the U.S. defense establishment saw itself facing a fundamentally changed strategic problem in the wake of the Vietnam War is critical to understanding the approaches its various components advocated for addressing those problems.

This chapter then delves into Systems Analysis as the prevailing mode of analyzing and solving problems within the Department of Defense at the time. This was a highly analytical approach to organizational management based on deconstructing complex problems into smaller components which could be quantitatively assessed and monitored through discrete metrics. An inherently modern approach rooted in the management of industrial production, logistics, and strategic bombing campaigns during World War II, Systems Analysis had come to be most closely associated with large private corporations in the Cold War. Under Secretary of Defense Robert S. McNamara this approach was re-invigorated as the heart of Department of Defense

management in the early 1960s, and even became manifest in the management of military operations through a sub-discipline known as Operations Research. Though this way of thinking was discredited in the Vietnam War and afterwards, it remained a powerful bureaucratic and cultural influence in defense policymaking in the 1970s and 1980s. Military reformers argued that overemphasis on Systems Analysis had become a cancer, a form of business managerialism which had eroded the military expertise of professional military leaders, contributing to an atrophy of needed military thinking. In analyzing this argument, this chapter will show that the maneuverists and their opponents were part of a larger military establishment with widely-held beliefs about war and habits of mind. To call Synchronization a point of disagreement between Army doctrine writers and the maneuverists is an understatement, as it really related to deeply held beliefs about the nature of command in a military organization, and how command functioned to express combat power and achieve victory in war. The Army's beliefs on this matter were not mere cultural attachments, but were securely founded in a conception of war that held a clash of armies to be a contest of mutual attrition between two large aggregate bodies, a linear and highly quantitative view of combat power that directly clashed with the maneuverists' view that the moral and mental components of war were more decisive than the physical. The maneuverists argued victory could be obtained by focusing effects to disrupt an adversary's moral and mental cohesion, while the Army, and many Marine opponents of maneuver warfare, focused on physical destruction. The Army's view reflected not just its historical experience, but also this highly analytical and quantitative way of thinking about military problems that had come to dominate Pentagon policy formulation, manifest in the disciplines of Systems Analysis and Operations Research. Understanding the power of this thinking, and the way it shaped policy, strategy, and force design, is key to understating the

policy and intellectual context for the maneuver warfare movement. An entire reform movement emerged to counteract these effects, and maneuver warfare was just one of its programs to remedy the widespread problem. Indeed, as chapter 5 will show, the very notion of maneuver warfare was developed as an antidote to deeply entrenched ways of thinking that affected not just the Army, but the entire U.S. defense establishment. Understanding why maneuver warfare was developed in the first place, why these ideas found the most fertile ground within the Marine Corps, and how these ideas were shaped by their counterarguments, necessitates a wider examination—one which considers the larger intellectual context.

Next, this chapter considers the organizational context for the development of maneuver warfare. Though several studies have already analyzed the organizational factors affecting the Marine Corps and the process by which it adopted maneuver warfare as doctrine, this chapter examines the role and development of doctrine in the Cold War histories of two other U.S. military services, the U.S. Navy and U.S. Army. Though the Navy had virtually no interest in the development of maneuver warfare, a concept focused on land warfare, its experience is relevant to the development of that concept for two reasons. First, of the four U.S. military services, the Navy was the one where defense managerialism seemed to have most deeply eroded the professional military expertise of military officers. In this service, a predisposition to focus on hardware more than people combined with the absence of a potent Soviet naval challenge in the first decades of the Cold War. The result was a practical orientation on technical and tactical matters, and a paucity of conceptual thinking on matters like strategy and fleet doctrine. Absent frequent reappraisal of what kind of naval threat the U.S. faced, what form of fleet was best designed to defeat that threat, and how the employment of that fleet needed to evolve accordingly, the U.S. Navy was guided by a dogmatic belief that since World War II the aircraft

carrier remained the capital ship at the center of a proper fleet. This faith, absent a persuasive rational argument, was the central tenet guiding all navy shipbuilding and fleet employment, even after the Navy was forced to adopt a nuclear deterrence mission based on ballistic missile submarines. Eventually, the inability to articulate a persuasive reasoned argument for a large-power projection fleet left the Navy vulnerable to budgetary cutbacks in the mid-1970s, and an atrophy of naval power and service influence. In these ways, the Navy was a stark example of the very managerial forces the reformers warned against, and motivated them to action. Second, as the senior partner of the Marine Corps in the Department of the Navy, one would expect this intellectual and policy climate to inhibit the adoption of a radical new mode of warfare by the Marines. Later chapters will show, however, the Navy's disinterest in conceptual matters like doctrine and strategy actually left the Marine Corps more freedom to pursue such matters.

After considering the case of the U.S. Navy, this chapter turns to the U.S. Army and its efforts to reform its doctrine after the Vietnam War. Later chapters will show that William S. Lind incepted the very concept of maneuver warfare to a perception that the army was failing in this task. This chapters will also show that though members of the Army were involved with important early developments in the concept of maneuver warfare, the service as a whole remained resistant to its ideas. The Army's organizational rejection of these new ideas in turn became an impetus, effectively increasing the importance of maneuver warfare within the military reform movement. It demonstrated the strength of bureaucratic conservatism that would both energize the military reformers to redouble their efforts, and lead them to direct those efforts elsewhere, on the U.S. Marine Corps. Understanding the U.S. Army's efforts at doctrinal reform and the organizational and conceptual reasons for its rejection of maneuver warfare are

therefore important context for understanding how the concept was ultimately shaped into a workable doctrine and adopted by the U.S. Marine Corps.

This chapter therefor focuses on the strategic, intellectual, and organizational context not just for the of maneuver warfare movement within the U.S. Marine Corps, but also the context that impelled the Military Reform Movement, which is the subject of chapter 3. That chapter in turn provides the intellectual and political context for the development of maneuver warfare, which is the subject of the remaining chapters. With the task of addressing the Cold War strategic, intellectual, and organizational context for the development of maneuver warfare and the wider Military Reform Movement in the 1970s and 1980s, this chapter now turns to the first of those subjects.

**Late Cold War U.S. Foreign Policy and its Strategic Implications**

The maneuver warfare movement emerged after the Vietnam War, and for that reason many narratives describe it as a reaction to that war. Others depict it as a response to new Cold War realities during that period. The chapters which follow will show both to be true, but this chapter focuses more on the latter aspect. Though maneuver warfare is a concept with tactical and operational application, and was attractive to Marines disenchanted with U.S. military performance in Vietnam, its development was favored by a fundamental change in the strategic situation of the U.S. and NATO in the Cold War. Further, it was a perceived failure of the Department of Defense and military services to react to these changes appropriately that motivated the formation of the military reform movement, whose leading thinkers were most responsible for conceptualizing and promoting maneuver warfare. Understanding these strategic changes requires an explanation of Cold War strategy and policy in the longer term, with particular attention to the military situation in Europe.

NSC-68 and the start of the Korean War in 1950 initiated the remilitarization of U.S. foreign policy. By the end of that war, it was clear that the continued Soviet occupation of Eastern Europe placed NATO at a significant numerical disadvantage that might be insufficient to deter Soviet adventurism. The first NATO Supreme Allied Commander Europe, General Dwight D. Eisenhower estimated NATO would require roughly 92 divisions to counter this force, while only about a third of that number were available.[65] Militarizing to generate the remaining force was forecast to impose an immense burden on Western European economies. This would undermine the growth and prosperity the Marshall Plan was designed to promote, and which was considered critical to preserving stable democracies there. The solution Eisenhower proposed was to equip NATO forces with a wide variety of nuclear weapons, allowing them to safely assume a defensive posture with a force requirement of just 20 divisions. Implementing this change within the alliance required several years, during which time Eisenhower was elected President of the United States. By his second year in the White House, Eisenhower made it clear that under his "New Look" at defense policy the U.S. was adopting the doctrine of Massive Retaliation. This held that conventional Soviet aggression could be deterred through the promise of a disproportionate nuclear response. This became manifest in Eisenhower's preference for funding a large, technologically advanced Air Force, while cutting defense costs in manpower by downsizing the U.S. Army.[66]

NATO followed Eisenhower's lead in 1953 by initiating its "New Approach" studies for the integration of nuclear weapons in its defense of Western Europe. In 1957 it adopted an overall strategic concept based on using NATO's advantages in nuclear weapons to offset its

[65] Ingo Trauschweizer, *The Cold War U.S. Army: Building Deterrence for Limited War* (Lawrence, KS: University Press of Kansas, 2008), 37.
[66] Trauschweizer, 18, 29-30,

numerical disadvantages in conventional forces. Its "tripwire strategy" planned to respond to any Soviet aggression first with its Nuclear Retaliatory Forces, then mount a vigorous defense with more conventional Shield Forces as far forward as possible to preserve the territorial integrity of NATO member states.[67] These Shield Forces would need to be strongest in central Europe to halt the main thrust of the Soviet offensive, expected to come through that region and drive towards the English Channel. The Shield Forces were therefore concentrated along the Weser and Lech rivers with the objective of delaying the Soviet thrust long enough for reinforcing NATO air and ground forces to be deployed from other places in Western Europe and North America. The Soviets could then be driven back in a long war, if necessary.

Over time, Massive Retaliation was discredited because it failed to prevent communist aggression. The Second Berlin Crisis, which began in 1958 and culminated in August 1961 with the initiation of Berlin Wall construction, was a particularly important event in demonstrating this to NATO member nations. Consequently, the Kennedy administration began with a turn towards a new foreign policy, that of Flexible Response, in 1961. Flexible Response brought a reinvestment in the U.S. armed services which in many respects represented a rebalancing away from strategic air power. In Europe this meant a reinvestment to fully man Army divisions in Germany, and nuclear planning for more graduated employment of nuclear weapons to provide a more credible forward defense.[68] NATO began reconsidering its fundamental strategy for the defense of Europe as well, with the rearmament of West Germany providing more defensive forces. This solution bred its own problems. The Germans leveraged their increased responsibilities and role in fighting a prospective war with the Warsaw Pact to insist that the

[67] Gregory W. Pedlow, ed. *NATO Strategy Documents, 1949-1969* (Brussels, Belgium: Historical Office, Supreme Headquarters Allied Powers Europe, 1997), xix-xx; and Trauschweizer, 37.
[68] Trauschweizer, 127-128.

strategy be revised to defend West Germany at the intra-German border, an objective NATO formally adopted in 1963.[69] Progress on addressing this new problem of defending at the forward border was hamstrung by French opposition, but France's withdrawal from NATO's formal military structure in March 1966 removed that obstacle.[70] Starting in October 1966, NATO military leaders began developing a strategy which made no distinction between nuclear and conventional war, calling for flexible options to resist different levels of Soviet aggression, including the increased use of tactical nuclear weapons to offset Soviet numerical advantages.[71] This was essentially NATO's own version of Flexible Response, formalized as MC 14/3 in January 1968. Though this strategy remained in effect throughout the rest of the Cold War, many questioned its feasibility from the start. Continued Soviet military buildup in the 1970s and 1980s became central challenges that NATO, U.S. Cold War strategy, and, by extension, the U.S. military services had to contend with.[72]

Richard Nixon came to the presidency seeking to find a path to disengage from Vietnam in a way that would not be an obvious concession of defeat, and which would complement his larger effort to find a less expensive and less risky mode of competition with the Soviet Union. Put another way, Vietnamization needed to complement détente. The Sino-Soviet Border Conflict just two months into Nixon's presidency provided an opportunity to link these two issues. Essentially an eruption of the tensions which had long simmered as the Sino-Soviet Split, this event allowed Nixon to accelerate his rapprochement with China, culminating in diplomatic recognition of the People's Republic of China, along with fostering an economic relationship.

[69] Trauschweizer, 134-139.
[70] Pedlow, xxiv.
[71] Pedlow, xxiv.
[72] Documents submitted to and approved by NATO's Military Committee are numbered as an MC series. See Pedlow, xi.

This further undermined the USSR's position as the leader of world socialism, and pitted China and Russia against each other in attempting to obtain the greatest benefits from a more cooperative relationship with the U.S. Against this background, the U.S. was able to engage in nuclear arms reductions, but did not initially make a major reinvestment in conventional force. Neither did the Soviets, who continued to enlarge its air, ground, and naval forces. Rapprochement therefore increased the relative importance of conventional military competition and deterrence.

Planning for a war in Central Europe in the 1970s and 1980s therefore required dealing with a different problem set than had been the case in the 1950s and early 1960s. The Warsaw Pact continued to field a force with a significant numerical superiority over NATO in almost all types of forces, but the questionable assumptions of Massive Retaliation had been rejected, and replaced with the ambiguity of Flexible Response. Meanwhile, the qualitative edge had also been lost. This was most underscored by the 1973 Arab Israeli War. In this 19-day conflict Israel managed to protect its gains from the Six-Day War of 1967 by again defeating a coalition of Arab nations on two fronts. It did this using superior mobility and tempo to defeat a larger, but relatively uncoordinated, coalition of forces. Maneuver warfare advocates would later use this conflict to show how mobility and disruptive maneuver could be decisive, but in its studies of the conflict the U.S. military focused on the cost Israel paid in losses of tanks and aircraft to Soviet-supplied anti-tank missiles and anti-aircraft systems.[73] The implications for a war in Central Europe were that NATO forces would not only be outnumbered, but U.S. forces would be subjected to more lethal fire than they had previously planned for. To make matters worse, the Soviets by this time understood that any nuclear response by NATO would require the U.S.

[73] William S. Lind, "Military Doctrine, Force Structure, and the Defense Decision-Making Process," *Air University Review* 30, no. 4 (May-June 1979), 23.

to coordinate release authority with other NATO nations, a process that might take days. With such a dramatic advantage in its relative combat power, what the Soviets referred to as the correlation of forces, the Soviets came to believe that a decisive, rapid offensive might be able to fight "under the nuclear umbrella" and seize vital objectives, ending the war by *fait accompli* before nuclear weapons could ever be used. In combination, the advanced weapons and a more favorable correlation of forces meant that the Soviets were less likely to be deterred by either NATO's conventional or nuclear forces, and the United States found itself facing a whole new strategic problem set in Central Europe. The search for an acceptable solution permeated defense politics, strategy, and U.S. military doctrine in the late 1970s and 1980s.

Despite détente, Nixon and his successors, Gerald Ford, Jimmy Carter, and Ronald Reagan, could never rule out the possibility of such a war in Europe, and each modulated the development of nuclear and conventional capabilities in ways that responded to the political, strategic, and economic circumstances. The most radical change occurred in the Carter administration, where a general reluctance to exercise U.S. military power and severe economic crisis prompted the Democratic president to impose tighter limits on defense growth and adopt a defensive strategic posture. With the correlation of forces in Europe increasingly favoring the Warsaw Pact, and less interest in spending money on wars of choice than the clear strategic mandate of defending NATO in a worsening situation, Carter's defense preparation focused on the Central Front, and particularly on preparing the U.S. Army and Air Force units there to forestall a quick Soviet victory, and buy time to fully mobilize and deploy NATO resources from North America. While this policy change focusing on the Central Front ameliorated the challenges facing Army forces in Europe to a degree, it complicated them for an Air Force with a divided focus between strategic bombing and support of ground forces. Funding the Central

Front was also a fundamental challenge to the U.S. Navy, which was facing a dramatic growth in Soviet sea power while also suffering a significant reduction in its budgets. The naval component to a war in Central Europe essentially sought to do less with less. The Navy would assume a defensive posture, defending the Atlantic sea lines of communication necessary to reinforce the ground and air war in Europe. To face the larger Soviet navy there, the U.S. Navy would employ a "swing strategy," redeploying most of its Pacific Fleet to reinforce the Atlantic Fleet when war broke out. None of the military services were comfortable with this essentially defensive strategy, especially as the numbers gap between U.S. and Soviet forces widened, and it became apparent that the Warsaw Pact might be able to launch a decisive campaign to win a short war before the Americans could get the long war such a strategy required.[74]- This strategic context is a critical part of understanding the origins of maneuver warfare in the United States, for as later chapters will show, a central question the maneuverists sought to answer was how to "fight outnumbered, and win."

**The Policy-Intellectual Context**

The emergence of an influential civilian defense intelligentsia with a highly managerial and analytic approach to policy was another major feature affecting the military decision-making process. This had begun decades earlier. The integration of management specialists into the activities of the military services and War Department in World War II was designed to maximize the efficiency and effectiveness of the war effort, applying statistical analysis to the complexities of modern war. This facilitated decision-making in a very wide range of areas, from the economic and logistical management of production and distribution, to military

[74] For example, see Benjamin F. Schemmer, "Soviet Build-up on Central Front Poses New Threat to NATO in *Armed Forces Journal International* 114, no. 4 (December 1976), 30-33.

concerns such as the targeting and tactical employment of the most advanced weapons systems. The employment of highly analytical, quantitative assessment to inform military decisions developed into its own discipline, Operations Research. The utility of these tools was demonstrated to military leaders, most notably in the campaign to defeat German U-boats in the Atlantic, and in the strategic bombing of Germany and Japan.

While Operations Research demonstrated its value during the Second World War and continued to play a key role in defense planning for war with the Soviet Union, it was not an appropriate tool for all problems raised by the Cold War. The unfamiliar challenges of nuclear policy and deterrence prompted the U.S. Department of Defense to continue its engagement with academic experts, and formalize their roles. One of the earliest manifestations of this was an outsourcing in 1948 of defense thinking, the establishment of RAND Corporation, short for Research and Development. This company was initially formed by Douglass Aircraft Company at the behest of the leaders of the newly-established U.S. Air Force to improve the integration of policymaking, military planning, and technical research and development efforts. While the involvement of prominent civilian intellects in defense matters provided badly-needed expertise, it was in effect a reversal of the larger pattern of civil-military engagement within the War and Navy Departments in World War II. There military leaders set requirements, and civilian experts helped achieve them, but now civilian experts were taking the lead in the very conceptualization of future war and the kind of military it would require. This had some undesirable side effects. Military officers became skeptical of civilian advice and influence, considering these to be ill-advised intrusions into the professional domain of officers. Some of the civilian intellectuals involved saw related complications. Samuel L. Huntington, whose seminal *The Soldier and the State* (1957) helped define the military profession, describing it as having a unique social

responsibility based on a set of expert knowledge and skills, in this case the employment of violence on society's behalf.[75] Huntington argued that civil-military policymaking interaction in the Cold War was shifting the lines of responsibility and expertise, based on his observation that civilian academics and policymakers were becoming more influential in matters which had previously been subject primarily to the advice of military men. As the generals and admirals, formerly regarded as the top experts in their field, found themselves marginalized and reacting to new ideas being generated by non-military men, Huntington believed these military leaders were also learning to think in new ways. In the process, they were losing the unique perspective that a career of expert military service should have provided, and surrendering the lead role in serious military thinking, strategy formulation, and policy making.[76]

The concerns held by both officers and civilian experts did not significantly retard the spreading adoption of managerial techniques in defense matters, especially as the defense bureaucracy dealt with the increasingly sophisticated and expensive weapons systems of the nuclear era. Where Operations Research had focused more on what weapons systems to acquire and how to use them most effectively, the pressing strategic issues of Cold War involved matters such as economic competition and defense resourcing. This in turn privileged the voices of economists such at Alain Enthoven, who advocated that defense decisions be made on a quantifiable basis to maximize efficiency. A notable advocate of this approach was Harvard Business School graduate Robert McNamara. McNamara had held a commission in the Army in World War II as part of a team refining the strategic bombing campaigns in Europe and the Pacific. After the war he was recruited, along with a group of his colleagues, by Ford Motor

[75] Samuel P. Huntington, *The Soldier and the State: The Theory and Politics of Civil–Military Relations* (Cambridge, MA: Harvard University Press, 1957), 8-16.
[76] Huntington, 434-435

Company. Their application of quantitative analytical techniques in a process which became known as Systems Analysis reformed the company. McNamara distinguished himself among these "Whiz Kids" and rose to the very top of Ford Motors. Soon afterwards he was selected by John F. Kennedy to lead the Department of Defense at a time when the president planned major changes for the U.S. military. McNamara's time as Secretary of Defense (SecDef) from 1961 through 1968 is widely recognized as the zenith of influence for systems analysis in the U.S. military.

As two of McNamara's "Whiz Kids" explained, the new SecDef was trying to correct a system where decisions were made by compromise among the many constituent parts of the defense establishment, each acting in pursuit of parochial interests. McNamara sought to replace bureaucratic, self-interested compromise with "decision making based on explicit criteria related to the national interest."[77] To accomplish this he created an Office of Systems Analysis (OSA) and appointed Enthoven the first Assistant Secretary of Defense (Systems Analysis). While McNamara's intentions were noble, Systems Analysis fell short in practice because it was a hyper-rationalization of policy, attempting to frame complex human decisions as problems that could be objectively quantified. McNamara's opposition to the U.S. Navy's nuclear-powered aircraft carrier program is illustrative. McNamara refused to approve a nuclear reactor for any carrier designs in his first five years as SecDef because systems analysis indicated that a conventionally-powered carrier and its escorts could outperform the nuclear carrier on a cost per aircraft sortie flown and cost per bomb ton dropped. Such "fixed-effectiveness for least-cost" analysis missed military realities such as the increased operational utility of an aircraft carrier which did not require fuel, logistical factors such as the decreased maintenance of aircraft

[77] James Fallows, "Muscle-Bound Superpower: The State of America's Defense," *The Atlantic* 244, no. 4 (October 1979), 60-61.

required aboard ships which did not produce corrosive exhaust gasses, and political realities such as Congress's tendency to prefer funding new technologies rather than investing in old. Another political reality for McNamara was the alienation of Navy leaders when he rejected their advice and overruled their plans.[78]

Systems Analysis affected far more than budgetary decisions. While ostensibly a process for maximizing efficiency, such decisions about funding programs were intimately tied to questions of how the nation would accomplish its strategic goals. McNamara openly exercised the techniques of systems analysis to make the most strategic of decisions. For example, as a basis for reconsidering the approach the U.S. was taking toward strategic deterrence, McNamara demanded to know "the military effectiveness and the cost of a B-52 squadron as it relates to a Minuteman missile squadron and a Polaris submarine." [79] Asking such questions, as if the cost per nuclear warhead delivered should be the primary factor in deciding which of these very different systems should become the sole basis of nuclear deterrence, promoted deep skepticism. With decisions made on such bases, military leaders became fundamentally critical of all aspects of Systems Analysis. As Air Force General Wilbur Creech summarized, "The thrust was on saving money and people…. It overlooked the requirement to do a good job."[80]

McNamara, who spent an uncommonly long time as Secretary of Defense, had an outsized effect on the Pentagon's culture, and had introduced a new way of thinking about problems that was especially attractive to a large bureaucracy. His creation of the Office of Systems Analysis changed power relationships in the Pentagon, providing young analysts with the moral authority

[78] Eliot A. Cohen, "Guessing Game: A Reappraisal of Systems Analysis," in *The Strategic Imperative: New Policies for American Security*, ed. Samuel P. Huntington, 163-191(Cambridge, MA: Ballenger Publishing Company, 1982), 166-168.
[79] Cohen, 168.
[80] James C. Slife, *Creech Blue: Gen Bill Creech and the Reformation of the Tactical Air Forces, 1978–1984* (Maxwell AFB, AL: Air University Press, 2004), 21.

to reject the advice of the professional military officers in the services, and armed McNamara with rationale for overruling their decisions.[81] This new approach did more than strengthen the power of the Department of Defense over the services, it changed the services themselves. To protect their interests and acquisitions program agendas from Enthoven's powerful OSA, the services had to be able to counter the systems analyst's arguments and articulate their own positions in similar terms.[82] Each of the services developed its own teams of systems analysts, and created graduate education programs in Operations Research and Systems Analysis (ORSA) to train officers on the discipline that drove much of Department of Defense decision making. Such self-sustaining service-level programs developed the proficiency needed to promote the health of their services in the joint environment, but it also represented a victory for McNamara's agenda. Indeed, the Secretary later stated that he considered the introduction of systems analysis to be his greatest legacy in American defense.[83] This came at a cost, however. Ten years after he left the Pentagon, its pervasiveness was considered such a dangerous cultural change for the military that former Army officers Richard Gabriel and Paul Savage took the issue public in their 1978 book, *Crisis in Command: Mismanagement in the Army*. This book warned that civilian managerialism was displacing traditional military values, and that the Army's failures in Vietnam were just one example of the disastrous consequences that would result.[84]

Systems Analysis promoted habits of thought that were later identified as major obstacles by the defense reformers and maneuver warfare advocates. The two most important were the tendency to think of war as an attritional contest, and the tendency to be internally focused,

[81] Cohen, 175-176.
[82] Cohen, 177-178.
[83] Cohen, 163.
[84] Richard A. Gabriel and Paul L. Savage, *Crisis in Command: Mismanagement in the Army* (Toronto: McGraw-Hill Ryerson Ltd., 1978), 17-23.

devoting leadership attention towards refining one's own combat processes to maximize their efficiency rather than trying to understand and exploit vulnerabilities in the enemy's force. The quantitative basis of systems analysis required analysts to define cost against some quantifiable measure of combat effectiveness, and the metrics adopted were usually units of enemy combat power destroyed. This naturally led the focus of any analysis to be physical destruction or some progressive measure towards that goal, such as targets hit. Left out were important factors that were more subjective and harder to quantify, such as psychological effects on enemy commanders or unit morale, or other ways enemy combat effectiveness might be degraded, such as disrupting command and control or unit cohesion.[85] The reduction of military decisions to cost versus destructive utility, combined with the heavy emphasis on efficiency and cost control, also tended to promote thinking about military problems in terms of sufficiency. Seeking disruptive new military capabilities, or fielding forces large enough to produce decisive edges in war, tends to be very expensive, and requires investments that may ultimately turn out to be unproductive or unnecessary. Systems analysts often sought to avoid this by forecasting future conflicts, then using these assumptions to determine how much would be required to secure an advantage in attriting enemy forces, and then spending no more than that amount. This contradicted military common sense holding that overwhelming military force had deterrent value, that it was best to hedge bets for unexpected events in future conflicts, and that decisive victory was generally preferable to prolonged conflict.[86] Finally, because systems analysis ultimately focused on turning fiscal resources into combat performance, it tended to be internally focused, seeking optimal technological and logistical solutions which maximized the efficiency of converting resources into combat power and ultimately the destruction of enemy forces. In

[85] Cohen, 168-169.
[86] Cohen, 174-175.

the process of focusing command on the management of one's own forces and resources, it was the opposite of what maneuverists would later refer to as being enemy focused, seeking to understand adversary capabilities and intentions, exploit weaknesses in adversary forces and foil their plans, and never forgetting the inherent dynamics created by enemy decision-making and counter action.[87] In combination, all these factors resulted in systems analysis affecting not just policymaking and the theory behind Cold War strategy, but even the conduct of war. As Eliot Cohen later explained,

> During the early stages of the Vietnam war, the Office of Systems Analysis did not directly manage the Vietnam war, but the mindset of systems analysis led McNamara to think in terms of "making the costs exceed the benefits" for the North Vietnamese, rather than in terms of breaking the enemy's will and ability to fight or arranging a political solution to the problem. Moreover, the systems analysts put pressure on the American commanders in the field to produce numerical measures of success. The measures—body counts, the hamlet evaluation systems, and so on—gave the American high command no real sense of how the war was going.[88]

Systems Analysis, then, became one more reason military leaders could blame McNamara and his team for the national failure in Vietnam, even as they began to accept his managerial discipline as a necessary evil in resourcing their services, and succumbed to the pernicious effects it had on their thinking.

Beyond the suspicion of military officers, prominent national leaders saw faults in a system so dominated by managerial imperatives and systems analysis. As the Pentagon increasingly integrated these approaches, its bureaucracy grew, but the quality of its decisions did not correspondingly improve. In 1971 National Security Advisor Henry Kissinger sought to raise the quality of analysis being provided to the President by forming his own net assessment group, operating independent of the CIA. The concept of net assessment was to overcome the

[87] Cohen, 172-173.
[88] Cohen, 183.

limitations of systems analysis and operations research, which were founded on the assumption that large complex problems could be understood analytically, by breaking them down into constituent parts that were susceptible to quantitative analysis. Net assessment acknowledged that organizations, especially highly bureaucratic ones, were seldom able to reaggregate the analysis of deconstructed problems into the deeper meaning needed to strategize solutions. This was especially so for problems which lacked a high degree of structure, such as strategy. As one advocate explained,

> Net assessment rarely uses complex mathematical computer models to understand a problem. From a net assessment perspective, many of these models are misleading. They rarely discuss the inherent uncertainties that exist in relationships among the variables, and they make assumptions more to ease the modeling task than to represent actual relationships in the world…
>
> In place of modeling complex and thinking simple, net assessment tries to *model simple* and *think complex*. The spirit is one of using relatively simple models, numbers, and trends, and to think long and hard about what they mean.[89]

Such an approach required deep thinkers, and Kissinger selected RAND analyst Andrew Marshall to lead his net assessment group. When another RAND analyst, James Schlesinger, was appointed Secretary of Defense in 1973, he moved Marshall's group to the Pentagon, where it could provide independent long-term analysis to counter the inherent myopia of defense and service bureaucracies that tended to focus on near-term problems with limited perspectives. There, under Marshall's leadership for the next forty-one years, the Office of Net Assessment (ONA) was the principal source of strategic analysis and policy advice working directly for the Secretary and Deputy Secretary of Defense. The prominence of ONA in defense policymaking in some ways furthered the suspicion professional military officers held towards civilian intellectuals. Its value to this narrative is that it shows that officers' critique of Systems Analysis

[89] Paul Bracken, "Net Assessment: A Practical Guide" *Parameters* 36 no. 1 (Spring 2006), 99-100.

was not merely professional military parochialism or resentment towards a loss of power within the Pentagon, but a widely-shared concern even among defense policymakers and intellectuals.

Understanding the evolving political concerns, complex strategic challenges, and the managerial climate of the Pentagon is critical for comprehending the critique of the military reform movement of the 1970s and 1980s and the problems that impelled the development of maneuver warfare. Before moving on to those topics, the next sections of this chapter address the experience of two of U.S. military services in this period, the U.S. Navy and the U.S. Army. The experience of the U.S. Navy in the Cold War shows just how deeply the Pentagon's managerial way of thinking could undermine needed strategic, operational, and tactical thought and became highly focused on a technological view of warfare. In this same era, the U.S. Army, whose strategic challenges and focus on ground combat would seem to make it the most logical service to adopt maneuver warfare, rejected the new ideas behind maneuver warfare. Both of these organizational experiences illustrate the wider problems which impelled the critique of the military reformers, and help show why they turned to the U.S. Marine Corps as the most fruitful target for promoting maneuver warfare.

**The Technocentrism of the Cold War U.S. Navy**

The capital-intensive U.S. Navy was deeply affected by managerialism and a technological focus, and organized its fleet based on excessive faith in the aircraft carrier as the late 20th century manifestation of the capital ship. In 1979 Edward Luttwak, a defense policy analyst who was emerging as a leading promoter of reform, summarized a fundamental flaw seen by many in the U.S. Navy of the 1970s. Writing in the *Naval War College Review*, he argued that the navy had been badly infected by the managerialism prevalent within the Department of Defense at the time,

> Preoccupied with purely managerial problems, absorbed by the narrow thoughts of bureaucratic role-playing, determined to promote these bureaucratic interests through the substrategic devices of systems analysis and all the other numbers games, much more interested in new technology than in the purposeful operation of all technologies (and only strategy may confer purpose on mere technicity) our higher naval leadership has not even seriously tried to develop the intellectual structure of a maritime strategy. …It is true the internal customs of resource allocation in the Department of Defense, and also our congressional budgetary process demand specifics and are structured to reject rational strategic discourse, as the latter cannot be quantified. The mindless insistence on numbers, even when the absence of strategic context makes the number meaningless is a fact of life. But there is no reason why the Navy cannot develop its own internal strategic discourse and eventually present its own analysis of the nation's maritime needs, even while continuing to feed all the bookkeepers and slide-rule artists with the deceptively precise numbers that they crave. One must hope that the corrosion of the minds caused by bureaucratic factionalism has not so far developed that the Navy is now in fact incapable of true strategic discourse.[90]

Luttwak's critique shows just how far systems analysis, believed to be an inherently rational process, could be arational in its effects. His critique identified that a coherent, rational system of strategic and operational thinking was not guiding the navy in its preparation for war in the 1970s, but this begs the question as to what was. The Department of the Navy was an enormously complex bureaucracy operating within the larger bureaucracies of the Department of Defense and the national defense establishment. Something had to give its plans and actions at least the facade of coherency. In the absence of strategic logic that it could articulate, the navy was guided by its culture, specifically its identity and values. This was clear in how Luttwak opened his critique, writing,

> What is a navy in the absence of a strategy? It is, in effect, a priesthood. Ships, aircraft and facilities are maintained, as temples are kept clean, repaired, and repainted. Fleets are rotated from home bases to overseas deployment areas, and then back again, as liturgical services are performed at set hours, in the days set by the priestly calendar. Routine ceremonies alternate with the consecration of new ships, and with the introduction of new devices, much as new temples are from time to time commissioned to replace those beyond repair, or to augment their number when faith is on the rise, and the harvest gods have been kind.

[90] Edward Luttwak, "Review Article: *War, Strategy and Maritime Power*," *Naval War College Review* 32, No. 2 (February 1979), 98-99.

> …And so we ourselves continue with the upkeep of the ships, aircraft and facilities and with their ritual movements—year after year—never asking fundamental questions about our purposes and methods.[91]

Luttwak's metaphor works both ways. Negatively, its comparison of the Navy to a priesthood certainly emphasized the arationality of its behavior. Positively, it illuminates how the Navy defined itself, holding the ship to be as central to the Navy's identity as temples are to a religion. Luttwak further described that a particular faction within the navy exercised undue influence, explaining,

> In all priesthoods there are degrees: some priests are confined to the supervision of the lesser sanctuaries of rustic gods; others are deemed elevated enough to officiate at the inner altars where the most powerful gods reside; the analogy with the nuclear guardians in our Navy need not be belabored.[92]

To any reader familiar with the U.S. Navy of this era it was clear Luttwak was referring to the officers who provided nuclear reactors to power it most important ships. The "high priests" of the nuclear navy were those that ran the nuclear power programs and qualified officers for service about nuclear vessels. Within this faction there was a clear leader, Admiral Hyman G. Rickover, widely known as the "Father of the Nuclear Navy."

Rickover had qualified as a submarine officer in the late 1920s, and he was designated as an engineering specialist in 1937, which restricted him to assignments far from the mainstream path to high rank and influence, command at sea. Regardless, Rickover rose to outsized influence within the Navy for two reasons. First, he was the lead agent for implementing a game-changing technology. Nuclear-powered propulsion systems did not quite revolutionize naval affairs, but they certainly redefined the terms of naval strategy and tactics. Nuclear power first gained the attention of the Navy as a potential power source for submarines, and

[91] Luttwak, 97.
[92] Luttwak, 97.

fundamentally redefined their capabilities. With nuclear power, a submarine did not need to frequently surface to get air for its diesel engines to charge its batteries, or make occasional visits to a port or support vessel to refuel. On nuclear power, a submarine could remain submerged for months, and the new stealth this brought the vessels proved most useful in strategic deterrence. Starting in 1960 U.S. submarines armed with nuclear missiles could go on extended patrols that kept them within range of the Soviet Union. This benefitted the Navy in interservice competition, where the Air Force was consuming the lion's share of the budget with its bomber and missile forces. The success of the submarine nuclear power program also led to wider applications. The U.S. also commissioned its first nuclear powered aircraft carrier in 1961, significantly reducing the fuel demands of the Navy's primary power-projection platform, and achieving a corresponding extension of its range. As head of the Nuclear Power Division of the Bureau of Ships, Rickover's close management of the nuclear power program brought great advantages to the Navy, and with this influence he was able advance his personal agenda, even when they conflicted with the plans sanctioned by the Navy's senior officer, the Chief of Naval Operations (CNO).

The second reason Rickover was able to acquire such power was that simultaneously held military and civilian office. As the U.S. first sought to use nuclear power for civilian purposes, it depended on the navy's technical expertise. Rickover thus oversaw the development of the world's first commercial pressurized water reactor for generating electricity. Rickover was appointed to the Atomic Energy Commission, where he was made Director of the Naval Reactors Branch. With this position he could apply leverage to the Navy with the authority of an external, civilian agency, and he could personally cultivate Congressional support for his programs. This translated into Congressional patronage for Rickover himself. In 1952 the Navy

did not select Rickover for promotion to rear admiral, which should have meant a mandatory retirement due to his reaching 30 years of service. The Senate, however, refused to give its consent to the promotion list until the Secretary of the Navy convened a special promotion board to select Rickover and add his name to the list. Ten years later, when Rickover reached mandatory retirement age of 62, President Kennedy extended his active duty service for two years. Since the law prohibited active service beyond 64, every two years after that his Congressional supporters enacted a wavier, allowing him to serve on active duty for another two decades, and rising to the rank of four-star Admiral even though his duties never changed.[93] When he retired at age 82, he was (and remains) the longest-serving member of U.S. armed forces in its entire history. As one observer quipped, "Congress doesn't really think of Rick as an admiral at all, but kind of as a Senator."[94]

With strong external support and unchecked authority over the nuclear power program, Rickover began to exercise an undue influence, and push programs that often put him at odds with the Navy's top leaders, both the Chief of Naval Operations (CNO) and the Secretary of the Navy. As one CNO of this time later complained, "I knew that he would stop at nothing, bureaucratically speaking, to ensure that nuclear-powered ships received priority over vessels of any other kind."[95] By the 1980s, the nuclear missile submarine and nuclear carrier were the two most expensive types of ships that had ever been built, and were crowding out other types of ships, preventing the creation of a larger, more diverse fleet. In Rickover's grandest vision, almost every vessel would be nuclear powered even if that meant fewer ships, and he managed to get the navy building nuclear-powered cruisers and destroyers. One critic described the

[93] Elmo R. Zumwalt, Jr. *On Watch, A Memoir* (New York: The New York Times Book Co., 1976), 98-100.
[94] Zumwalt, 85.
[95] Zumwalt, 85.

deleterious effect this had on naval policy and strategy in the pages of the *Atlantic*, where he pointed out that the admirals had "let the propulsion system determine the shape of the Navy."[96]

In addition to its acquisition programs, Admiral Rickover also exerted an enormous influence on the Navy's leadership culture. In pursuit of nuclear safety and reliability Rickover was able to create, in the words of one critic, "a personnel system for the submarine service that even his enemies praise."[97] Rickover personally selected his pick of each year's crop of newly-commissioned officers, prizing obedience and technical ability over critical thinking and initiative. He then subjected these officers to a rigorous training program, followed by a strict regime of inspections throughout their careers aboard submarines in the fleet. As nuclear power was implemented in cruisers and aircraft carriers, this expanded Rickover's influence, for he could now affect the careers of the most promising surface warfare officers and aviators who had been selected to command these vessels.

Rickover and his minions reinforced the technological orientation of the navy. The increased emphasis on technical knowledge and skill, in turn, complemented the growing importance of bureaucratic and managerial skill as critical competencies for personal and institutional success within the Navy and the Department of Defense. This exacerbated a general lack of strategic thinking on the part of the Navy's officer corps, and an underappreciation of the importance of carefully reasoned strategy and doctrine. In other services, promotion through the officer ranks ideally brought awareness of progressively larger military problems, and increased exposure to strategic and political dimensions. A Navy officer, on the other hand, might spend the bulk of his career learning to excel in the small and highly technical world of a warship. If

[96] Fallows, 63-64.
[97] Fallows, 63.

he was successful enough to earn promotion to a senior rank, the ideal career path brought him to the Pentagon to help resource the fleet.

Luttwak's 1979 metaphor comparing the Navy to a religion led by a high priesthood of nuclear engineers was missing one component, the guiding faith. Luttwak assumed bureaucratic behavior was driving the navy because he underestimated the influence of a critical nonrational force. This was the widely-shared belief that the aircraft carrier had succeeded the battleship as the capital ship, the vital core of a powerful navy in a selective interpretation of Alfred Thayer Mahan's theory of sea power.[98] The aircraft carrier's inheritance of the battleship's role as the core of a proper battle fleet had been made clear during the decisive battles of World War II, the last time the U.S. Navy faced a blue-water threat. As the navy began to adjust to the new realities of the nuclear age, it kept the carrier as its ideological centerpiece, even in the absence of a blue-water competitor. This, uncoincidentally, was the point at which Luttwak argued the U.S. had ceased to be guided by a strategy.[99] Though nuclear submarines with nuclear missiles gave the navy a greater role in national defense to rival the Air Force, in the long term these programs never threatened the primacy of the aircraft carrier in the Navy's identity.

The reason that carriers fit so well with this self-conception is that World War II had ostensibly proven that they had surpassed the battleship as the primary instrument of sea control, an assumption that was not challenged by a blue water threat, or by defense analysts until the 1970s. At the same time, the carriers had proven very useful in the navy's power projection role on numerous occasions. In the early months of the Korean War carrier aircraft had played a

[98] The gross oversimplification of Mahan's work, used to justify a fleet based around capital ships as necessary to gain command of the sea, has been a longstanding problem within the U.S. Navy. This problem was noted by Herbert Rosinski in 1939, and most recently by Nicholas A. Lambert, "What is a Navy For?" *U.S. Naval Institute Proceedings* 147 no. 4 (April 2021), 44-50.
[99] Luttwak, 98.

central role in stabilizing the front and then reversing communist momentum. They also made enormous contributions to the air war over North Vietnam. Finally, despite the development of ballistic missile submarines, aircraft carriers retained a role in nuclear deterrence. Where a commission appointed by President Eisenhower had recommended that submarine-launched ballistic missiles replace the aircraft carrier's role as a nuclear deterrent, instead carrier aircraft were given nuclear target sets in the Single Integrated Operational Plan (SIOP), the comprehensive U.S. nuclear war plan first initiated in 1960 to prepare for the possibility of a nuclear war with the Soviet Union.

With the experience of two limited, but significant wars in Asia, and a role in planning for a major war with the Soviet Union, it would seem impossible for the Navy not to develop some appreciation for the importance of strategic and operational thinking. The Navy's involvement in these conflicts, however, seemed to validate the continued relevance of the aircraft carrier without contributing to operational or strategic maturity. In practice, the targeting decisions for the Vietnam War and SIOP were being made at much higher levels, leaving it to carrier air group commanders and their naval aviators only to formulate the tactical means. These were, after all, not fundamentally naval operations where the difference between victory and defeat would depend on naval strategy and operational art. The same was true for the targeting of submarine-launched missiles for the SIOP, and for the surface warfare officers who were charged with guarding the carrier battle groups, but never in the face of a potent blue-water threat. There were occasions where naval officers were required to engage in operational decisions and deal with novel tactical problems, such as the blockade for the Cuban Missile Crisis and the Market Garden interdiction of the coastline of South Vietnam. These were, of course, exceptions, and in some cases, such as the Cuban Missile Crisis, operational decision-

making was still closely supervised by the Pentagon and White House. In consequence, for much of the Cold War leading into the late 1970s, navy officers were rarely called upon to engage in strategic thinking, or about how the various elements of the navy would be operationally employed in a coherent way to deal with challenging strategic problems.

Despite Luttwak's 1979 accusation that the Navy's officer corps constituted little more than a dogmatic priesthood of sea power, efforts had been underway to address the dearth in strategic thinking for almost a decade. These began with the appointment of Admiral Elmo Zumwalt as Chief of Naval Operations in 1970. Zumwalt's appointment constituted an intentional effort by the defense department's civilian leaders to inject new energy to the leadership of the Navy. At the time of his selection Zumwalt had been a vice admiral for less than two years, serving as commander of U.S naval forces in Vietnam. His appointment as CNO catapulted him ahead of 33 other admirals on the seniority list, making him the youngest CNO to date. By custom, his appointment as CNO was also expected to precipitate the retirement of most of those more senior officers, cleaning house among the longest-serving admirals that might resist the department's civilian officials. Zumwalt had served his career in surface ships, so his appointment also brought a nine-year dynasty of naval aviators to an end—his three most immediate predecessors had all been pilots. Most significant, Zumwalt never held fleet command, but had significant experience with program management on the OPNAV staff, where he demonstrated a talent for dealing with the navy's problems comprehensively. While today Zumwalt is known best for his progressive social reforms, he also made significant efforts to rationalize navy strategy and policy. These were top-down efforts, and of course would take time before they could begin to affect thinking of the navy as a whole.

Zumwalt got to work on this as soon as he learned of his appointment, even before he was sworn in as CNO, under an initiative he called Project SIXTY, an effort to define his goals for his four-year term before its sixtieth day. Project SIXTY laid a sound conceptual basis for understanding the value of a navy by delineating four broad categories of capabilities: assuring a second strike was possible in case of nuclear war, controlling sea lines and areas, projection of power ashore, and overseas presence in peacetime.[100] Zumwalt continued to promote greater intellectual investments by navy officers. He formed the Navy Net Assessment Group to reconsider the way the relative strength of the U.S. and Soviet navies were being gauged.

One of Zumwalt's most important investments was in the Naval War College, where he appointed Rear Admiral Stansfield Turner to take over as President and reinvigorate strategic thinking.[101] Turner, a Rhodes Scholar who had studied Philosophy, Politics, and Economics at Oxford, had been an important contributor to Project SIXTY, and served as the director of Zumwalt's systems analysis team for two years. On his arrival in Newport he decried "our increasing reliance on civilians and on 'think tanks' to do our thinking for us," and admonished the college, "We must be able to produce military men who are a match for the best of the civilian strategists or we will abdicate control of our profession. Moreover, I am persuaded that we can be a profession only as long as we ourselves are pushing the frontiers of knowledge."[102] Turner was aggressive in implementing changes, including a complete refurbishment of the curriculum for a class of students that was arriving for school just as he took over. Previously the course had not been known for its rigor or intellectual breadth, and focused on military

[100] John B. Hattendorf, ed. *U.S. Naval Strategy in the 1970s: Selected Documents*, Newport Paper 30 (Newport, RI: Naval War College Press, 2007), 4.
[101] John B. Hattendorf, B. M. Simpson III, and J. R. Wadleigh, *Sailors and Scholars: The Centennial History of the Naval War College* (Newport: Naval War College Press, 1984), 7.
[102] Hattendorf, et al., *Sailors and Scholars*, 285.

leadership and tactics. Turner shocked his students and faculty by instituting a new curriculum based on reading Thucydides' *History of the Peloponnesian War* and Clausewitz's *On War* from cover to cover, believing these classics held timeless truths for military professionals in a country torn by civil-military strife in the final years of the Vietnam War.

In John B. Hattendorf's estimation, the impact of the changes Turner instituted at the Naval War College were limited. In many respects, they went against the grain in a corps of naval officers who did not place high value on education in the first place, and who were not sending the most promising officers to study in Newport. Consequently, the officers who would have the greatest impact on the Navy's future were least affected by the educational changes Turner implemented.[103] There were exceptions. One member of the first class Turner presided over was Marine Lieutenant Colonel Paul K. Van Riper, who argues that his time there had a dramatic effect on his professional development. Van Riper, later chapters will show, became a key agent in implementing maneuver warfare in the Marine Corps while serving in the ranks of colonel through lieutenant general.

In June 1974, Zumwalt retired and was replaced by a naval aviator, Admiral James L. Holloway III. Holloway did make some efforts to promote organizational coherency through doctrine. By December 1975 his staff had developed a classified document known as the Strategic Concept for the U.S. Navy, and this was eventually converted into the unclassified capstone document Naval Warfare Publication (NWP) 1, *Strategic Concepts of the U.S. Navy* in May 1978. On the one hand, this was forward progress, for it was the Navy's first real capstone doctrinal publication of the Cold War signed by the CNO. It also spelled out how the Navy would organize to fight in war, by forming balanced battle groups of surface ships, aircraft,

[103] Hattendorf, et al., *Sailors and Scholars*, 8.

carriers, and submarines, working together to deliver a broad spectrum of capabilities, and which could also be tailored to missions assigned.[104] In many respects, however, the document fell far short of providing a true capstone system of ideas to integrate strategic and operational thinking. NWP 1 lacked the broad explanation of the utility of sea power.[105] The vast majority of the document was about bureaucratic process rather than concepts for fighting a war, focusing on how the Navy was to "Develop and articulate naval force requirements" and "establish a basic system for employment planning."[106]

Absent a sophisticated doctrine, and possessing one that only reflected its dogmatic belief that a navy must first exist for achieving sea control, the Navy failed to articulate that carriers capable of force projection were critical contributors to more than just defensive wars at sea. This left its capital ship vulnerable to critiques, despite the considerable efforts of navy systems analysts to justify existing programs. One conspicuous example appeared in *Foreign Affairs* in January 1976, written by Michael Krepon, a legislative aide to Congressman Floyd V. Hicks, a Democratic member of the House Armed Services Committee. Krepon pointed out that the Navy was already consuming the largest share of defense dollars each year, and its commitment to the supercarrier as its capital ship was exacerbating the problem, even as "new weapons have changed the face of naval warfare, and …like the battleship before it, the day of the supercarrier has passed."[107] Krepon narrated that while the U.S. Navy had abandoned missile programs in favor of carriers and aircraft, the Soviet naval buildup was equipping the adversary navy with weapons designed to destroy U.S. carriers, especially anti-ship missiles. The rising cost of carriers and proliferation of low-cost counter weapons was worsening the problem, and making it

[104] Hattendorf, *U.S. Naval Strategy in the 1970s: Selected Documents*, 54, 77
[105] Hattendorf, *U.S. Naval Strategy in the 1970s: Selected Documents,* 66.
[106] Hattendorf, *U.S. Naval Strategy in the 1970s: Selected Documents*, 54.
[107] Michael Krepon, "A Navy to Match National Purposes," *Foreign Affairs* 55, No. 2 (January 1977), 356-357.

much more dangerous for the navy to send its smaller number of expensive carriers into high-threat areas. Krepon was even able to invoke Rickover, who he quoted as telling Congress that Navy leaders were "too loyal to their previous concepts and to the regime and environment in which they have been brought up."[108]

It was significant that Krepon's public critique came from within the very committee responsible for appropriating funds for the Navy. Equally so was an article representing the Navy's position on the same issue, penned by Admiral Turner. After leaving the Naval War College in 1974, Turner had been serving as commander of the Navy's Atlantic fleet, then Supreme Allied Commander NATO Southern. In "The Naval Balance: Not Just a Numbers Game," Turner summarized how the relative state of U.S. and Soviet capabilities had changed because anti-ship missiles appeared to have emerged as the dominant weapon for war at sea. While the U.S. Navy had enjoyed clear superiority from 1945 to 1965, in the decade since that time, Turner wrote, "Essentially, the capabilities of missiles have outstripped our ability to defend against them. We are running to keep up, and depending heavily on technology and innovation rather than more ships and aircraft to keep the balance from shifting against us."[109] Turner's analysis was careful to stipulate, however, that balance only mattered relative to what the U.S. wanted to achieve with its naval power. In essence, Turner, who had emerged as an exceptional strategic thinker within the navy, encouraged policymakers to consider what it was really building its navy for, even as the Navy was failing to articulate its own answer to that very question.

[108] Krepon, 360.
[109] Stansfield Turner, "The Naval Balance: Not Just a Numbers Game," *Foreign Affairs* 55, no. 2 (January 1977), 351.

The policymaking audience targeted by these articles of January 1977 undoubtedly included President Jimmy Carter, who was inaugurated that same month, and was facing some hard decisions. While the strategy NATO adopted in 1968 had left some opportunity for naval forces to project power into Europe, the Soviets had continued an impressive expansion of their navy even as economic circumstances had worsened and made it more difficult to respond in kind. Less than a month after taking office Carter initiated a close study of the matter.[110] In the staff discussions over the next several months it became apparent to the Navy Department representatives that a major constriction of Navy missions was imminent. The studies were shaped by the Administrations' desire to deter Soviet aggression through greater forward deployment of nuclear forces and conventional air and ground to deter the Soviets from attempting a rapid offensive conventional campaign in central Europe that might secure victory before the U.S. could deploy reaction forces and fully mobilize. This Central Front strategy for war with the Soviet Union would require the U.S. to increase its defense spending by 3% in accordance with its NATO agreements, despite Carter's campaign promise to reduce defense spending. Most of the increase would need to be spent on nuclear weapons and conventional army and air forces. Secretary of Defense Harold Brown's Consolidated Guidance for the Department setting an initial target naval force goal of 400 ships, a huge cut from the 575 ships set by James Schlesinger in 1975 and 600 ships set by Donald Rumsfeld in 1976.[111] Even before this was announced, the writing was on the wall, for in strategic discussions it appeared that Carter's advisors were leaning towards interpreting NATO MC 14/3 as leaving the maritime

[110] U.S. National Security Council, Presidential Review Memorandum/NSC-10, Comprehensive Net Assessment and Military Force Posture Review," February 18, 1977, 1.
[111] John B. Hattendorf, *The Evolution of the U.S. Navy's Maritime Strategy, 1977-1986*, Newport Paper 19 (Newport, RI: Naval War College Press, 2004), 9.

flanks of Europe to allied navies, while the U.S. Navy focused on defending Atlantic sea lines of communication.[112]

Secretary of the Navy W. Graham Claytor, Jr. objected to the new defense policy funding army and air forces at the expense of the navy because he felt it based the navy's future on one scenario, major war with the Warsaw Pact. In so doing, it neglected the utility of the Navy in a wide range of roles and contingencies. With the approval of the Department of Defense in August 1977 he initiated a new study of the optimal Navy force structure called Sea Plan 2000. The project was conducted by an advanced study group of thirteen Naval War College students under the leadership of Francis J. West, Jr., and the report was complete by March of 1978. It began with a broad discussion of navy roles, and highlighted deficiencies in naval capabilities to meet the threat posed by the Soviet Union. It concluded with an analysis of policy options on the premise that "a policymaker should have in mind a long-term plan for naval forces—their direction and purpose—before becoming immersed in program and shipbuilding details."[113] These options assessed the forces that the navy could be expected to maintain if the service was resourced for 1%, 3%, and 4% real growth in the following decades, numbers based upon President Carter's intention to fund 3% growth in the entire defense enterprise, though he wanted to favor the Army and Air Force. The study tied the force levels possible at each funding level to the number and types of crises the navy could be expected to respond to with those forces, in effect asking the Carter Administration to resource the navy based on the capabilities it felt national policy required.[114] While the argument failed to secure the funding increase, and Sea Plan 2000 was far from a coherent system of strategic, operational, and tactical thinking defined

[112] Hattendorf, *The Evolution of the U.S. Navy's Maritime Strategy, 1977-1986*, 20.
[113] Hattendorf, ed., *U.S. Naval Strategy in the 1970s: Selected Documents*, 120.
[114] Hattendorf, ed., *U.S. Naval Strategy in the 1970s: Selected Documents*, 120-124.

in doctrine, it does show some intellectual maturation by the navy's most senior professional officers. Driven by their civilian bosses, they were learning to think and express a coherent argument about the utility of the navy that went beyond the protection of sea lines of communication. Navy officers were learning that articulating strategic rationale was the only defense against cutbacks in an era of rising threat. The next CNO, Admiral Thomas B. Hayward, continued to work on the problem by going beyond the linking of ships and operational concepts to possible strategic roles, ultimately defining a fundamentally offensive strategic concept for the employment of the U.S. Navy against the Warsaw Pact.

Hayward was a naval aviator who had attended the National War College and then earned a master's degree in Foreign Affairs at George Washington University in between tours flying missions in the Vietnam War. Hayward commanded Seventh Fleet, based in Yokosuka, Japan from 1975 to 1976, and realized that his navy career had not prepared him for his first job that would require real strategic decision-making, as a three-star admiral. He was equally disappointed in the fleet's war plans, which seemed focused on SIOP missions and had little regard for geopolitical realities or the rising power of the Soviet Navy. Moving up to lead the Pacific Fleet in 1976, he found the same problem, and began an initiative he would call Project Sea Strike. Sea Strike rejected the status quo assumption that in case of war with the Soviet Union the Pacific Fleet would shift most of its forces to the Atlantic to protect sea lines of communication there, instead arguing that the Pacific Fleet fight the Soviets from the east in a truly global war. The project was both an effort to develop a credible offensive plan for the Pacific Fleet, and to convince policymakers to change from a strategy that would focus all naval effort in the Atlantic. Communicated in a series of briefs Hayward and his staff gave within the

Pentagon and White House, ultimately Hayward succeeded in convincing National Security Council to adopt a new strategy.[115]

Hayward's success in reshaping national military strategy from Pacific Fleet Headquarters helped earn him his next appointment as Chief of Naval Operations in July 1978. Hayward brought a belief that lack of substantive strategic thinking resulted in bureaucratic budgetary systems driving decisions, which were later clothed in strategic rationale. For the first six months of his time in that office he worked closely with his Executive Assistant to personally conduct a systematic assessment of the navy's global challenges and develop a set of coherent strategic principles. These were captured in a memorandum titled "CNO Strategic Concepts" circulated in January 1979, presented in testimony to the House Armed Services Committee the next month, and converted into an article for the *U.S. Naval Institute Proceedings.*[116] Published in April, this article made it clear Hayward wanted to extend the offensive mindset he had adopted in the Pacific to the Navy as a whole. Hayward challenged the existing strategy as essentially defensive, and too focused on Europe in a conflict that "will inevitably be worldwide in scope."[117] Viewing such a future conflict this way, he wrote, "it is clearly in our interest to maintain a worldwide naval strike capability which threatens potential enemies from a variety of directions, tying down defensive forces, greatly complicating the enemy's strategic calculations and force deployments, and inhibiting his freedom of action."[118] Such a strategy would require a fundamentally offensive posture, arguing,

> We must fight on the terms which are most advantageous to us. This requires taking the war to the enemy's naval forces with the objective of achieving the earliest possible destruction of his capability to interfere with our use of sea areas essential for support of

[115] Hattendorf, *The Evolution of the U.S. Navy's Maritime Strategy, 1977-1986*, 17-19.
[116] Hattendorf, *The Evolution of the U.S. Navy's Maritime Strategy, 1977-1986*, 37-39.
[117] Thomas B. Hayward, "The Future of U.S. Sea Power" *U.S. Naval Institute Proceedings* 105, no. 4 (April 1979), 68.
[118] Hayward, 68.

> our own forces and allies. As I suggested earlier, under most circumstances the prompt destruction of opposing naval forces represents the most economical and effective means to assure control of those sea areas required for successful prosecution of the war and support of the U.S. and allied war economies. Our current offensive naval capabilities, centered on the carrier battle forces, are optimally suited for execution of this strategy.[119]

Hayward explicitly rejected thinking of Sea Control and Power Projection as a dichotomy, one that was leading the U.S. into a defeatist defensive naval posture, instead arguing, "Power projection against the sources of Soviet naval strength may well be the most rapid and effective way to gain control of the seas."[120] Hayward's concepts demonstrated a maturation of strategic and conceptual sophistication. He was thinking of the war with the Soviets globally, and treated the adversary as an organic system against which taking the initiative could compensate for inferior numbers to force him into a reactive mode of operations, one that both promoted NATO sea control and supported the air and land campaigns against Soviet offensives.[121] For the first time in the Cold War, the Chief of Naval Operations was describing operational concepts for the employment of a carrier-centric fleet that fit the strategic situation, providing a rational system of strategic and operational thought that justified the Navy's carrier-centric self-identity and resourcing. In the process, he was in fact proposing a reorientation of national strategy, for his article started by asserting that maritime supremacy was an absolute essential for the U.S.'s economic well-being, and posited that it should be the foundation for all other aspects of national strategy.[122] At a time when it was clear the U.S. might not be able to save Central Europe, Hayward was calling for an investment to reverse the relative decline of American sea power,

[119] Hayward, 68.
[120] Hayward, 68.
[121] In some of these respects Hayward's thinking reflected that of the maneuver warfare advocates, who were just developing an explanation of that style of warfare. Hattendorf, *The Evolution of the U.S. Navy's Maritime Strategy, 1977-1986*, 39 shows the original concept mentioned attrition.
[122] Hayward, 66.

even at the expense of U.S. land and air forces. In so doing, he was anticipating the groundwork for the Maritime Strategy of the 1980s.

Hayward's concepts for employing the U.S. Navy promoted strategic and operational coherency and showed a maturation in the military thinking of the Navy's top officers. By the time this thinking began to manifest itself, however, the critique of the military reformers was well developed, as the articles written by Krepon and Luttwak from 1977 through 1979 show, not to mention the other reformers discussed later in this chapter. Such strategic thinking also failed to permeate the Navy's officer corps, which continued to be dominated by a deeply ingrained technical focus, one that was simultaneously being exacerbated by a growing tactical problem the Navy had to deal with. As will be shown to be true with the Marine Corps and maneuver warfare in later chapters, this tactical problem was intricately intertwined with the service's concepts of command and control.

A key problem the Navy had to solve in World War II was the ability to maintain an accurate awareness of air threats to a battle group, and direct its own fighters to intercept those threats before they could attack the ships themselves. Radar alone was not enough to solve this problem, and it required an innovation in information management and command. This was a centralization of information and critical decision-making within a new shipboard organization, the combat information center. Over time, however, it became clear that this organizational adaptation was insufficient to meet the threat of saturation air attacks, such as the kamikaze threat in the war's final months. This problem continued in the post-war era, when fleet exercises between 1951 and 1956 made it clear that jet aircraft and missiles compressed decision-making times and required greater standoff, and it became much more difficult to reliably detect and direct the intercept of a large number of air threats from a single CIC. The

Navy's initial Cold War response was a reversal of centralization, dividing the battle group's air defense into sectors, each with a separate CIC compiling information and directing the defense of just one part of the greater whole.[123]

In time, just as technology had increased the threat a relatively small Soviet navy could present to carriers and battlegroups, it also offered a solution. Solid-state computing and data links suggested a battle group might be able to amass all of the targeting data from its various ships in one common picture, from which air threats could be targeted, and then destroyed by defensive surface-to-air missile systems being added to a variety of ships. This system first began to become an operational reality as the Navy Tactical Data System (NTDS) in 1963.[124]

With the opportunity to mass combat information and centralize decision-making once again, the Navy kept increasing the integration of its systems, to include sonar tracks. At the same time, the development of Soviet surface-skimming missiles required quicker defensive reactions, and the Navy developed automatic systems to integrate tracking, electronic and chaff countermeasures, and even the targeting and firing of defensive missiles. As all of these systems were added, the demands placed on the central processors exceeded the growth in computing power available. This slowed the NTDS down to the point where it would clearly be ineffective against a saturation missile attack.[125] This was the context of Krepon's 1977 critique in *Foreign Affairs*, highlighting that even an Assistant Secretary of Defense had recently testified before Congress that carriers were highly vulnerable to even small nations with cruise missiles, not to mention the Soviet Union.[126]

---

[123] Norman Friedman, *Network-Centric Warfare: How Navies Learned to Fight Smart Through Three World Wars* (Annapolis: Naval Institute Press, 2009), 65-68.
[124] Friedman, 75-82.
[125] Friedman, 131-135.
[126] Krepon, 361.

The entire feasibility of Hayward's 1979 strategic and operational concept to use carriers offensively depended on the question of their vulnerability to saturation missile attacks, a tactical problem. He did address it. Hayward was careful to point out that it necessitated maintaining U.S. technological superiority across the board, and later elaborated, "…we must make attainment of substantially greater standoff capability in our weapons systems a major objective, over the longer term, in order to destroy the increasingly capable Soviet launch platforms before they attain strike range of our own forces."[127] At a time when the U.S. had lost much of its technological edge in many aspects of naval warfare, and NTDS was failing to deliver on its promises, this goal was essentially a doubling down on technology as the solution. This was a comfortable pathway for resolving military problems in a service which had become so focused on technology, and did not rely on fundamentally reconsidering the structure of a fleet built around carriers. Rickover's nuclear power program, then, was just the most visible manifestation of technocentrism in a service which was learning to compete for resources within the managerial Pentagon by coopting the discipline of systems analysis. Even the way the Navy planned to fight promoted technological excellence at the expense of developing tactical experience and proficiency.

The centralization of even tactical decision-making left most officers focused on technical problems and procedures. With tactical decisions in the hands of the senior officer in a battle group and his battle group CIC, officers aboard the many ships of that group were relegated to making sure their ships were in the ordered position and ensuring their combat systems operated at maximum effectiveness. They were not exercising their minds in tactical decisions regularly, and became dependent on their senior officers for decisions. Admiral

[127] Hayward, 68, 70.

Hayward recognized a need to reinvigorate tactical thinking and the navy's approach to tactics. One measure he took to do this was to establish a Chair of Tactical Analysis at the Naval Postgraduate School in Monterey, California, a center for developing naval officers as operations analysts. The first person to hold that chair was Captain Wayne Hughes, who had earned a Master of Science degree there in 1964, and then served in the CNO's new Systems Analysis Division (OP-69) under Rear Admiral Zumwalt. Hughes returned as the Deputy of OP-69 later in his career, and then assisted the Undersecretary of the Navy with post-Vietnam policy development. To the Navy, Hughes's education and experience in his assignments ideally positioned him to do some deeper thinking about the harsh realities of naval battle, and how they might be addressed. This same education and career experience, however, also assured that it would be done with the kind of analytical linear thinking promoted by operations research and systems analysis.

Hughes's first public product on the tactical challenge of this era was a 1981 *Proceedings* article titled "Missile Chess: A Parable" in which he revealed that the navy was working hard on the problem of missile combat between two naval forces. One of the repeated lessons of studies and wargames was that the limiting combat factor on a fleet was its overall missile magazine capacity; the winner in an exchange would be the fleet which had missiles remaining after its adversary had exhausted its own magazines.[128] The obvious solution was to increase the number of missiles a fleet would carry, but Hughes also recommended dispersing them throughout a balanced fleet of destroyers, cruisers, and submarines based around a carrier, rather than concentrating the offensive power in the carrier itself.[129] In the years that followed Hughes retired and joined the civilian faculty teaching operations analysis at NPS. Ultimately, he

[128] Wayne P. Hughes, Jr. "Missile Chess: A Parable," *U.S. Naval Institute Proceedings* 107, no. 7 (July 1981), 26.
[129] Hughes, "Missile Chess," 28.

conceived of the central tactical problems of modern naval combat to be winning a duel of missile salvos. In so doing, Hughes was focusing on the quantifiable, physical elements most conducive to system analysis, and explicitly drew upon the Lanchester equations that had dramatically shaped battleship design and doctrine since 1914, explaining why concentration of firepower would be decisive in a fight between battle fleets.[130] Hughes updated these algorithms for the missile age as his own Salvo Equations, and they were embraced by the Navy because "all the main physical elements of naval combat power--offensive combat power, defensive combat power, and staying power—are arranged as they relate to each other in a salvo duel."[131] Explained in his 1986 book, *Fleet Tactics: theory and practice*, Hughes ultimately deduced "The great naval maxim of tactics, Attack effectively first, should be thought of as more than the principles of the offensive; it should be considered the very essence of tactical success in naval combat."[132] "Attack effectively first" has remained a guiding principle in U.S. navy fleet tactics to this day.

In providing a mathematical and explicitly attritional model for understanding naval combat, Hughes provided a rational explanation that could undergird the design of ships and weapons systems, as well as their deployment and employment. It was an explanation that technologically-oriented navy officers could embrace, even though the ultimate conclusion was both simplistic, and not necessarily possible in all tactical situations. It is not always possible to shoot first, as some tactical situations are fundamentally defensive. Though a navy can strive to maximize the effectiveness of its fires, it cannot guarantee that the many factors which affect its effectiveness in a given situation might not leave it at a disadvantage. Worse, though the basic

[130] Wayne P. Hughes, Jr., *Fleet Tactics: theory and practice* (Annapolis, Naval Institute Press, 1986), 35-38.
[131] Jeff Cares, "Wayne Hughes and the Nature of Naval Combat Power: The Salvo Equations," *Phalanx* 53, no. 1 (March 2020), 34.
[132] Hughes, *Fleet Tactics: theory and practice*, 34.

principle of "shoot first, and do it effectively" was never adopted as official doctrine, it seemed to confirm that technological solutions for improving target detection and fire direction would yield decisive results in combat, even while ignoring the fundamental nature of combat, such as the omnipresence of fog and friction, and the imperfection of situational awareness.

It is clear then, that by the early 1980s, the U.S. Navy was contending with a number of factors which militated against deeper thinking about war. Navy officers were increasingly focused on technological skills rather than warfare and command, and the Navy suffered from lack of a stated doctrine. Though it viewed itself as a carrier-based force, and used the techniques of systems analysis to justify a fleet built around carriers, the growing threat of the Soviet Navy put the U.S. Navy in a vulnerable political position, open to attacks from critics who saw growing Soviet naval power as a fundamental threat to the carrier battle group. Only after top leaders and their staffs developed a comprehensive understanding of naval warfare, and applied it to the larger problems presented by the Warsaw Pact, did it become clear that a greater investment in a fundamentally offensive naval force was in order. This force remained carrier-centric and dependent on decisive technological advantages, and by this time, the navy, its officers, and their managerial and technical focus, had already become a popular target of the military reformers because the U.S. represented to them a dearth of coherent military thinking.

**Post-Vietnam Doctrinal Change in the U.S. Army: FM 100-5, *Operations***

While the Cold War U.S. Navy is relevant to this study as an example of the kind of managerial and technical thinking which inspired the military reform movement by its displacement of coherent military thinking within its officer corps, the U.S. Army experience in this period bears examination for several additional reasons. These relate specifically to maneuver warfare. The U.S. Army would seem to be a more logical service for promoting

maneuver warfare; indeed, the entire concept of maneuver warfare was originally inspired by a critique of U.S. Army doctrine in this period. The reasons why the Army proved resistant to these new ideas, while Marines and the Marine Corps ultimately proved more receptive, has much to do with the Army's culture and process of doctrinal reform. This organizational history is important to this study of the ideas behind maneuver warfare because it ultimately attenuated and rejected the new ideas, and this encouraged the reformers to focus instead on the Marine Corps, where Marines played an important role in shaping those ideas into a practical doctrine.

Far more has been written about Army doctrine in this period than any other service, and it changed through a very different process from the Marine Corps. In contrast to the Marine Corps' adoption of maneuver warfare in this period, which was a highly contingent, radical change establishing a new set of service beliefs about war and how to fight it, the Army's process of doctrinal change from 1976 to 1986 was incremental and deliberate. It was a process carefully managed by a bureaucracy reconfigured for that purpose, resulting in an attenuation of the most radical aspects of the new ideas. The central role of the Army bureaucracy is a constant feature of all works focusing on the progressive development of the Army's capstone doctrinal publication, Field Manual 100-5 (FM 100-5) in the post-Vietnam period. These include Major Paul H. Herbert's 1988 "Deciding What Has to Be Done: General William E. DePuy and the 1976 Edition of FM 100-5, Operations," Major Jeffrey W. Long's 1991 Command and General Staff College thesis, "The Evolution of U.S. Army Doctrine: From Active Defense to AirLand Battle and Beyond," and most recently, Benjamin M. Jensen's 2016 *Forging the Sword: Doctrinal Change in the U.S. Army*. The common narrative these analyses share is that bureaucracy yielded imperfect results, but gradually refined FM 100-5 to provide the army with a doctrine appropriate to its needs.

FM 100-5 was a response to several major forces. The first was new strategic challenges. The drawdown and impending end of the Vietnam War provided the Army with an opportunity to refocus its attention on its European military strategy. The Army maintained a large garrison in Germany throughout that conflict, showing that deterring Soviet aggression was always among its top priorities, but much of the Army's intellectual energy had been devoted to responding to the more immediate problems in Indochina. As described earlier in this chapter, the adversary in Central Europe looked considerably different in the 1970s than it had in the 1950's and 1960s. The Soviet force was larger and had dramatically improved the technical quality of tis equipment, and NATO's nuclear posture no longer seemed likely to deter Soviet aggression against Germany with a comparatively small garrison there.

The apparent need for a larger conventional force in Europe was not a simple problem to address. Indeed, it was complicated by another major strategic challenge the Army was faced with at the same time. Defense spending reductions and the transition to an All-Volunteer Force meant that the regular Army would have to make do with less manpower on a year-to-year basis. In turn this would require heavier dependence on the Army Reserve and National Guard to mobilize the mass needed to fight a sustained war. This concept, referred to as fighting as a Total Force (active, reserve, and guard forces) meant that there would not be as many soldiers forward deployed in Germany on a continuous basis, and in the event of war with the Soviet Union, they would be more dependent on strategic mobilization and tenuous lines of communication to deliver reinforcements from the United States. The primary focus of FM 100-5 of 1976 was on preparing the forces stationed in Germany, reinforced by a small number of combat-ready active divisions that could be quickly deployed from the U.S., to blunt a Soviet offensive long enough for war-winning reinforcements to arrive. If they failed to do this, the war

would be over before the U.S. mobilized to fight it. This is why the tagline for the first post-Vietnam operational doctrine of the U.S. Army became "the US Army must, above all else, *prepare to win the first battle of the next war* [emphasis in the original]."[133]

Confronting these issues required a coherent, comprehensive response if an effective doctrine was to be produced. General Creighton W. Abrams, Jr., Chief of Staff of the U.S. Army, decided that the Continental Army Command (CONARC) was not up to the task. CONARC had been formed in 1955 to unify command over all active field units, schools and training centers, and doctrinal development in the continental United States. Theis was a very broad range of tasks, and gave CONARC responsibility for an equally diverse set of organizations, not to mention an exceptionally large organization in its sheer size. Ultimately CONARC's single headquarters proved unable to effectively oversee such a large and multifaceted organization, and the major combat branches (Armor, Cavalry, Field Artillery, and Infantry) developed *de facto* independence in matter such as doctrine and training, losing perspective on the needs of the army as a whole. To address the problem, General Abrams initiated Operation STEADFAST, a self-study and reorganization effort lead by his Vice Chief of Staff, General William E. DePuy. On DePuy's recommendation, CONARC was disestablished on July 1, 1973 and its various units were redistributed into two new commands. The active-duty field units were grouped under U.S. Army Forces Command (FORSCOM), which was responsible for the readiness of combat and support units as a force provider for global operations. Training centers, schools, and doctrine development were assigned to a new four-star organization, U.S. Army Training and Doctrine Command (TRADOC). With this change Abrams removed doctrine development from the direct influence of the field

[133] U.S. Army, Field Manual 100-5 (FM 100-5), *Operations* (Washington DC: Headquarters, Department of the Army, 1976), 1-1. Hereafter, "FM 100-5, version of 1976."

commanders who tended to be branch-oriented. TRADOC provided the Army with a senior officer responsible for integrating the ideas and efforts of the experts in the various schools and training centers to develop holistic concepts for fighting, concepts that would meet the Army's needs as a whole, rather than responding to the ideas that prevailed in any particular branch. By making TRADOC organizationally coequal to FORSCOM and the Combat Development Command (CDC) that managed equipment design and acquisition, Abrams was ensuring that the concepts developed carried organizational weight, and could bring coherency to the entire Army effort, to include developing equipment, recruiting and training soldiers, and deploying forces ready to fight. The first officer to lead TRADOC in that effort was the man who had advocated for its formation, General Dupuy. This was significant statement about the importance of the new command, for it was a highly unusual move for the Vice Chief of Staff, the second-ranking officer in the Army, to leave that job for anything but retirement.

Dupuy took command of the newly-established TRADOC just three months before the October War in the Middle East and saw the U.S. Army' reaction to that conflict as TRADOC's first great test. The 1973 Arab-Israeli War demonstrated the lethality of Soviet antitank weapons, and Dupuy's first concern was adapting to its "single most important lesson," that "what can be seen, can be hit; what can be hit, can be killed."[134] Adjusting to this new reality was critical if the U.S. Army was to face the Soviets directly in Central Europe, especially considering the increasingly important strategic imperative to win the first battle they would fight there. The Soviets were expected to mount a massive attack designed to break through the NATO defense and drive deep into West Germany. In DePuy's mind, U.S. firepower could compensate for a deficiency in manpower. Winning that first battle would mean avoiding rapid

[134] Benjamin M. Jensen, *Forging the Sword: Doctrinal Change in the U.S. Army* (Stanford: Stanford University Press, 2016), 38.

destruction by Warsaw Pact firepower, and in turn subjecting the invaders to the lethal fires of NATO ground forces, supported by air and missile forces. Two things made this theoretically possible in the face of Soviet numerical superiority and technological parity. The first was that the Soviets were expected to disperse their massive forces along the Inner German border in one great wave, and push hard in as many places as they could until a breakthrough was made. The second was the mobility of U.S. forces, which was essential for dealing with this broad threat. The supporting arms of artillery and aviation would use their fire to suppress attacking Soviet formations, allowing U.S. close combat forces to quickly move into positions where they would have local superiority in combat power. This doctrine estimated that they could defend against Soviet thrusts with a 1:3 numerical disadvantage. Through this economy of force, units would be freed to concentrate for counterattack, ideally a ratio of at least 6:1, and destroy the enemy.[135] In effect, firepower would be used to suppress Soviet fire, further enabling U.S. forces to evade its effects and repeatedly relocate to positions where NATO could concentrate its own forces to win a series of smaller fights. Ben Jensen, the author of the most recent study of the development of FM 100-5, has captured the essence of this doctrine in the phrase, "suppress-to-move, move-to-concentrate."[136] At its essence, Active Defense sought to defeat a much larger force by using mobility to foil the enemy's firepower, then repeatedly concentrate firepower to destroy the larger force one element at a time.

The 1976 publication of FM 100-5 created significant debate.[137] Some critics objected to the manual's emphasis on the defense, which was inherent to its focus on winning the opening

[135] FM 100-5, version of 1976, 3-4.
[136] Jensen, 42.
[137] Jensen, 48-53, traces the extensive efforts to promote the new doctrine through advocacy networks, including senior Army leaders, defense policy intellectuals, Congress, and the Secretary of Defense, but understates the extent and nature of resistance that this effort was designed to overcome. All of the other serious studies of Active Defense, however, admit that the publication of the manual created significant debate. See Romjue, 13; and Robert

battles of a war where it would be dramatically outnumbered.[138] Active Defense did allow that a counteroffensive might be possible later, after strategic mobilization. Of this phase, however, it said only, "Once the war is upon us, we shall aim at emerging triumphant from the second, third, and final battles as well."[139] Other critics objected to the manual's assumption that the Soviets would attempt to create breakthroughs by concentrating their forces prematurely. Analysts pointed out that the Soviets had also studied the Arab-Israeli War of 1973 and understood that massive concentrations of vehicles would be prime targets for NATO firepower. Instead, they argued, the Soviets would hold most of their forces to the rear, out of range, while the first wave attempted to achieve breakthroughs at a small number of selected locations. Once those attacks revealed where NATO was prepared to defend and where breakthroughs could be achieved, the Soviets would opportunistically exploit those weak spots in NATO defenses with follow-on forces, their massive Second Echelon. In other words, they would use their superior numbers to probe the enemy defenses in many places, find the gaps created by NATO numerical inferiority. There the Soviets would commit their major force to penetrate deep within West Germany, ideally severing the country in two before the defenders, with little or no reserves, could counter them.[140] This was consistent with Soviet concept of Deep Operations developed in the 1930s, as translations of rediscovered Soviet documents revealed.[141] Still other critics objected to how Active Defense would play out in the face of superior Soviet numbers. If Active Defense did succeed, it would only be in counterattacks after massive Soviet attacks achieved deep penetrations. The West Germans considered the unacknowledged assumption that their home

---

A. Doughty, "Leavenworth Paper No. 1: The Evolution of US Army Tactical Doctrine, 1946-76." (Fort Leavenworth, KS: Combat Studies Institute, U.S. Army Command and General Staff College, 1979), 43.
[138] Romjue, 14-16.
[139] FM 100-5, version of 1976, 1-1.
[140] Romjue, 16-18.
[141] Jensen, 61-62.

territory would be lost, and then regained only after becoming the site of an enormously destructive battle, intolerable. This was why they had always insisted on a forward defense on the borders and in East German territory, repulsing Soviet attacks before they captured any of the West German homeland.[142] Finally, Army critics pointed out that the 1976 version of FM 100-5 stressed the defense, and ceded the initiative to the enemy, both of which went against longstanding traditions and the self-image of the U.S. Army, adding to the discontent.[143]

The resistance to Active Defense in 1976 is critically important to this study because it was also the genesis of the concept of maneuver warfare. Chapter 4 will show that William S. Lind, a Congressional staffer, was briefed on a draft copy of the doctrine in February 1976, and was shocked by its defensive orientation and excessive dependence on firepower in a situation where U.S. forces would also be at a significant disadvantage in combat strength. Lind drafted a critique of the doctrine, one that invented the very concept of firepower/attrition doctrine as a polar opposite to a different style of warfare he called maneuver doctrine. The Army suppressed Lind's critique by arranging for the Army's leading professional journal, *Military Review* to pay Lind for his article, but then refuse to allow it to be published. This scandalous behavior gave Lind the opportunity to publish an exposé in the Washington press, and force the publication of his work in *Military Review*. Despite TRADOC's formation of advocacy networks to promote acceptance of Active Defense, Lind's counterpoints invigorated debate. In 1997 *Military Review* reprinted his critique in its 75th anniversary issue, acknowledging that it was one of the most influential articles in its history.[144] One of the Army's first self-studies of this new doctrine

[142] Trausweitzer,71, 91-92.
[143] Paul H. Herbert, "Deciding What Has to Be Done: General William E. DePuy and the 1976 Edition of FM 100-5, Operations," Leavenworth Paper No. 16. (Fort Leavenworth, Kansas: Combat Studies Institute, 1988), 96.
[144] William S. Lind, "Some Doctrinal Questions for the United States Army," *Military Review* 77, no. 1 (January-February 1997), 54-65.

observed that some officers adopted Lind's argument in their critique of Active Defense. [145] Chapter 5 will show how Lind shaped the writing of forward-thinking officers in the Army's airborne community.

The professional literature bears witness to the influence of Lind's article and the ideas that grew from it. Army officers were well aware of maneuver warfare during the time FM 100-5 went through revisions in 1982 and 1986. From the start of this period, the inaugural Leavenworth Paper, Major Robert A. Doughty's 1979 "The Evolution of U.S. Army Tactical Doctrine, 1946-1976" criticized *Active Defense* in maneuverist terms. Doughty wrote that it "stressed maneuver predominantly in the sense of moving to deliver firepower or to increase combat power…" rather than "to strike at the enemy's will to fight."[146] Doughty concluded that in the first 30 years of the Cold War culminating in *Active Defense* in 1976, "Army doctrine progressively placed greater emphasis on the attrition of the enemy," with firepower increasing more than mobility, so that "the emphasis on attrition has increased at the expense of maneuver."[147]

FM 100-5 was improved by a very deliberate revision process within TRADOC. This effort was led by General Don Starry, who as the V Corps commander in Europe from 1976 to 1977 had been forced to deal with the very tangible implications of Active Defense. V Corps was the unit assigned to defend the Fulda Gap, the two lowland corridors through which Soviet armored forces would most likely try to cross the mountainous border between the two Germanies. V Corps also realized that the Soviets understood they might not achieve a decisive penetration with their initial attack, and would follow that with a massive second echelon to

[145] Romjue, 18-23.
[146] Doughty, 43.
[147] Doughty, 49. Chapter 5 will show that Lind's work on maneuver warfare continued to inform Doughty's historical analyses.

complete the penetration and thrust deep into German territory, known as a Follow On Forces Attack. Extensive simulation told Starry that the first battle could not be fought while ignoring this second echelon. Starry replaced DePuy as the Commanding General of TRADOC when DePuy retired in July 1977. When he did, he brought the conviction that defending forces needed to think much deeper, beyond the immediate front-line Soviet forces they faced. Jensen describes this operational problem as "how to structure the initial engagements at the tactical level within the operational plan…to disrupt the momentum of the overall offensive."[148] It was soon apparent that this meant taking action to interdict the second echelon using firepower not organic to an Army corps—in other words air power—in an "air-land confrontation."[149] As TRADOC's doctrinal bureaucracy geared up to reconsider and revise FM 100-5 under General Starry, its Air-Land Directorate took a leading role, promoting cooperative problem-solving between the Army and Air Force.[150] Formal work on the revision began in 1980 under the tentative concept of an "extended battlefield," and it soon came to fully embrace the concept of using U.S. air forces to conduct deep attacks. By 1981 the central concept was titled AirLand Battle to distinguish it from nuclear concepts that used ambiguous terms such as "integrated battlefield." At its heart, in contrast to Active Defense's operational passivity, seeking to win a series of battles wherever the Soviets chose to concentrate their attacks, AirLand Battle was to be a focused, offensive effort designed to win the first battle on terms that would allow a deep offensive follow-through, possible only because the Second Echelon had already been destroyed. The key to pulling this off was a series of new weapons systems being designed and fielded under an initiative called "Army 86," including the AH-64 Apache attack helicopter, M-1

[148] Jensen, 68.
[149] Romjue 23-27.
[150] Romjue, 32-33.

Abrams Main Battle Tank, the long-range Multiple Rocket Launch System, the Copperhead laser-guided precision artillery round, and a system of mines which could be fired from artillery to cover a large area.[151]

A significant aspect of the AirLand Battle concept was that it acknowledged that deep attack was not likely to be fruitful if the aim was to simply reduce or wear down the successive waves of Soviet forces. Instead, aviation and other long-range fires would be used to disrupt enemy formations and isolate them, making them vulnerable to defeat in detail. Again, this was not with the goal of eventually wearing down the enemy's strategic capacity or overall will to fight, but instead to accomplish specific surgical objectives in pursuit of a deeper penetration. With a counteroffensive made possible, the enemy could be interdicted and his ability to act a coherent whole disrupted not just by fire, but also through aggressive maneuver through gaps and deeper into the rear. In direct contrast to Active Defense, which called for shifting to concentrating force against the enemy's own concentrations, AirLand Battle drew upon the concepts of Basil Liddell Hart and J.F.C. Fuller, advocating rapid, indirect attacks on weak spots.[152]

These concepts bear some of the hallmarks of maneuver warfare thinking, and this was not accidental, for the team writing the new doctrine drew ideas from the extensive debate that followed the 1976 publication FM 100-5. Indeed, they had even consulted with some of Active Defense's harshest critics and leading advocates of maneuver warfare as an alternative style of fighting, William S. Lind and John Boyd. Though episodic, this consultation was more than

[151] Romjue, 42-46.
[152] Romjue, 56-57.

casual. Officers brought pages of the draft manual to Boyd for his comment.[153] Lind also reviewed the draft, and provided a written assessment of the whole manual in April 1981, about halfway through the revision process, and more than a year before the final version was published.[154] The maneuver warfare advocates were therefore part of the advocacy network the army was using to circulate and refine the concepts throughout the Army in 1981 and 1982. Curiously, the most recent and comprehensive work on the development of FM 100-5 during this period, Benjamin Jensen's 2016 *Forging the Sword*, is silent on the topics of maneuver warfare, Boyd, and Lind.[155]

Boyd felt the interaction with the Army doctrine team "helped get the rewrite at least oriented in the right direction," and the Army undoubtedly had high hopes when it convened Senior Conference XX in June 1982.[156] This was the West Point retreat for Army leaders to meet and discuss reform issues with the reform advocates and other members of the defense establishment described at the opening of this chapter. A major event was a brief by Colonel Huba Wass de Czege, the lead author of the new manual, describing the content and merits of the new doctrine, then less than two months away from publication. Instead of acknowledging the contributions of the maneuverists however, Wass de Czege attacked their analytical methods and concept, and scrupulously avoided any suggestion that the new way of war the manual described

[153] Todd M Larsen,. "John Boyd and the AirLand Battle Doctrine" (Fort Leavenworth: KS: School of Advanced Military Studies, U.S. Army Command and General Staff College, 2012), 38-39. See also "Military Reform Caucus Oral History Seminar," 83-84; and Romjue, 58.
[154] William S. Lind, "Comments on FM 100-5 (Draft)," unpublished memorandum, April 9, 1981. William S. Lind Papers, Collection 4939, Box 17, unnumbered folder. Marine Corps Archives. Quantico, Virginia, 1-3.
[155] Jensen's awareness of the maneuverist influence can be inferred from his unusual ending to his chapter on the 1982 version of FM 100-5. Without any preceding discussion of Lind's critique or his firepower/attrition vs. maneuver dichotomy, Jensen's final paragraph (Jensen, 86) states, "Furthermore, neither civilian intervention nor strategic culture, in the form of an enduring attritionist way of war, seems to explain the case… AirLand Battle is the opposite of an attritionist way of war. It seeks to use deep strike and maneuver to destabilize an adversary as opposed to focusing on firepower and removing units from the battlefield."
[156] "Military Reform Caucus Oral History Seminar," 83.

was associated with maneuver warfare. Worse, the forum exposed major conceptual disagreements that still existed between the doctrine writers and the maneuver warfare advocates, particularly the inclusion of Synchronization among its four tenets.

Boyd vehemently objected to Synchronization at the Senior Conference, and in the years that followed. The Army considered Synchronization necessary for focusing the efforts of large land and air forces in the attack, maximizing their combat efficiency.[157] Boyd and the maneuverists, on the other hand considered the use of a clock to regulate the efforts of combat units an unacceptable impingement on the initiative of lower-level commanders and their ability to act quickly, capitalizing on enemy vulnerabilities as they were discovered. To maneuverists, this was the heart of maneuver warfare—acting at a higher tempo than the enemy to disrupt his ability to absolutely critical to keeping the enemy from gaining the initiative. Even if this meant giving up some centralized control, the maneuverists considered it more important to keep the enemy off balance. In essence the maneuverists were weaponizing time, where the Army saw it as a means of control. In Boyd's words, the misuse of time to maximize the efficient concentration of one's own forces in space, rather than vex the enemy, was "a nineteenth century idea that they still are not able to get away from."[158] This conceptual divide between the army and the maneuver warfare advocates, one that went to the very nature of Army culture regarding command and control and its fundamental conception of war was never resolved. Ultimately, such fundamental conceptual obstacles remained insurmountable, and handicapped the soldiers'

[157] FM 100-5, version of 1982, 2-3 and 7-3.
[158] "Military Reform Caucus Oral History Seminar," 86. Some readers may note a fundamental tension in these two approaches to warfare resembling the French adherence of Methodical Battle in the period between the World Wars, while the Germans moved to a way of battle based on dynamic maneuver. These were, indeed, the most important historical examples that maneuver warfare advocates upheld in their arguments. In time, as chapters 5 and 7 will show, William S. Lind made direct reference to both the *Wehrmacht* style of warfare and Methodical Battle as examples of the thesis and antithesis of maneuver warfare.

ability to accept the most progressive ideas that had been successfully integrated into its doctrine to remedy the attritional ills of Active Defense.

In August 1982 the new version of FM 100-5, *Operations*, was published. Over time, it became apparent that many in the Army thought AirLand Battle's radical new faith in the deep offensive was far too optimistic, and many didn't really understand the theoretical underpinnings of AirLand Battle, particularly the shift in emphasis away from firepower in favor of maneuver. Major Jefferey Long observed, "many saw the two doctrines as opposites."[159] Some officers were suspicious of the maneuverists and their influence. In January 1987 *Military Review's* lead-in article was a retrospective by Lieutenant Colonel Mark Hamilton titled "Maneuver Warfare and All That." Hamilton admitted that the "much-maligned" 1976 version of FM 100-5 was "our first look into the concepts of the modern industrial war as fought by the weapons and doctrine of our most likely enemies" and "criticism of it provided the first forum for the new advocacy of maneuver warfare."[160] Hamilton went on to argue that maneuverists made selective and biased use of history to support their theories, reduced military history to a simplistic set of buzzwords and inappropriate metaphors, and were elitist intellectual snobs dismissive of the need for widely-understood doctrine.[161] Hamilton identified John Boyd's Observation-Orientation-Decision-Action (OODA) Loop as the central idea of maneuver warfare, and warned that this was derived from Boyd's aviation experience, and was therefore a poor fit for a service focused on land warfare.[162] Chapters 3 and 5 of this dissertation challenge both of these claims, and show why so many improperly believed John Boyd and the OODA loop to the be both the

[159] Jefferey W. Long, "The Evolution of U.S. Army Doctrine: From Active Defense to AirLand Battle and Beyond" (Master's thesis, U.S. Army Command and General Staff College, Fort Leavenworth, Kansas, 1991), 77.
[160] Mark R. Hamilton, "Maneuver Warfare and All That," *Military Review* 67, no. 1 (January 1987), 3.
[161] Hamilton, 3-13.
[162] Hamilton, 4, 8-10

genesis and central idea of maneuver warfare. Hamilton's critique of the OODA concept continued by explaining that it relied upon successive iterations to magnify temporal advantages over an adversary, while land warfare was fought between large, complex organizations in more complex environments than aerial combat. As a result, superiority was achieved not by achieving a temporal advantage, but by "aggregating advantages intelligently and synergistically to bring about significant (though brief) superiority."[163] Hamilton was in essence rejecting the notion of rapid maneuver to disrupt and shock in favor of massing combat power in the form of units and firepower. He was doubling down on an assumption that victory was achieved by maximizing the actual or threatened destruction of mass rather than moral-mental shock. This was, indeed, at the very heart of the distinction between the two approaches to war, one that goes back at least as far as J.F.C. Fuller's distinction between "body warfare" and "brain warfare" in 1918.

Hamilton's article, in the whole, is a very thoughtful critique of maneuver warfare as understood by the Army, the way its maneuver warfare advocates had argued for it, and the way the Army had attempted to codify it in doctrine. His failure to understand the fundamentals of maneuver warfare within such a perceptive analysis demonstrates a significant obstacle maneuverists ultimately had to overcome: no amount of explaining would convince critics of the value of maneuver warfare if they did not first share a common set of assumptions about the nature of war and military organizations. This meant dislodging opponents from unstated, and therefore often unacknowledged and not rationally reconsidered, beliefs. The Army's subsequent efforts to revise FM 100-5 did not address this. They occurred at a time when the maneuverists were at a low point of influence within the Marine Corps, and it appears that this

[163] Hamilton, 11.

was also true in the Army. There is no evidence Lind, Boyd, or the Marine advocates were consulted by the Army, as they had been in the 1982 revision. The lead author of the 1986 revision, Colonel Richard Sinnreich, was an artilleryman, naturally firepower-oriented, who the maneuverists described as uninterested in the basics of maneuver warfare.[164] Without strong advocates of the new ideas, the basic underlying concepts did not get needed elaboration. The Army continued to grapple with the basic semantics of the doctrine, such as what "maneuver" actually meant and how it might be different from "movement," and in the process vital terms were never given their full meaning.[165] Failures of clarification were compounded by the reassertion of older ways of thinking.

The 1986 version of FM 100-5 moderated the boldest changes in the first version of AirLand Battle. Where the 1976 version clearly emphasized firepower over maneuver, and the 1982 version reversed this, the 1986 version was more balanced, explaining that maneuver often depended on firepower, and firepower could be used without maneuver.[166] While not going so far as to specify desirable force ratios for the offense and defense, as Active Defense had in 1976, the 1986 version of FM 100-5 returned to emphasize achieving superior concentration of force in selected locations, factors which could be expected to limit the potential of offensive action, and the advantages of the defense, which could defeat an enemy attack.[167] While the 1986 version did preserve AirLand Battle's general concept of deep attack and deep battle (though rebranded as "deep operations"), it was more cautious about their potential.[168]

---

[164] Lind, interview of 29 January 2020.
[165] U.S. Marine Corps, Marine Corps Liaison Officer, U.S. Army Infantry School, memorandum to Commanding General, Marine Corps Development and Education Command, "Maneuver Concept Paper (DRAFT)," 16 March 1983. Alfred M. Gray Papers, Collection 2580, Box 39, Folder: Maneuver Concept Paper (Draft) Mar 1983. Marine Corps Archives, Quantico, Virginia.
[166] Long, 81.
[167] Long, 82-84.
[168] Long, 86-87.

Ultimately, all of this indicated that the Army's doctrinal bureaucracy was backing off from the boldest aspects of AirLand Battle, returning to operational concepts that were more comfortable. Even the manual's format, appearance, and excessive wordiness suggested a reassertion of bureaucracy.[169]

With such an ambiguous outcome, critics were free to take both sides. Lieutenant Colonel Hamilton argued the 1982 version's "overemphasis on maneuver as opposed to firepower" was "redressed" in the 1986 edition, but "many feel the maneuver aspects still receive the most attention."[170] Major Jefferey Long disagreed with those who felt that the 1986 version backed off from maneuver, stating that maneuverism "was too central to the doctrine to be extracted."[171] Long did admit that the doctrine was shaped by bureaucratic forces such as "force structure and acquisition choices" with "little impetus for change," so that the results were "determined by intraservice politics."[172] Major Wayne Hall generally agreed, arguing,

> Without question, the authors of AirLand Battle doctrine developed it with in-depth theoretical and intellectual underpinnings. They had a vision of modern war connecting the present to the past and the future. This intellectual substance dissipated during the consensus-building process of doctrinal development.[173]

John Boyd, who had by this point emerged as a leading advocate of maneuver warfare, saw the 1986 version of FM 100-5 as "nothing more than a mixture of old stuff with new stuff, and [] when you do that, that new stuff really doesn't take."[174]

If bureaucracy was attenuating the "new stuff," it begs the question as to what the "old stuff" was. Lind's 1976 critique developed the dichotomous model of attrition/firepower doctrine versus maneuver doctrine as a way of clarifying the difference, but the preference for

---

[169] Long, 79-80.
[170] Hamilton, 2.
[171] Long, 284.
[172] Long, 283.
[173] Hall, 33.
[174] "Military Reform Caucus Oral History Seminar," 86.

firepower and attrition was a manifestation of deeper issues. When Hamilton rejected Boyd's theory as a useful basis for land warfare because he believed it to have been developed from air-to-air combat, his explanation revealed a very different conception of war. In Hamilton's words, land warfare was fundamentally different, for in that context "turning within a decision cycle reflects too much emphasis on speed and agility—iteration—and too little on combined arms, supporting attacks and economy of force—aggregation."[175] Hamilton argued that land forces are complex, multi-level organizations which can't be modeled in a single competitive cycle between two adversaries. Instead, they achieve their results by synchronizing and coordinating their many small efforts, aggregating those small efforts to have one great effect. In other words, in contrast to maneuver warfare's pursuit of disproportionate gains through mental and moral shock, Hamilton saw the army's effectiveness to be more a qualitative sum of its efforts.[176]

Hamilton's emphasis on aggregating an army's force was indeed a central assumption on the way warfare worked that was deeply ingrained in U.S. military thinking. Chapter 7 will show it was a primary obstacle for the maneuver warfare advocates arguing for change in the Marine Corps in this same period. There is a more central point to this particular discussion of the Army: the view of military forces as additive masses of their constituent parts, rather than organic systems capable of nonlinear psychological and moral effects and vulnerable to systemic shock, was fundamental to the very first post-Vietnam efforts to redefine how the Army would fight in FM 100-5 of 1976. Put another way, the Army's post-Vietnam doctrinal reform was based on a fundamentally linear approach to problems. The central thinker behind Active Defense was General William E. DePuy, and he was deeply invested in an analytical, or deconstructive, approach to understanding problems and organizations. Biographies of DePuy

[175] Hamilton, 12.
[176] Hamilton, 11-12.

agree that his experience in the 90th Infantry Division in World War II was formative. There, as a lieutenant, he saw the catastrophic result of sending a poorly-prepared division into combat, one that had neglected the basics of tactical combat training. DePuy was reassigned to the division staff, and became a key agent in helping draw lessons from the unit's combat failures, focusing training on the deficiencies discovered, and replacing unfit leaders.[177]

Dupuy's analytical talents served him well in the Cold War army. Like the other services, the Army was learning to compete for resources in a Pentagon infatuated with systems analysis. The Army was also working in a largely hypothetical environment, constantly trying to prepare for a war it never got to fight in Central Europe, and never with a full test of the solutions it encoded in doctrine. The greatest challenge the Army faced in this era was the war in Vietnam, and Brigadier General DePuy was at the core of the U.S. intellectual efforts to win it. From 1964 to 1966, Depuy served as the J-3 of Military Assistance Command, Vietnam, General Westmoreland's operations officer. This made him the central agent helping Westmoreland conceive of how the war could be won, and figuring out a way to implement it. This result was an approach characterized by heavy firepower to attrite communist forces, and DePuy was at the heart of gauging its progress through metrics like the infamous body count.[178] DePuy's performance in this role so impressed Westmoreland that Westmoreland influenced DePuy's next assignment. As a major general he took command the First Infantry Division in the hotly contested area around Saigon from 1966-1967. There DePuy's men came to know him for his obsessive involvement in tactical details normally left to sergeants, lieutenants, and captains, and he continued to impress Westmoreland with his zeal for generating enemy

[177] Henry G. Gole, *General William E. DePuy: Preparing the Army for Modern War* (Lexington, KY: The University Press of Kentucky, 2008), 15-40.
[178] Gole, 156-163.

casualties.[179] When Westmoreland became the Chief of Staff of the U.S. Army, he selected DePuy to be the Vice Chief of Staff. This is the billet he held when Westmoreland's successor, General Creighton Abrams, acted upon Dupuy's recommendation to establish TRADOC, and then made him its first commander.

DePuy's analytical, deconstructive view of military action is clearly represented in the way FM 100-5 of 1976 deviated from the themes in previous editions of that manual. Long's 1991 analysis is exceptional among Army officers of this era because it is explicitly framed according to fundamental differences between "attrition theory and maneuver theory."[180] Long points out that Active Defense replaces a focus on men and intangibles like the moral strength of the individual soldier and his unit, with emphasis on crews who needed to maximize their proficiency at employing weapons systems, placing an unprecedented premium on technical skill.[181] DePuy's manual was directly opposed to its offensive-minded predecessors in that it was fundamentally defensive, and used active tactical movement only to preserve a static, linear operational defense.[182] Long points out that the manual was also much more prescriptive than its predecessors, and started a trend in Army doctrine of specifying exactly how organizations would fight. It was unique among the editions which preceded and followed it in that it prescribed specific force ratios, and rather than using historical examples to illustrate its major concepts, it supported them with extensive charts and graphs.[183] This highly analytical reductionism, Long observes, was paralleled by other efforts in DePuy's TRADOC to deconstruct training into smaller, quantifiable tasks. DePuy established the Army Training and

[179] Gole, 176-180.
[180] Long, 31.
[181] Long, 34-36.
[182] Long, 38, 41.
[183] Long, 30, 32.

Evaluation Program (ARTEP), which "reduced combat to discrete and testable tasks that platoons, companies, and battalions performed" and Performance Oriented Training (POT) which "reduced soldiering to discrete and testable individual skills."[184] The common feature of all of these was a focus on increasing the proficiency of the army's many small pieces on the assumption that this would increase the effectiveness of an entire army in the field. Together these show that under DePuy's leadership, TRADOC pursued its mission of bringing conceptual coherence to the Army's acquisitions, training, and combat efforts with a deeply-ingrained way of thinking that held an army and its performance to be the aggregate sum of its parts and their efforts. This linear, quantitative, and additive understanding of combat power, reflecting the same type of thinking privileged by Systems Analysis and Operations Research, also promoted an attritional view of warfare. This view held as a self-evident truth that the immediate objective of any military action should be some measure of destruction inflicted on the adversary's aggregate force.

It would be unfair to characterize the Army's thinking in this era based on the habits of thought of one man, no matter how influential. Indeed, one of the benefits of the significant effort put into revising Dupuy's version of FM 100-5 from 1979 to 1986 was the intellectual stimulation it provided to the Army's officer corps. TRADOC also made explicit efforts to deepen the Army's intellectual basis during this period. Such initiatives included the creation of the Combat Studies Institute in 1979, with its sponsorship of historical research such as the Leavenworth Papers and, eventually, editorial responsibility for *Military Review.* The Leavenworth Papers were an effort "to undertake historical research into problems having a bearing upon the concerns of the modern Army and to disseminate research throughout the

[184] Long, 37.

Army," in essence, providing sound scholarship to support professionals grappling with war fighting problems throughout the service.[185] Professional discourse of such matters was promoted by the *Military Review*, where each issue was often focused on specific topics. During this period *Military Review* also regularly included a section called Crossfire, publishing contrasting reactions to various articles. This kind of moderated discourse exposed the *Review*'s readers to critical intellectual counterpoints and gave them a deeper sense of the issues.

One of the more tangible benefits of the intellectual renaissance promoted by rewriting FM 100-5 and fostering professional discourse was a greater understanding of operational art. The essence of operational decision making is thinking about the optimal times, places, and conditions under which to create, terminate, or refuse battle to accomplish strategic objectives. Operational art has obviously therefore always existed, but it had not always been recognized as a distinct concept. For example, Clausewitz divided the conduct of war into two activities: tactics, the planning of and executing of engagements using armed forces, and strategy, coordinating the use of engagements to further the object of war.[186] Operational art is therefore an element within Clausewitz's concept of strategy, showing that operational art has not always been recognized as distinct from strategy. This, arguably, was part of the American problem in the Vietnam War, where it was assumed that tactical victories destroying enemy forces would ultimately equate to strategic progress, ending the war under desirable conditions. This was part of the problem of FM 100-5 as well; Active Defense focused on winning the close battle near the Inner German border on the assumption that winning that battle would equate to a successful defense of West Germany. The debate that led to the 1982 AirLand Battle version of FM 100-5

[185] Doughty, i.
[186] Carl von Clausewitz, *On War*, ed. and trans. Michael Howard and Peter Paret (Princeton, NJ: Princeton University Press, 1976), 128.

identified that focusing exclusively on the close battle might result in a temporary victory at great cost, but any such victory would immediately be erased by the arrival of the Soviet' second echelon. AirLand Battle sought to use longer range fires and maneuver to isolate the close battle and disrupt the second echelon. It was a recognition that essentially two different battles, a close fight and a deep fight, needed to be fought, perhaps simultaneously, and for the purpose of defeating the Soviet offensive by disruption, rather than piece-by-piece destruction. This required higher-order thinking, and was supported by efforts to promote such thinking within the Army's officer corps.

This inspired another of the Army's efforts to promote the intellectual development of its officers, the School of Advanced Military Studies (SAMS) at Fort Leavenworth. As the first version of AirLand Battle was being encoded in doctrine in 1982, the Army established this second-year program for the most talented student officers in the one-year Command and General Staff College. SAMS fostered deeper study of military campaigns and operational art under the school motto "The mind is the key to victory." The school was led by the most prominent intellectual officers behind the development of AirLand Battle, most notably Colonel Huba Wass de Czege, and graduating the course became a prerequisite for officers who hoped to one day be considered for high command and promotion to general officer ranks.

Despite all this effort, the Army was an immense organization susceptible to cultural inertia. It was also an immense bureaucracy, and bureaucracies are predisposed towards conservatism and linear, analytical thinking. It is one thing to cultivate deep thinking about war within a select minority, but those efforts take time to bear fruit. As long as those efforts are not complemented by fundamental and widespread efforts to affect the thinking of the service as a whole through doctrinal explanation and educational change, their impact can be isolated. As

Major Hall wrote in a special issue of *Military Review* devoted to the newest version of AirLand Battle in 1986,

> The principal problem in understanding AirLand Battle doctrine, inculcating it into the collective intellect of the officer' corps and preparing our maneuver units to fight using the doctrine, remains cerebral. That is, the officer corps understands neither the theoretical nor the intellectual underpinnings of the doctrine. Blame for this rests on the collective intellect of the officer corps. We, as human beings, generally tend to resist change. Without pressures to do so, we often tend to leave interpretation and difficult thinking to "they''--those "smart people" in institutions and think-tanks.[187]

This assertion is supported by Hamilton's article written a year later, which despite being one of the more thoughtful pieces in *Military Review* on maneuver warfare, insisted that army's effectiveness was a result of aggregate effects. Despite years of effort to redefine how the Army would fight, this less-sophisticated way of thinking about warfare was a durable feature in the U.S. Army throughout this period. Without revising the fundamental assumptions the officer corps held about warfare, efforts to define a new way of fighting in doctrine failed to be understood and had no chance of being widely embraced.

If it is true that the Army failed to change attitudes held at the level of assumptions, perhaps as a result of bureaucratic watering down to appease constituencies, there are several implications for the study of U.S. military thought and doctrine during this period. First, contrary to Jensen's argument, bureaucracy, despite its efforts to redefine itself through the creation of TRADOC, was unable to reconfigure itself for radical change, especially when it left fundamental assumptions about the nature of warfare unchallenged. Second, when maneuver warfare advocates focused their attention on the Marine Corps, where change did become possible in 1987, the maneuverists had an example of how not to do it. They could not simply do it bureaucratically, and without fundamentally redefining the service's fundamental

[187] Wayne M. Hall, "A Theoretical Perspective of AirLand Battle Doctrine," *Military Review* 66, no. 3 (March 1986), 33.

understanding of war. This is why one of General Gray's first, and perhaps most significant efforts as Commandant of the Marine Corps, was defining an explicit Marine Corps philosophy of war in FMFM-1, one that highlighted moral factors, uncertainty, friction, and nonlinearity.

**Conclusion**

This chapter provides the strategic and intellectual context for the maneuver warfare movement within the U.S. Marine Corps in the 1970s and 1980s. It also provides important organizational context through its focus on the Department of Defense, the U.S. Navy, and U.S. Army in this period. This constitutes an intervention to the orthodox narrative because the existing scholarship focuses on the internal dynamics of the Marines and their Corps, and elides the complexity of forces shaping the movement, and critical interactions with outside individuals and organizations that incepted its ideas and shaped their development.

The strategic context was one of a dramatically changed balance of military power in the Cold War, eroding the technological advantages that the U.S. and its allies had used to counter Warsaw Pact numerical superiority. Facing more and better-equipped adversaries who appeared to have more adventurous ambitions, the U.S. simultaneously faced economic crisis that significantly constrained the options of policymakers. Internally, the Pentagon was also struggling with conflict over the rise of managerialism and a changing relationship between the professional military and its civilian leaders. These were among the challenges each of the U.S. military services dealt with in this era, but the failure of the managerial Pentagon and the services to fundamentally adapt to the new strategic, economic, and political realities inspired the formation of the military reform movement. This was a broad but poorly organized coalition of opponents to irrational Pentagon spending, strategy driven by bureaucracy, and doctrinal stagnancy by unimaginative military leaders. This movement was most powerful when it

impelled the formation of the bipartisan Congressional Military Reform Caucus in 1981, when its ideas were guided by a think tank known as the Military Reform Institute.

# Chapter 3: The Military Reform Movement

In February 1976, Admiral Hyman Rickover met with Senator Robert Taft, Jr. in the latter's office on Capitol Hill. Rickover, a small, thin, gray-haired man of 76, had served in the U.S. Navy for 58 of those years, was a politically well-connected man, which largely was due to his leadership and engineering expertise. He was credited with bringing nuclear propulsion to the U.S. Navy, as well as leading the development of civilian nuclear power plants. Many considered Rickover to be the most powerful man in the U.S. Navy, which was why he had been sent to speak with Taft. Taft, grandson of President William Howard Taft and son of Senator Robert A. Taft, the leader of the Republican conservative coalition which had opposed the New Deal, was a former Navy man, and had been asking questions about an important new shipbuilding program. The Navy had notified the Senate Armed Services Committee (SASC), of which Taft was a part, that it wanted $1.4 billion to develop a new nuclear-powered surface warship to be known as the Strike Cruiser. The new type would serve as a highly capable escort for the aircraft carriers which had become the center of the Navy's battle groups. By fitting the new cruiser with a revolutionary new type of radar system and its own full suite of anti-aircraft and strike missiles, it would not only be able to defend the carriers but would also have a very potent offensive capability. Just as important, now that the navy had nuclear-powered submarines and aircraft carriers, having powerful nuclear-powered cruisers would enable an entire battle group to move around the globe with little regard for fuel. Taft had raised one question, however, wondering why the Navy needed this type of ship when its primary adversary, the Soviet Navy, appeared to be focusing on submarine construction. Rickover was there to explain the Navy's needs, on the expectation that he could clinch Senator Taft's vote when the time came to appropriate funds. This would be a critical vote. The previous year

Rickover had successfully lobbied for legislation mandating that all future large surface combatant ships be nuclear powered, and secured funds for the Strike Cruiser despite Secretary of Defense Donald Rumsfeld's opposition.[188] Keeping the expensive program funded, however, was an uphill battle when the Democratic opposition in Congress was looking for ways to cut defense expenditure, and Rumsfeld wanted to buy less expensive ships in order to build them in greater numbers.[189]

With the Admiral in his office, Taft called for his legislative assistant on military and transportation matters to join them. When his aide, a 29-year-old former graduate student with a deep interest in military history, entered the room, Rickover characteristically greeted the young man with an insult that was intended to intimidate: "If you weren't working for him [Senator Taft], you'd be nobody."[190] Rickover proceeded to explain why the Navy needed the Strike Cruiser, focusing on the benefits of equipping all of the battle group's key elements with nuclear power. Taft's aide asked about problems that had been reported with the revolutionary new Aegis phased array radar system, the central weapons fire control system for the vessel. Rickover responded that he didn't know anything about the weapons, and another officer would be sent by to talk about that. Senator Taft was shocked by the answer, wondering how Rickover could have shown up expecting to pitch the Strike Cruiser when he knew nothing about its weapons system, the whole reason the ship existed. It seemed as if the navy was building its

[188] John W. Finney, "Ford Backs Navy and Seeks Funds for Atom Cruiser," *New York Times*, 7 July 1975, 51; and Francis Duncan, *Rickover and the Nuclear Navy: The Discipline of Technology* (Annapolis, Naval Institute Press, 1990), 165-169.
[189] John W. Finney, "Rickover Urges More Atom Ships," *New York Times*, 6 May 1976, 31.
[190] William S. Lind, interview by Shawn P. Callahan, 28 October 2019. Interview XXXX, digital recording, Oral Histories Collection, Marine Corps Archives, History Division, Marine Corps University, Quantico, Virginia, and U.S. Congress, Center for Legislative Archives and Historical Office, U.S. House of Representatives, "Military Reform Caucus Oral History Seminar," unpublished draft transcript, 27 June 1992. William S. Lind Papers, Collection 4939, box 31, no folder. Marine Corps Archives. Quantico, Virginia, 7. Hereafter, "Military Reform Caucus Oral History Seminar."

ships around the engine rooms and worrying about what the ship would be used for and how it would fight after the fact.[191]

Rickover apparently didn't catch on to the political danger he faced, because when he testified to the entire Senate Armed Service Committee a few weeks later, Taft asked him about problems with the Strike Cruiser's fire control systems again, and the Admiral gave the same answer.[192] Forewarned but nonetheless unprepared to address Taft's concerns, Rickover lost his best chance to secure funding for his Strike Cruiser because he had not expected opposition. The admiral was accustomed to working in a political environment where, as Taft's legislative assistant later explained, "Republicans voted for whatever the Navy wanted, a few Democrats voted against it, and that was that. Nobody asked the question of whether the proposed ship made any sense."[193] Rickover never expected a Republican senator to oppose the Navy's request, and especially not on the basis of challenging the considered military opinion of admirals. Rickover must have been shocked by the outcome. The SASC voted the Fiscal Year 1977 appropriation for the U.S. Navy $1.7 billion short of its request for new shipbuilding funds, and with the Strike Cruiser deleted.

Senator Taft's efforts to kill the Strike Cruiser program have been identified by one leading reformer as a turning point in Congress's relationship with the military's leadership. It was the birth of acute legislative interest not just in how much money the Pentagon would be given, but what it was using that money for, and whether or not the top brass were making the best choices for national defense. This was occurring as the end of the Vietnam War unleashed

[191] Lind, interview of 28 October 2019, and "Military Reform Caucus Oral History Seminar," 7-8.
[192] Senate Committee on Armed Services, Hearings, Reports and Prints of the Senate Committee on Armed Services, 94th cong. 2nd Sess. Parts 11-13 on S2965, March 9, 11, 15, 17, 19, 1976, pg. 7285.
[193] William S. Lind, "Battle of Rickover Strait," unpublished memorandum, undated. William S. Lind Papers, Collection 4939, Box 32, no folder. Marine Corps Archives, Quantico, Virginia.

long-suppressed civil-military tensions in America. This type of interest in military matters grew over the next decade, and brought together a loose coalition of legislators, journalists, intellectuals, and military leaders who wanted to see a fundamental change in how military strategy and policy was made, with the goal of restoring a more effective system of providing national defense. Indeed, its leaders would even describe it as "the military reform movement."[194]

The story of Taft's confrontation with Rickover illustrates many different factors that fueled this movement. Rickover's influence demonstrated the rise of technocracy and managerialism within the military services and the ranks of the professional military officer corps, fostered by highly quantitative and analytic modes of thinking such as Systems Analysis and Operations Research (ORSA). This in turn signified a corresponding atrophy in the influence of traditional forms military of expertise, founded on the more subjective professional judgment of admirals and generals, officers whose credibility was based on decades of service and achievement. This episode also shows the power of acquisitions programs in the defense enterprise. Though their emphasis on cost effectiveness was meant to increase the rationality of defense policy decisions, when filtered through the defense bureaucracy such forces tended to vex and discourage the rational development of strategy and military policy. Further, it shows the evolving, more interventionist nature of Congress in matters that had previously been regarded as the domain of the professional military. Congressional interest in Army doctrine, described in the previous chapter, was not an aberration, but part of a growing willingness by elected officials to question matters that had previously been regarded as within the discretion of military professionals. All of these factors fueled the military reform movement, making it a

[194] Gary Hart, with William S. Lind. *America Can Win: The Case for Military Reform* (Bethesda, MD: Adler & Adler, 1986), xvii, 4.

critical aspect of the context for the development of maneuver warfare within the United States during the post-Vietnam period. This reform movement provided political pressure for organizational change within the military services. It was also an important source of new ideas, including those that undergirded and promoted maneuver warfare. This political and intellectual context is virtually absent in the existing scholarship on the development of maneuver warfare.

Most accounts of the development of maneuver warfare feature John Boyd as its singular mastermind. This is a fundamental misconception as chapters 4, 5, and 7 will show. With their undue focus on Boyd, these accounts present his association with the military reform movement as a matter of character development. Robert Coram's 2002 popular biography of John Boyd, for example, devotes only one chapter out of thirty-one to the reform movement, serving to reinforce a personality sketch of Boyd as an unorthodox officer who relished challenging the bureaucratic behavior of the defense establishment, and narrow thinking of careerist officers.[195] Grant Hammond's 2001 *The Mind of War: John Boyd and American Security* gives more attention to the subject, devoting one of twelve chapters to an analysis of the reform movement as political context for John Boyd's advocacy. This chapter describes the movement's agenda and assesses its impact, but like Coram privileges John Boyd's role, concluding that "to change the system in any lasting and meaningful way would require a string of John Boyds, all strategically positioned at the right place for a decade or more."[196] Rather than representing the military reform movement as a coherent body of thinking about defense policy- and strategy-making, Hammond's description again serves to highlight Boyd as a genius challenging the status quo. Even those studies which purport to provide a better contextual understanding for

[195] Coram, Robert. *Boyd: The Fighter Pilot Who Changed the Art of War* (New York: Back Bay Books, 2002), 345-359.
[196] Grant T. Hammond, *The Mind of War: John Boyd and American Security* (Washington, D.C.: Smithsonian Books, 2001), 117.

Boyd's wider ideas pay little attention to the military reform movement. Frans Osinga's excellent analysis of the intellectual context for Boyd's work focuses on the postmodern science and theory that shaped Boyd's thinking, but mentions the reform movement and its agenda only briefly, even though he holds Boyd as its intellectual leader and asserts "Boyd's work must be seen and explained as an answer to these challenges."[197] In so doing, these accounts fail to show the important relationship between the military reform movement's ideas and the basis for maneuver warfare.

Even accounts of the maneuver warfare movement which admit to the influence of other thinkers have failed to address that the military reform movement did more than provide political pressure for change, but also provided ideas which were critical to the development of maneuver warfare as an alternative approach to war. One example is Ian Brown's 2018 *A New Conception of War: John Boyd, the U.S. Marines, and Maneuver Warfare* which features the post-Vietnam reform element within the Marine Corps. Brown explains why some Marines were receptive to Boyd's new ideas, especially as promoted by William S. Lind. Brown establishes Lind as a connection between the broader military reform movement and the Marines' maneuver warfare efforts, even allowing "Under the aegis of military reform, Lind had already floated some suggestions to *Marine Corps Gazette* readers on modernization and on mechanizing the Marine Corps."[198] This glimpse is the closest Brown comes to identifying a relationship between the goals and ideas of these two movements, and in the process he misses important context.[199]

---

[197] Frans P.B. Osinga, *Science, Strategy, and War: The Strategic Theory of John Boyd* (New York: Routledge, 2007), 44.

[198] Ian T. Brown, *A New Conception of War: John Boyd, the U.S. Marines, and Maneuver Warfare* (Quantico, VA: Marne Corps University Press, 2018), 152.

[199] This is surprising because Brown recognized that underappreciation of the reform context for the maneuver warfare movement continued to undercut attempts to institutionalize maneuver warfare doctrine within the Marine Corps at the time he was writing (see Brown, 184). Indeed, Brown's failure to distinguish the broader military reform movement from Marine maneuver warfare efforts left his readers with only a vague awareness of this important context, and exemplifies the very ignorance he deplores.

Studies which focus on John Boyd and maneuver warfare, then, treat the military reform movement more as context for Boyd's character or a political force conditioning the acceptance of his ideas, rather than a political-intellectual countercurrent which impelled the development of maneuver warfare and provided an infusion of important ideas.

The latest work which attempts to provide context for Boyd's theory and the thinking behind maneuver warfare is Antulio Echevarria's 2021 *War's Logic: Strategic Thought and the American Way of* War. Echevarria devotes an entire chapter to "John Boyd, William Lind, and Maneuver Theory" but his explanation fails to recognize the military reform movement as promoting a body of thinking about war and defense policy that engendered maneuver warfare, a new approach to the conduct of war. Instead, Echevarria focuses on the sociopolitical context. Rather than seeing Boyd and Lind as part of a group of critics reacting to policy failures, Echevarria highlights the social conflict and "malaise of the post-Vietnam era," and concludes Boyd and Lind were developing ideas more in reaction to their perceptions of "wide-ranging evidence of social decline, driven largely by their ultraconservative worldviews."[200] He fails to explain any connection between maneuver warfare and their alleged social conservatism.

One might expect that political scientists who study the development of maneuver warfare using models of exogenous change to be particularly sensitive to the importance of external ideas, but this has not proven to be the case. Terry Pierce's 2013 *Warfighting and Disruptive Technologies: Disguising Innovation*, does more than any other work to feature the role of military reform advocates in developing and promoting maneuver warfare. This is probably because one of Pierce's principal sources on the matter is his unpublished interviews and correspondence with Lind. Pierce identifies that Lind coined the term "maneuver warfare"

[200] Antulio J. Echevarria II, *War's Logic: Strategic Thought and the American Way of War* (New York: Cambridge University Press, 2021), 173, 192.

and argues that Boyd also played an important part in developing maneuver warfare as a concept. Pierce sees civilian intervention as a major factor not just in promoting change, but also in interjecting new ideas. The problem, however, is that he treats maneuver warfare as a fully-formed concept promoted by the reformers, tested by the Marines of General Gray's 2d Marine Division, and adopted by the Marine Corps as service doctrine once Gray became Commandant.[201] As a political scientist, Pierce focuses more on the process of organizational change than tracing the emergence and evolution of new ideas and their transformation into doctrine.[202] Most histories of Army doctrinal change in the same period also tend to focus on organizational concerns such as how doctrine evolved, without considering why certain ideas were adopted, modified, or rejected.[203] Collectively, then, the few studies which do examine doctrinal change in the U.S Army and Marine Corps in this era, concentrate on the organization's acceptance or rejection of maneuver warfare as a part of the military reform movement's agenda, as if it was a binary choice. In so doing, they do not consider the way the soldiers and Marines were shaped by the new ideas to greater or lesser degrees, and shaped those ideas in return. This reflects the practical orientation of the official army historians and political scientists who authored them.

The existing scholarship on the development of maneuver warfare, then, focuses on the military system. Though some accounts occasionally address the influence of external agents like Lind, all neglect the broader intellectual and political context, and the way its ideas shaped the concept of maneuver warfare and the way it was debated. This problem can be attributed to

[201] Terry C. Pierce, *Warfighting and Disruptive Technologies: Disguising Innovation* (New York: Frank Cass, 2004), 91-95.
[202] Pierce, 87-91.
[203] The exception is John L. Romjue, "From Active Defense to AirLand Battle: The Development of Army Doctrine 1973-1982" (Fort Monroe, VA: Historical Office, U.S. Army Training and Doctrine Command, 1984).

the absence of any comprehensive scholarly treatment of the military reform movement. The only book-length works on this specific topic are products of contemporary analysis, such the essays compiled in *The Defense Reform Debate: Issues and Analysis* (1984) by Asa Clark, or actual promotion of the movement, such as *America Can Win: The Case for Military Reform* (1985), co-written by the movement's most active political leaders, William S. Lind and Senator Gary Hart. The only retrospective book-length work is *The Pentagon Wars: Reformers Challenge the Old Guard* (1993), written by one of Boyd's Acolytes, James G. Burton. Each of these authors was directly involved in the military reform movement, so the primary value of these books is as primary source evidence.

Other than these accounts, the specific topic of the military reform movement has only been addressed by two shorter works. Though they benefit from a degree of detachment, both of were also contemporary. The first was a thesis written by two Naval War College students, Majors Peter Chiarelli and Raymond Gagnon, Jr. in 1985 titled "The Politics of Military Reform." This paper focused on the interests, strategies and political power of the military reform movement but not its ideas.[204] It reflects the military services' tendency to be more concerned with impingements on their policymaking freedom of action than the merits of the new ideas being proposed. In so doing, it validates a primary critique made by the reformers about military bureaucracy. The second was political scientist Daniel Wirls's 1991 *Armed Forces & Society* article "Congress and the Politics of Military Reform," which analyzed the political efforts of the Military Reform Caucus, and the waxing and waning of its influence.[205]

[204] Peter W. Chiarelli and Raymond C. Gagnon, Jr. "The Politics of Military Reform." (Newport, RI: Center for Naval Warfare Studies, Naval War College, 1985), iii.
[205] Daniel Wirls, "Congress and the Politics of Military Reform," *Armed Forces & Society* 17, no. 4 (Summer 1991), 487-512.

Reflecting the very practical orientation of these studies, interest in the military reform movement ebbed with the decline of its caucus in the 1980s. This is evident even in official congressional histories. In 1992, the Center of Legislative Archives conducted an oral history interview of the Military Reform Caucus's leading thinkers, but the transcript was never edited for publication, nor was an official history of the Caucus written.[206] Without a comprehensive scholarly treatment, and little care taken even in the preservation of primary sources, the military reform movement is an underappreciated factor in studies of Cold War strategy and military policy matters. Though, as this chapter will show, it was a major force in politics, the press, and the Pentagon, the military reform movement is not even mentioned in respected works such as Julian Zelizer's 2010 *Arsenal of Democracy: The Politics of National Security From World War II to the War on Terrorism*. In summary, the lack of a serious academic treatment of the military reform movement leaves today's researchers with little to understand it as a critical element of intellectual and organizational context for the maneuver warfare movement.

This chapter addresses that deficiency in the existing scholarship by analyzing the military reform movement and its political wing, the Military Reform Caucus, to provide the reader with critical context for understanding the development of maneuver warfare—their motivations, their waxing and waning influence in politics and over the military, and their ideas, including those which would gain traction through a small number of their intellectual leaders interacting with Marines and the Marine Corps. Where Chapter 2 addressed the strategic, intellectual, and defense policymaking context in the decades following the Vietnam War, this chapter shows the military reform movement to be a reaction to those forces. Just as in this period policymakers identified a new set of strategic challenges, and a complex set of problems

[206] Military Reform Caucus Oral History Seminar, cover letter.

for the U.S. military services to address, they were handicapped by systems analysis and the prevailing modes of thinking which remained a powerful cultural influence in defense policymaking. As Chapter 2 showed, the U.S. Navy was particularly challenged to deal with the need for renewed strategic and doctrinal thinking. Meanwhile, the U.S. Army in the post-Vietnam era saw a need for deep doctrinal reform, and involved the military reformers and maneuver warfare advocates, it remained resistant to their ideas. This chapter will explain the military reform movement as a reaction to the strategic challenges of the 1970s and 1980s, and the failure of the Pentagon and military services to react to those challenges effectively. In so doing, this chapter presents the military reform movement as a reaction to the Pentagon *status quo*, as a pressure for change, and as a coherent body of thought about defense policy and strategy that became a source of new, countervailing ideas, including maneuver warfare.

**The Origins of the Military Reform Movement**

Each of the military services reacted to changes in foreign policy and strategy, the rise of Pentagon managerialism, and its own interpretation of strategic imperatives based on its own unique culture and experiences. These were all reactions by the national defense establishment. In the final years of the Vietnam War another force emerged which would dramatically shape the maneuver warfare movement. Indeed, even if it had a limited impact on the defense bureaucracy as a whole, it was this military reform movement initiated by civilian intellectuals which generated the very ideas that would ultimately be known as maneuver warfare. Though this movement led to the formation of the Congressional Military Reform Caucus in 1981, its precise origins are unclear, except that they involved a small group of people dissatisfied with the status quo of the Pentagon bureaucracy and its interaction with Congress.

In most respects, congressional intervention in military strategy and policy during the Vietnam War came in two forms. The first line of questioning was strategic, concerning why the war was being fought and whether there were wiser and more legitimate uses of American blood and treasure. This was exemplified by the Fulbright Hearings held by the Senate Foreign Relations Committee between 1966 and 1971. The second line of questioning concerned an interrelated issue: how the war was fought, manifest in congressional inquiries into matters such as the My Lai massacre. Together, these resulted in assertions of congressional power, most notably the War Powers Act of 1973. With the end of the war, congressional involvement in military affairs tended to focus on fiscal matters, and, within that, the bottom line of managing the total expenditure on defense. The major impact of military spending was its cost, and congressional interest focused on determining the most acceptable, cost. For those legislators truly interested in maximizing the national defense achieved by a given amount of tax dollars spent, this could be a difficult proposition, for the Pentagon and military services had armed themselves with legions of apparently hard facts" though the discipline of systems analysis. As Senator Gary Hart would later recount, "The trouble with Congress, is that we get trapped into looking at military matters in a quantitative, rather than a qualitative, way. We let ourselves get sucked into arguing on the admirals' and generals' terms, and we always lose."[207]

There were, of course, exceptions. One prominent participant in the military reform movement actually places the start of that movement with the incident described at the beginning of this chapter, when in 1976 Senator Robert A. Taft, Jr. questioned the underlying rationale for Admiral Rickover's nuclear cruiser program, rather than just supporting or rejecting expenses based on military recommendations. Though Taft had served in the navy from 1942 to 1946, and

[207] Fallows, 59.

had become a member of the Senate Armed Services Committee, this did not provide sufficient knowledge to take on Rickover's nuclear shipbuilding agenda. Such a challenge was possible because the Senator employed a legislative aide who was knowledgeable on such matters, William S. Lind. With this kind of expertise, Taft was equipped with the right questions to ask, exposing the contradictions generated by the Navy programming bureaucracy, such as designing a warship around a propulsion system while leaving its weapons systems to be a secondary concern.

Lind, the central subject of chapters 4 and 6, was a former graduate student in European military history who had been hired onto Taft's staff in October 1973 to handle the Senator's transportation portfolio. He quickly proved his value as a military analyst, especially after Taft became a member of the Senate Armed Services Committee in 1974. Being a congressional staffer for a member of this influential committee gave Lind access to the military, which he then used to deepen his expertise, to the point where he enabled Taft, a former Navy man, to emerge as a leading voice proposing alternatives to establishment policy. In March 1976, Taft published a paper ghost-written by Lind called the "White Paper on Defense: A Seapower Strategy for the United States." Taft's White Paper was significant because it had proposed a fundamental revision of U.S. strategy to reduce the large U.S. forces stationed forward in Europe in favor of building naval power, which would assure use of the sea for trade and for projecting mechanized land forces in support of allies facing crises.[208] The proposal was widely published and serious enough to warrant a letter in response from Secretary of Defense Donald Rumsfeld, but its actual effect on defense policy was limited.[209] Within a year the Carter administration began its term

[208] Frank Kane, "Taft Asks Realignment of U.S. Defense Forces," *Toledo Blade*, 16 March 1976, 2.
[209] Donald Rumsfeld, Secretary of Defense, to the Honorable Robert Taft, Jr., 7 April 1976. William S. Lind Papers, Collection 4939, unnumbered box at shelf location C/7/L/5/3, no folder. Marine Corps Archives. Quantico, Virginia, 1-2.

with a commitment to limiting defense spending, and reacted to the worsening correlation of forces in Europe by building up land and air forces at the expense of naval forces, relegating them to a defensive sea control role. Taft's White Paper remains significant, however, as it marked an increasingly active role for civilian intellectuals, acting through Congress, as advocates for coherent policy alternatives during this era. Lind was just one member of this growing community of defense intellectuals. Lind's development of Taft's White Paper was supported by Norman Polmar, a highly respected U.S. expert on naval affairs from that time until the present day. Other prominent members of this defense intelligentsia were Jeffrey Record, Steven Canby, and Edward Luttwak.

Jeffrey Record served as a civilian pacification advisor during the Vietnam War, then earned a doctorate in International Relations from the Paul H. Nitze School of Advanced International Studies at Johns Hopkins University. From 1973 to 1976 he was a research associate at the Brookings Institution, after which he served as a legislative assistant for National Security Affairs to Senator Sam Nunn for four years. After this, he became a Senior Fellow at the Institute for Foreign Policy Analysis in 1980. Record's work for Congress, directly helping legislators understand military issues and ask penetrating questions, thus playing a similar role to that of Lind. They, in turn, interacted with another subset of civilian experts in military affairs who were not directly associated with Congress, to include Canby and Luttwak.

Steven L. Canby was a graduate of West Point who served in Germany and then in the Army's Infantry School developing doctrine. He left the Army to earn a PhD at Harvard, then worked as a defense analyst for RAND, writing studies of U.S. and NATO military manpower, strategy, and force structure between 1969 and 1973. After that he moved to Washington to work as an independent consultant specializing in NATO military matters. Canby eventually

teamed up with Edward Luttwak to form C&L Associates, a two-man consulting firm, jointly producing reports such as "The Defense of Korea: New Approaches" (1978).

Edward Luttwak, whose 1979 critique of the Navy as a priesthood of ships is featured earlier in this chapter, had been born in Romania and educated at the London School of Economics. His studies in London brought him into contact with influential people such as Richard Perle. Together they joined a Washington think tank put together by Dean Acheson and Paul Nitze known as the Committee to Maintain a Prudent Defence Policy. From 1972 to 1975 Luttwak completed his PhD in International Relations at Johns Hopkins University, after which he taught at Johns Hopkins and Georgetown, becoming a Senior Fellow in Georgetown University's Center for Strategic and International Studies. Luttwak's emphasis was on promoting grand strategy, and this complemented Canby's focus on tactics, operations, and military policy within their consulting effort.

The backgrounds of Lind, Record, Canby, and Luttwak show some common features. They were prepared through rigorous academic training, shared common professional interests, interacted, and were aware of each other's work.[210] They also functioned largely as adjuncts to the formal system, receiving no financial support from the Pentagon except for the years Canby worked for RAND. Their ideas were sometimes used by Congress, the Department of Defense, and private enterprise. Their primary value was carried out without fiscal support or direction

[210] Copies of Canby's 1972 "Can the Pentagon Be Harnessed?" and 1979 "The Soviet Operational Method for Armored Warfare: Rigid or Flexible," for example, are both in Lind's personal papers, indicating the Canby's research and writing was developing in parallel with Lind's interests. Luttwak wrote several studies in this period that were sympathetic to Lind's thinking, such as *The Strategic Balance* (1972), *The Political Uses of Sea Power* (1974), *The Israeli Army: 1948-1973* (1975), and *Strategic Power: Military Capabilities and Political Utility* (1976).

from the Pentagon. As a result, their analyses were not compromised by needing to please their customers, and their ideas were thus for the most part accepted or rejected on their merits.

The work of those outside the Pentagon system was paralleled by that of a very small group working within the system, largely as technical and tactical experts. The most important group was found within the Office of Program Analysis and Evaluation (PA&E) within the Office of the Secretary of Defense. This organization had originally been formed under Secretary of Defense McNamara as his Systems Analysis office in 1961. Though it was rebranded after his departure, its function remained to vet the acquisitions programs of each of the military services to ensure the best use of defense dollars. One of the places where PA&E did work well to provide independent analysis from within the system was in its Tactical Air Program, also known as the "TacAir Shop." The TacAir Shop was responsible for reviewing the fighter and attack aircraft programs of the Air Force and the Navy, and the Lightweight Fighter Program initiated in 1971 illustrates its role.

In order to understand the history of this program, and the way it illustrates the problems in U.S. military aircraft procurement and the role of the TacAir Shop in mitigating these problems, some background is required. In the late 1960s the U.S. Air Force was focusing on development of the Fighter Experimental (F-X) program, which would eventually yield the F-15 air superiority fighter. A small segment of the uniformed and civilian development community argued against this program due to the aircraft's complexity, size, and weight, advocating instead that the Air Force focus on developing smaller, more agile, and less expensive lightweight fighters in higher numbers. The TacAir Shop was instrumental in securing funds to explore this alternative. Under TacAir stewardship and SecDef patronage the lightweight fighter project survived the objections of Air Force, which considered it a threat to the success of the F-X, until

in 1972 a contract could be awarded for the development of actual prototype aircraft. By that time it was called the Lightweight Fighter Program (LWF). Of the five companies that submitted proposals, two were awarded contracts: General Dynamics to develop its single-engine YF-16 and Northrup to develop its two-engine YF-17. Simultaneously, the Navy had been working on an experimental multirole (fighter and attack) program known as VFAX. Secretary Defense James R. Schlesinger, seeking to improve the efficiency of acquisitions, and informed by the technical and program advice in PA&E and its TacAir Shop, forced the Navy and Air Force to merge their efforts in a single project. He mandated the LWF program be modified to build a multi-role aircraft to be known as the Air Combat Fighter (ACF), and the Navy VFAX program become a navalized version of the Air Force project. Essentially, with a Congressional mandate to standardize the procurement of expensive weapons systems, it was an attempt to create a joint fighter-attack aircraft program, with the winning design chosen for use by both services after a "flyoff" competition to determine which design was superior. Ultimately the program failed in that objective. The YF-16 proved significantly superior to the YF-17, leading the Air Force to begin procuring the F-16 production versions to complement its F-15 fleet. However, the Navy was able to declare the YF-16 unsuitable for use on aircraft carriers by citing the losses that would occur to engine failure for single-engine aircraft in blue-water operations where there would be few, if any, alternate landing sites. Such naval factors allowed the Navy to adopt the loser in the competition, skirting that technicality by imposing requirements that would allow Northrup to develop a "new" design, the F-18. For the next four decades the Air Force and Navy operated thousands of tactical multirole jet aircraft with similar missions, but two fundamentally different designs.

The intertwined early program histories of the Air Force F-16 Falcon and U.S. Navy F-18 Hornet are relevant for several reasons besides illustrating the role of the TacAir Shop. First, they show the complex political dynamics between Congress, the Department of Defense, and the military services, and the power of the service bureaucracies to resist the reform efforts of the Executive and Legislative branches. Next, they introduce the YF-16/YF-17 flyoff, which Chapter 4 will show has become misunderstood as the origins of John Boyd's OODA concept and maneuver warfare. Finally, they provide an opportunity to introduce the reason the Tac Air shop was as effective at mitigating the vices of the services bureaucracies, to the degree it was: the experts who worked in TacAir Shop who were beholden to the SecDef rather than a military service. One prominent reformer would retrospectively describe this group as "the original center of gravity of the reform movement."[211]

PA&E was populated by a mix of civilian government employees, non-government civilians contracted for work on specific projects, and military personnel seconded from their services to fill joint billets. Here, though an officer might wear an Air Force or an Army uniform and provide a military perspective informed by his military expertise and experience, he was expected to represent Department of Defense interests, at times bringing him into conflict with the leaders of his own service. The TacAir Shop was populated by several people critical to the military reform movement, many with Air Force backgrounds. The clear leader was a former Air Force fighter pilot named John Boyd, the central subject of chapters 4 and 6.

Boyd began his military service by enlisting in the Army when he came of age in the final months of World War II. After training as an aircraft turret mechanic in the Air Corps, he participated in the occupation of Japan. Boyd left the service for college shortly afterwards,

[211] "Military Reform Caucus Oral History Seminar," 32.

studying Economics at the University of Iowa, graduating in 1951 to accept a commission in the U.S. Air Force. He trained as a fighter pilot, and though he didn't arrive in Korea until March 1953, he did participate in numerous early-armistice combat air patrols flying the F-86. In non-combat training flights Boyd quickly developed a reputation for his natural talent, repeatedly defeating pilots with much more experience in mock dogfights. This earned him a seat at the Air Force Fighter Weapons School at Nellis Air Force Base near Las Vegas. Excellent performance there earned him in an invitation to stay on at the school as an instructor, helping fulfill its mission of teaching the best pilots to become better tactical flight instructors. Though he was only a captain with a few years of flight experience, and on his own initiative, Boyd used his time at Nellis to rewrite the way fighter tactics were taught. In 1961, he published his *Aerial Attack Study* essentially rationalizing what had been a "watch, then do," rote mode of conveying skills with little sense for their context or why they worked. Boyd did this by developing a scientific approach to competitive aerodynamics, using mathematics to explain how various maneuvers brought about the positional advantages that would allow one fighter to get a shot at its opponent.

With such an achievement, Boyd was a prime candidate for returning to an operational fighter squadron when it was time for his next assignment. Instead, he requested permission to return to school. Rather than moving on to graduate studies, he received permission to work on a second bachelor's degree, this time in thermodynamics at the Georgia Institute of Technology. While studying there Boyd came to the realization that fighter combat could be viewed as more than a positional contest between two aircraft; he envisioned it also as a dynamic contest in exchanging potential and kinetic energy over time to attain a momentary positional advantage. During Boyd's next assignment to Eglin Air Force Base in Florida, again on his own initiative,

he developed his ideas into Energy-Maneuverability (E-M) Theory, a synthesis of thermodynamics and aerodynamics to create a new system for measuring aircraft performance. E-M Theory allowed a deeper understanding of the relative performance differences between two aircraft, which could then be used to identify tactical maneuvers that would exploit advantages. It could also be used to design new aircraft to maximize advantages in particular flight regimes. E-M Theory remains the basis of U.S. fighter tactics and design to this day, but in the 1960's Boyd's revolutionary new approach often put him at odds with Air Force leaders over their existing aircraft programs, which were trending towards heavier, highly-sophisticated aircraft with high price tags. Boyd used his E-M Theory to show the fallacies of these designs, and form a network promoting lighter, more agile fighters known as the "Fighter Mafia." Some reformers came to see the success of this "underground real activity" within the Pentagon as an early example of what could be accomplished, and an inspiration for further reform efforts.[212] For Boyd, these machinations to compel Air Force acquisitions to explore and develop alternative aircraft designs earned him the ire of senior leaders in his own service, but after he retired in 1975 it also secured him a civilian position in the TacAir Shop, where he could continue that work with Department of Defense sanction.

Though, as Chapter 3 will show, Boyd's personal interests lead him to an ever-deepening inquiry into the nature of human conflict, he remained a strident advocate for rational oversight of the military services' aircraft programs, in many respects fulfilling McNamara's original vision for Systems Analysis. His position in PA&E TacAir Shop provided him with the authority to help control the single most expensive aspect of the defense budget, for when the tactical aircraft costs of the individual services were amassed, they exceeded the costs of

[212] "Military Reform Caucus Oral History Seminar," 34.

strategic, ground, and naval surface forces.[213] Boyd's impassioned personality and devotion to this cause also attracted a following of Pentagon insiders who were attempting to counteract the defense bureaucracy's excesses. Robert Coram's biography of Boyd identifies six men who became so important to Boyd's ongoing work that they became known as his "Acolytes": James Burton, Thomas Christie, Raymond Leopold, Franklin Spinney, Pierre Sprey, and Michael Wyly.[214] All except Wyly, the Marine in this group acutely interested in maneuver warfare, worked with Boyd on aircraft programs or as a result of his position in the Tac Air Shop. Most had been given Boyd's "To Be or to Do" speech in which he told them each they had reached a moral crossroads, and had to choose between career success or making a real impact on what counted, ending with the question, "Do you want to be part of the system or do you want to shake up the system?"[215] All answered Boyd's challenge, but the most publicly conspicuous demonstration of that was made by Franklin Spinney.

"Chuck" Spinney was an engineer who joined the Air Force in 1967 and helped analyze aircraft losses over Vietnam. His performance in that role earned him an Air Force assignment to the Florida Institute of Technology to earn an MBA, then to the Pentagon in 1972 to serve on the Air Force Deputy Chief of Staff's research and development team. This is where Spinney came to work with Boyd, who was then in his final years of active duty, arguing for the lightweight alternatives to the Air Force's high-end fighter programs. Spinney left active duty in about the same time as Boyd, in 1975, though he was considerably younger and more junior in experience and rank. He began working for a defense consulting firm, but was so impressed by Boyd that when the newly-retired colonel began working in PA&E, Spinney quickly accepted an

[213] Steven L. Canby, "Tactical Air Power in Armored Warfare: the divergence within NATO," *Air University Review* 30, no. 4 (May-June 1979), 3.
[214] Coram, 474.
[215] Coram, 340.

invitation to join him.[216] Acting in his official capacity within PA&E, Spinney became most famous for a research report titled, "Defense Facts of Life: The Plans-Reality Mismatch." This report, which was first assembled in 1979, but which he refined throughout his time in the Pentagon, was critical of the basic assumptions in defense procurement planning, which he argued was producing weapons which were extremely expensive, but ultimately ineffective. Presented in a three-hour brief full of substantiating charts and graphs, Spinney and the "Defense Facts of Life" would come to play a central role in the military reform movement. Its mention here illustrates that Boyd was gathering a team of experts within the defense establishment that were both dedicated to fundamental reform, and equipped with the analytical skills to expose the logical fallacies and false assumptions of the Pentagon and service bureaucracies.

These three groups of civilian experts (those involved with Congress, the independent analysts, and the Pentagon analysts) were co-involved in their interests and functions. Each individual and group was seeking to rationalize defense decision-making. As such, they shared some common themes. While placing great value on fact-based decision-making, they acknowledged the limits of quantitative analysis, and saw that it had pernicious effects. First, they recognized that while the application of business methods was intended to increase the effectiveness of the defense acquisitions process, it had produced flawed hardware was unsuitable for battlefield use. Examples they cited included some of the precision munitions acquired in this era. Optically-guided antitank missiles and semi-active radar-guided air-to-air missiles did increase the firepower and effectiveness of a soldier or pilot, but guiding such weapons all the way to target impact also required the shooter to expose himself to enemy fire for an unacceptably long period of time.[217] Revolutionary weapons that required suicidal tactics

[216] George Church and Christopher Redman, "Pariah at the Pentagon," *Time* 121, no. 10 (7 March 1983), 28.
[217] Fallows, 61.

were just one way "apparent rationality—of bang or the buck, or the body count—can lead to real irrationality" in the words of one critic.[218] Besides failing in its goal of obtaining a more effective force, ultimately, the emphasis on professional management had, in the opinion of critics, given rise to a whole class of defense policymakers with disproportionate influence in military policy and strategy. They saw this as a new center of power within the Pentagon and policy community. Worse, this new power center was not accounted for in the tripartite system of government established by the Constitution, and elaborated through laws such as the National Security Act of 1947 establishing the Department of Defense and formalizing the Joint Chiefs of Staff. The Vietnam War, meanwhile, seemed to have brought these formal structures to a point of dangerous dysfunction, as poignantly documented by H.R. McMaster's 1997 *Dereliction of Duty: Lyndon Johnson, Robert McNamara, the Joint Chiefs of Staff, and the Lies That Led to Vietnam*. The result was an atrophy of professional military influence in strategy, and a decline in strategic and operational thinking by officers who were focusing on the managerial processes of manning, training, and equipping the military services.

If managerialism was a particular leadership approach represented by the preferences and behaviors of individual leaders, its institutional manifestation was a particular organizational culture that both reflected and reproduced these preferences and behaviors. It was also complemented by a particular organizational structure: bureaucracy. Just as anti-managerialism was a common theme amongst the reformers, so was anti-bureaucratism. In an article titled "Bureaucratic Tactics" Lind explained, "in peacetime, military services tend to develop a number of routine, standard operations procedures, requirements and organizational habits that have little or no relationship to military effectiveness."[219] In another article about the same time he

[218] Fallows, 61.
[219] William S. Lind, "Bureaucratic Tactics," *Air University Review* 31, no. 2 (January-February 1980), 88.

explained that these intra-institutional factors "reflect not the objective purposes of and obstacles facing the service—such as mission and threat—but rather the parochial interests and outlooks of groups or individuals within the organization."[220] As a result force structure in the Army and Navy seemed to be disconnected from operational doctrine.

The common assumption undergirding managerialism and bureaucracy was that complex problems could be solved, or at least understood substantially better, by deconstructing them into their constituent parts and mastering the minute details of those parts. Surely, this required a degree of coordination between the various component activities, and this was represented by centralized control systems. The reformers tended to reject these assumptions. The corrupting effect of reductive decision making seemed most evident in acquisitions that designed and bought sophisticated weapons that were impractical or were otherwise unsuitable to their purposes, but the reformers feared that it would also undercut the way the services fought. They had good reason to believe this was often the case. General William DuPuy's efforts to solve the problem of fighting outnumbered and winning, Active Defense, was based on his long faith in this approach to problem solving. The reformers, however, considered such reductive analysis simplistic, as the only solution it offered to fighting a numerically superior enemy was to destroy more of his forces faster than that adversary could destroy U.S. and allied forces.

Chapter 5 will show that during this period Lind developed the concepts of attrition doctrine and maneuver doctrine as a way of explaining how the U.S. Army needed to abandon its focus on incremental physical destruction. He saw this approach as underestimating the complex nonlinear nature of warfare, where intangibles such as leadership, training, and cohesion could be more important than numbers, even if they were much harder to quantify and discretely

[220] Lind, "Military Doctrine, Force Structure, and the Defense Decision-Making Process," 25-26.

analyze. This explains why the reformers, even those who had no direct interest in land warfare, tended to be attracted to maneuver warfare. Maneuver warfare seemed to offer a way of destroying the coherency of an enemy force, rather than the dubious proposition on trying to attrite superior numbers through piece-by-piece destruction. Chapter 5 will further show while Lind was rebuffed by the Army, he found the Marine Corps willing to experiment with these ideas, even if it required political pressure to force it to do so. In the process of seeing a military service struggle to incorporate these ideas Lind discovered that much more comprehensive organizational reform was required--simply changing doctrine would not be enough. Bureaucracy, rather than strategy and doctrine, was driving force structure and buying ineffective hardware—it would not be enough to force a better solution on the services one problem at a time. The pernicious effects of managerialism and bureaucracy were eroding military professionalism and the decision-making skills that would be required to actually implement strategy and employ a service's hardware in war. Just as the problem was interrelated and systemic, the remedy would have to be a holistic one, and the different threads these critics developed would have to be brought together in some coherent form, and then given political weight, if they were to have any chance of reforming the system. As Lind later recounted,

> It was becoming clear to me by the later seventies, 1978-1979, that what we were talking about here was so comprehensive as to constitute what has been called historically "military reform." The strong parallel I saw particularly was to the Scharnhorst reforms of Prussia after Prussia's defeat by Napoleon.[221]

Lind's claim that the cause of military reform was so comprehensive as to warrant comparison with the Scharnhorst reforms was bolstered by the active participation of another group within the military reform movement: uniformed servicemembers. These reformers were not organized in any way, but consisted of many individuals serving the Secretary of Defense or

[221] "Military Reform Caucus Oral History Seminar," 13-14.

within each of the military services. They represented all ranks, but tended to come from the lower levels of the officer corps, up through the grade of commander in the Navy, and lieutenant colonel in the other services. Hart and Lind felt that the active duty reformers were actually the most important element of the reform movement, for the movement's goal was to "create an ongoing, self-renewing process of reform within the armed services," after which there would really be no need for a civilian reform movement.[222] Likewise, Hart and Lind were careful to point out that these uniformed reformers were not dependent on civilian thinkers, or merely reacting to their external stimuli. They included some very capable minds, but often remained anonymous to work within the system for change, rather than highlighting themselves to become branded as rebels or subversives.[223] Many of the Marines involved in the maneuver warfare movement fit this description. Others, such as Colonel Michael Wyly, were more vocal in their criticisms and vigorous in their activism, and were censured because of it.

Yet another example is Air Force Lieutenant Colonel James Burton, who became so closely associated with Boyd while working in the Pentagon that he was later credited as another of Boyd's six Acolytes. Burton came to realize that the Army's Bradley Fighting Vehicle program was fundamentally flawed, and the Army was rigging performance tests to keep it on track, despite design defects that would leave U.S. soldiers with an inadequate weapons system that cost taxpayers a massive expense. Challenging the Bradley meant exposing the oversight system in the Pentagon that had let this $10.6 billion program get so far off track. As a whistleblower on such an expensive program, Burton quickly came to the attention of Congress, where he was called to testify. His observations helped in the passage of legislation restricting

[222] Hart and Lind, *America Can Win*, 11-12.
[223] Hart and Lind, *America Can Win*, 11-12

the test program, but Burton was maneuvered into an early retirement by the Department of Defense.

Being a vocal reformer meant real career risks, as Boyd had warned so many officers with his "To Be or to Do" speech. The common theme of the uniformed reformers, whether they remained behind the scenes or stepped forward to publicly challenge the system, is that all were ultimately loyal to the institutions they served within, even if service leaders questioned that loyalty because it appeared to conflict with the status quo or specific agendas. The military expertise of these uniformed reformers and the extreme commitment some of them demonstrated in public displays of patriotic institutional loyalty bolstered the credibility of the reform agenda and attracted attention to the cause.

Outsiders began to perceive the coalescing of these reform interests. James Fallows, a Rhodes Scholar who served as President Carter's speechwriter before becoming the Washington editor of *The Atlantic* magazine in 1979, made this the subject of one of his first investigative efforts. Observing the debate over military spending going on at the time, he noticed "critics on both sides—those who would spend more and those who would spend less—share a nervous concern that the nation's military security is inadequate, and some experts fear that the United States has become shackled to high technology that may fail when put to the ultimate test."[224] After extensive research that put him in contact with Boyd, Lind, former Chief of Naval Operations Admiral Elmo Zumwalt, and a host of others in the defense community, Fallows wrote the 20-page cover story for the October 1979 *Atlantic* titled, "Muscle-Bound Superpower: The State of America's Defense." This article was later identified by Boyd as "the first public

[224] Fallows, 59.

disclosure of the reform movement."[225] This indicates that others began to think of these efforts as a coherent movement with common interests, even if they had not formally organized yet.

This nascent military reform movement had already had some influence. There is some evidence General Edward Meyers, who became the Chief of the Staff of the U.S. Army in June 1979, took an interest in the reformer's ideas, including their harsh critique of FM 100-5 of 1976, and this may have been one of the factors that led the Army to develop AirLand Battle in the 1982 version.[226] Chapter 5 will also show that William Lind succeeded in prompting the Marine Corps to experiment with mechanization in this time period. In the end, though, these successes were episodic, and unlikely to yield comprehensive reform. As one analyst told Fallows, "You hear a lot about the defense lobby. It's true that the aerospace industry is out of control. But I will tell you this: there is no smaller lobby in this nation than the lobby for real defense."[227] If these different groups and individuals interested in reform constituted a military reform movement, to have any real systemic impact they would have to organize and leverage legislative power, presenting the opportunity to shape defense matters through direct legislation and the power of the purse.

**The Congressional Military Reform Caucus**

It was the Congressional element that gave these interest groups leverage, and imparted a much greater degree of coherency to their efforts, at least for a time. There may have been some opportunity, even before a caucus was formed in 1981, to generate a bipartisan Congressional effort as these issues got greater visibility. For example, Lind's service as Senator Taft's principal advisor on military matters and his aggressive advocacy attracted the attention of other

[225] "Military Reform Caucus Oral History Seminar," 75.
[226] "Military Reform Caucus Oral History Seminar," 81.
[227] Fallows, 59.

members of the Senate Armed Services Committee, including a rising political star of the Democratic party, Senator Gary Hart. When Taft left the Senate in 1976, Lind became Hart's military advisor, and revised "Taft's" 1976 White Paper as "White Paper on Defense, 1978 Edition: A Modern Military Strategy for the United States." It carried the retired Republican senator's name as author, but added the imprimatur that it was "published in cooperation with Senator Gary Hart."[228] Hart and Lind realized, however, that an overt attempt to force a reform agenda to the forefront before the 1980 elections would result in the issues being captured by party politics and ideology, spoiling the chance for the non-partisan effort it would take to make real change.[229] Consequently, they bided their time until the next election cycle was over. Then, on January 23, 1981, just three days after President Reagan was inaugurated, the *Wall Street Journal* printed an article by Hart under the title "The Case for Military Reform." It was a carefully-timed call to action.

Hart's article pointed out that both of the major parties in the last election had campaigned on the need for stronger defense, but challenged the assumption that significantly increased military spending would necessarily strengthen America's security. Hart argued that it would be necessary to look beyond the size of the budget to enact three basic changes: selectively spending more on defense, allocating funds to more innovative weapons and programs, and reexamining basic defense doctrine and concepts. The first two issues did not require much explanation, but the last took up about half of the article. The language closely mirrored Lind's arguments of this era, suggesting that the article was ghost-written by Hart's aide. It explained the difference between attrition warfare and maneuver warfare, and called for

[228] Robert Taft, Jr. "White Paper on Defense, 1978 Edition: A Modern Military Strategy for the United States, " 15 May 1978. William S. Lind Papers, Collection 4939. Unnumbered box at shelf location C/7/L/5/3, No folder. Marine Corps Archives, Quantico, Virginia, cover.
[229] "Military Reform Caucus Oral History Seminar," 13-14.

replacing the emphasis on management skills in military education and promotions with serious attention to military history and theory. It also singled out the Marine Corps for praise as the only military service which had not replaced a healthy "corporative" model of holistic decision-making with a bureaucratic model where specific decisions were narrow, isolated from overall organizational goals, limiting "the ongoing process of change and adaptation which must characterize an effective military."[230] This shows that, at least in 1981, when military reform was about to expand into a much broader movement and a defined political coalition, the Marine Corps had a very different relationship with the reformers than the other services, one where it stood to benefit from cooperation with the reformers.

Ultimately, Hart's *Wall Street Journal* article was a public appeal to broaden the reform movement in order to enact substantive change, concluding

> Military reform presents a difficult challenge to the new administration. But it also offers an enormous opportunity. It offers a new basis for something we lost in Vietnam—a genuine national consensus on defense. There is nothing ideological about the issue. It is a task in which liberals and conservatives can join. It will indeed require a joining of those who have differed in the past. But if we are willing to think new thoughts, and see today's problems in the light of present realities, not as reflections of debates long past, it can be done.[231]

The first Member of Congress to reach out in response to Hart's public challenge was Republican Congressman G. William Whitehurst of Virginia.[232] Whitehurst was a conservative and a member of the House Armed Services Committee. As they began recruiting others to their cause, Hart and Whitehurst formally organized the new coalition as the Congressional Military Reform Caucus, with themselves as co-chairmen. They chose not to pursue recognition as a formal caucus, which meant rather than having its own paid staff, office, and membership

[230] Gary Hart, "The Case for Military Reform," *Wall Street Journal*, 23 January 1981, 20.
[231] Hart, 20.
[232] Timothy P. Malinshenko, "Congressional Dynamics of the Military Reform Caucus," *National Contract Management Journal* 21, no. 1 (Summer 1987), 23.

requirements, the caucus would be run as an ancillary effort out of the offices of its members. Hart felt this was important because this meant the caucus would not be institutionalized and could remain "amorphous and flexible."[233]

In its first year the caucus met with Secretary of Defense Weinberger, and briefed other Members of Congress on numerous occasions. By the end of the year it had gathered 45 members and formed an executive committee that included some prominent legislators: Whitehurst, Hart, Democratic Representative Norman Dicks of Georgia, Republican Representative Newt Gingrich of Georgia, Democratic Senator Sam Nunn of Georgia, and Republican Senator William Cohen of Maine.[234] The speed with which this group gained traction in Congress is an indicator of how urgent the issues at stake were understood to be from the very start.

When introducing the case for military reform in his January 1981 *Wall Street Journal* article, Hart referred to it as "a cause that has been quietly growing among defense academics and writers, officers in the field and a few elected officials."[235] While the growth of the caucus indicated a rising interest in the cause among Members of Congress, the other constituencies of the military reform movement remained important, especially the intellectual component. Prior to 1981, the interactions between Canby, Lind, Luttwak, and Polmar; and those who had worked closely on TacAir issues, Boyd and Sprey, had been episodic. They were generally limited to the sharing of expertise on specific topics, even as these reformers began to realize they were actually thinking along the same lines. Now as there was an opportunity for real political

[233]Richard Halloran, "Caucus Challenges Defense Concepts," *The New York Times*, 12 January 1982, B8.
[234] John J. Fialka, "'Congressional Military Reform Caucus' Lacks A Budget but Has Power to Provoke the Pentagon," *Wall Street Journal*, 13 April 1982, 56.
[235] Hart, 20.

activism, they understood that any unified political effort would require a coherent intellectual center and consistent access to expertise.

In 1981 Boyd, Canby, Lind, Luttwak, Sprey, and Canby joined each other as a think tank for the military reform caucus the called "the Reform Group."[236] Lind, who had been and would remain the driving agent, was elected President, but Boyd was regarded as the intellectual center of this group, so much so that for a time at least some outsiders referred to it as the "Boyd group."[237] Boyd's "Patterns of Conflict" brief was considered an "intellectual spear point" that "provided a coherent body around which people could rally."[238] Chapters 3 and 5 will show that this brief, which ultimately grew to 243 slides and could take more than an entire day to deliver, was a work-in-progress from 1976 to 1986, and was designed to promote a new way of thinking and fighting. By 1981, it had attracted the attention of congressional staffers and even some Members of Congress, who saw three themes that interested them: the defense procurement system was wasting exorbitant amounts of money, excessive spending was not resulting in more capable weapons systems, and the military was suffering from a dearth of deep thinking, resulting in unimaginative strategy and tactics.[239] As chapters 4 and 6 will show, these were not the central lines of argument in "Patterns of Conflict," but instead part of Boyd's supporting argument and explanation. Nonetheless, these topics garnered the most attention for reform-minded politicians, so much so that in a retrospective interview one member of the Reform

[236] William S. Lind, interview by Shawn P. Callahan, 29 January 2020. Interview XXXX, digital recording. Oral Histories Collection, Marine Corps Archives, History Division, Marine Corps University, Quantico, Virginia. This was not a formally chartered organization, and the draft transcript "Military Reform Caucus Oral History Seminar," 61 records Lind as describing this "the reform group, as we informally called it." Hereafter this dissertation will use "Reform Group" not because this is a proper name, but to distinguish this small organization with is clearly bounded membership from the more generic concept of a reform group.
[237] Jeffrey Hart, "New Theories on Defense," press release, 19 February 1981, King Features Syndicate, New York. William S. Lind Papers, Collection 4939, box 16, unlabeled folder. Marine Corps Archives, Quantico, Virginia, 1.
[238] "Military Reform Caucus Oral History Seminar," 34.
[239] "Military Reform Caucus Oral History Seminar," 55-56.

Group stated that Boyd's brief was "a very pivotal thing for helping the Military Reform Caucus to coalesce."[240] Of note, these three themes were, indeed, consistent with the three themes Hart used in his January 1981 call to action in the *Wall Street Journal*.

Even in its final form, "Patterns of Conflict" was not focused on making a case for military reform; that was not its purpose. In fact, the reformers considered a legislator's willingness to "sit around with some retired colonel for four to six hours hearing a bunch of gobbledygook about what makes countries win wars," "a good acid test as to the initial seriousness of that member of Congress' approach to military reform."[241] Unfortunately, many people walked away from the experience with different ideas about what Boyd was actually arguing. Further, talk about the brief among those who never saw it generated confusion about Boyd's purpose and message.[242] In 1981, when seeking to broaden political support for military reform, the Military Reform Caucus needed a much more concise statement of the problems it perceived in national defense and pathways to remedy them. The Reform Group needed to produce something more focused than "Patterns of Conflict," and more effective for communicating with politicians, people with limited knowledge of issues and little time to spare. Boyd, Canby, Lind, Luttwak, Polmar and Sprey collaborated to develop a 23-slide presentation titled "Military Reform: A Winning Military at an Affordable Price."[243] The brief, does, indeed, show a reorientation from the caucus's original themes of January 1981.

---

[240] "Military Reform Caucus Oral History Seminar," 55.
[241] "Military Reform Caucus Oral History Seminar," 57
[242] "Military Reform Caucus Oral History Seminar," 60.
[243] "Military Reform Caucus Oral History Seminar," 61; and Anonymous, "Military Reform: A Winning Military at an Affordable Price," briefing slides and script, undated. William S. Lind Papers, Collection 4939. Unnumbered box at shelf location C/7/L/5/3, unnumbered and unlabeled manila folder, Marine Corps Archives, Quantico, Virginia, script page 1. Hereafter "Military Reform." Though no author is identified on the slides or in the script, a note later added in Lind's handwriting on the top of the first page of the script identifies the contributors.

First, the Reform Group's pitch brief for the caucus framed the problem by connecting military effectiveness with rising defense costs, stating that many people were concerned with the possibility that the U.S. military could no longer win, and doubted the willingness of the American people to continue to support high defense budgets for a force that might not even be able to win the wars it fought.[244] Consequently, it argued for fundamental changes in the "three building blocks of a successful military: people, strategy and tactics, and hardware." The brief elaborated on these three areas, and their relative importance by explicitly prioritizing them, "People, because wars are fought by people, not by weapons," then "Strategy and tactics, because wars fought without innovative ideas become pointless bloodbaths," and finally, "Hardware, because weapons that don't work or can't be bought in adequate quantity will bring down even the best people and the best ideas."[245] This reflected one of the enduring themes John Boyd expressed in "Patterns of Conflict" over the years, the idea that, "terrain doesn't wage wars; machines don't wage wars; people do, and they use their minds."[246] Now it would be simplified in a mantra that the members of the Reform Group constantly used to remind each other what was most important: "People first, ideas second, hardware third."[247] In this respect then, the construction of the Reform Group's promotional brief was useful in clarifying and focusing the ideas they would use to garner political support, and the way those ideas were expressed.

The Reform Group's brief then went into detail on each of the three building blocks, contrasting the ineffective and costly "business as usual" with realistic alternatives. The first

[244] "Military Reform, script page 1.
[245] "Military Reform," script page 4.
[246] John R. Boyd, "Patterns of Conflict," December 1986, Presentation circa 1986, transcript prepared by Shawn P. Callahan, slide 9. Hereafter "Boyd, 'Patterns of Conflict,' December 1986, 1986 transcript." Subsequent citations to this source will identify the number of the slide Boyd is discussing.
[247] "Military Reform Caucus Oral History Seminar," 143, 158, 162, and 164.

problem with business as usual was that it made hardware the top priority rather than the last. The immense investment in sophisticated hardware was undercutting needed investment in improving people and ideas. Further, investment in high technology systems was imposing requirements on people and limiting ideas. These systems, it argued, forced people to adapt to oversophisticated hardware for narrow purposes likely to work only under ideal conditions, and were likely to "impede rather than enhance people's ability to shape and adapt to change in combat."[248] The alternative proposed was for more numerous, less expensive, and "brilliantly simple" systems, ones that were likely to be effective in a wider range of conditions, and could be adapted for use in a wider variety of ways.[249]

Regarding people, the Reform Group's brief decried the rise of management and bureaucracy which tended to promote efficient managers over combat leaders, tacticians, and trainers. Further, centralized personnel management by distant authority resulted in the frequent rotation of personnel, limiting unit cohesion and the degree of proficiency an individual could attain. As an alternative to this business as usual, the brief suggested investing money to increase training, and reducing the administrative and management burdens that were occupying much of many officers' time. Frequent rotation, it argued, should be replaced by greater unit stability and assignments made at the local level, by the leaders who best understood an individual's talents.

These personnel issues related to the second of the reform movement's three priorities: ideas. Over centralization and a paucity of time for an officer to think about strategy and tactics under business as usual was resulting in slow decision-making and stifling initiative within the lower ranks. All of this was reflected in an attritional style of warfare, one that focused

[248] "Military Reform," script page 17.
[249] "Military Reform," script page 20.

internally on generating firepower to destroy enemy forces piece by piece, rather than outward to exploit weaknesses in enemy systems and disrupt their ability to fight back. As an alternative, decentralization was expected to increase a commander's ability to focus on combat and the enemy, and replace rigid tactics with innovation and maneuver.[250]

This brief and its central ideas—people, ideas, then hardware--were used to recruit legislators to the cause. It was a coherent, carefully scripted set of ideas that uninformed audiences would be unlikely to argue with. While providing specific examples of the faults in the system, such as wastage and ineffective weapons systems, it was also vague in the details about the alternatives, probably purposefully so. The Reform Group also provided a script with the briefing slides, allowing legislators who joined the caucus to give the brief themselves to their constituents and other receptive audiences.[251] The group understood the ideas being expressed would be more persuasive if they came directly from mouths of the politicians in the caucus, rather than depending on presentations by lesser-known experts.

The Reform Group had lofty principles not just in its policy goals, but also for the conduct of its own members. One of the Reform Group's guiding principles was that it was beholden to no group, person, or program because it did not depend on any external funding source. Its members believed this preserved their independence, and understood this refusal to accept fiscal support to be a demonstration of their beliefs about the corrupting effects of "the system," where any hypocrisy on this matter would undermine the legitimacy of their messages. At some point they discovered that one member of their core group, Edward Luttwak, had been paid as a consultant by the manufacturer of the F-18, and was positively endorsing that aircraft.

[250] "Military Reform," script page 19.
[251] "Military Reform Caucus Oral History Seminar," 61.

Consequently, he was ejected from the Reform Group and became *persona non grata*.[252] Hart and Lind even went so far as to completely omit mention of Luttwak in their discussion of this "core group" in their 1986 book, *America Can Win: The Case for Military Reform*.[253] This self-policing by the Reform Group says much about the beliefs of its members and their commitment to that cause.

The Reform Group's brief and the activity of uniformed servicemembers within the military reform movement attracted legislators to the Military Reform Caucus (MRC). The movement's publicity got another boost when in 1981 James Fallows published *National Defense,* a book-length rendition of his 1979 article. When this became a national best-seller, it was clear to politicians that military reform had the public's attention.[254]

The MRC's objectives also evolved over time. Initially Hart and Whitehurst focused the group on promoting doctrinal change and addressing force structure. As the caucus gained steam, they set their sights on cancelling specific weapons systems programs. Congressional opposition arose immediately, including division even within the caucus. For example, Hart's arguments for canceling super carrier programs and forcing the navy to build small-deck carriers were unacceptable to Whitehurst, who represented Virginia's 2nd Congressional District, including the industrial shipbuilding centers of Hampton Roads and Norfolk.[255] Consequently, in April 1982 the caucus's executive committee declared it would not take formal positions on specific weapons systems, but would instead serve in a more informational role, helping Members of Congress understand the issues.[256] Over the next few months, however, the caucus

[252] Lind, interview of 29 January 2020.
[253] Hart and Lind, *America Can Win,* 4-5.
[254] Wirls, 489.
[255] Wirls, 491.
[256] John J. Fialka, "'Congressional Military Reform Caucus' Lacks A Budget but Has Power to Provoke the Pentagon," *Wall Street Journal,* 13 April 1982, 56.

did take an activist role, focusing legislative efforts on amending the Fiscal Year 1983 defense authorization bill to address the reform movement's highest priorities: people and ideas. Hart introduced amendments requiring the services to report on the degree to which they were adopting maneuver warfare, while Nunn promoted maneuver warfare in the National Guard. Other amendments addressed the incorporation of military history in professional military education and required reports on initiatives to increase unit cohesion throughout the DoD.[257] While true to the goal of systemic change the reformers had sought, such achievements were not spectacular and the issues were neither popular nor well understood. This contributed to a fundamental change in direction in 1982 when they were eclipsed by an issue that was spectacular, popular, and easy to understand.

While the interest of the public and most legislators was limited when it came to more esoteric issues like military doctrine and education, this was not the case when it came to the wastage of taxpayer dollars, and a major scandal broke out in 1982. Whistleblowers working with public interest groups such as Dina Rasor' Project on Military Procurement exposed numerous instances of the Pentagon paying exorbitant prices for spare parts to single-source contractors, such as toilet seats that cost more than $700, claw hammers that cost $435, and stool seats for AWACS aircraft that cost more than $1000. The Spare Parts Scandal regularly received front-page press coverage, and was the feature of television exposé on ABC's "20/20" in March 1983. Congress held hearings to get to the bottom of the matter and identify legislative interventions. The growing interest benefitted the Military Reform Caucus, which grew to 56 members during 1982. Lest this be interpreted as a partisan reaction to Republican political

[257] Wirls, 491.

gains or policymaking it is important to note the composition: Republicans outnumbered Democrats (33 to 23) indicating that it remained a truly bipartisan effort.[258]

The Military Reform Caucus began to evolve, for as its membership grew its focus shifted. In 1983, Representative Whitehurst asked Republican Representative Jim Courter of New Jersey to take over as the caucus's House chairman. Senator Hart gave up his co-chairmanship to Republican Senator Nancy Kassebaum of Kansas to begin his campaign for the Democratic nomination for the 1984 presidential elections. Hart and Whitehurst had focused more on force structure and promoting new ideas like maneuver warfare, and used the caucus as an educational forum to build support rather than a legislative tool.[259] Under Kassebaum and Courter, the caucus was more aggressive in confronting "the establishment" over hardware programs and budgets.

One example of the caucus's power in such matters can be seen in the controversy over a study produced by PA&E in 1982. Franklin Spinney led a team to update his "Defense Facts of Life" report, analyzing 119 weapons programs between 1976 and 1982. They determined that the Department of Defense consistently underestimated the costs of its weapons programs, making huge outlays up front on the promise that unit costs would go down once large-scale production began. In reality, they pointed out, the development of weapons systems was typified by constant design changes, and this combined with other factors to dramatically increase costs over time. As a result, even under the massive spending of Reagan's $1.6 trillion military buildup, the U.S. would not be able to purchase the defense the Pentagon said it needed, falling short by as much as 30%. This made the procurement problems about much more than saving

[258] Malinshenko, 24.
[259] Wirls, 490.

money, for as Senator Charles Grassley put it once the analysis was made public, "Not only do we have a budget problem, but a major problem of national defense."[260]

With this frightful new bottom line, the "Defense Facts of Life" attracted a lot of attention within the Pentagon in 1982, but within a week of starting to give the brief Spinney was told to stop the briefings and drop the project. When one caucus leader asked to be briefed, the Pentagon refused to make Spinney available, even after the senator went to the Pentagon to demand it.[261] In February 1983, Secretary of Defense Weinberger appeared in a Congressional hearing for his annual testimony, and was asked about the brief. Weinberger initially claimed that the problem was a historical one which had already been fixed by his own Pentagon reforms. When pressed for access to Spinney, Weinberger agreed to let the analyst testify, on the condition that his superior, a Weinberger appointee, be given a chance to rebut the testimony afterwards. Some Members of Congress were more sympathetic to the establishment, such as the Chairman of the SASC, Senator John Tower, who scheduled Spinney's hearing for a small room on a Friday afternoon, and without television cameras. Only pressure from caucus members resulted in a more public venue.[262] The efforts to suppress Spinney's work backfired, for when he did testify it was covered by eight cameras. A week later the cover of *Time* magazine featured "Defense Maverick Franklin C. Spinney," under the headline "U.S. Defense Spending: Are Billions Being Wasted?" Within that issue were eleven pages of articles on the topic of defense reform.[263]

---

[260] Walter Isaacson, et al., "The Winds of Reform," *Time* 121, no. 10 (7 March 1983), 13.
[261] Charles Mohr, "Pentagon: New Breed of Military Reformer," *New York Times*, 12 October 1983, B6. Walter Isaacson, et al., 38.
[262] Charles Mohr, "A Tough Road to the Witness Chair," *New York Times*, 25 February 1983, A18.
[263] Isaacson, et al., 12-30; Church and Redman, 28; Anonymous, "Gold Plated Weapons," *Time* 121, no. 10 (7 March 1983), 14-15; Anonymous, "High Specs," *Time* 121, no. 10 (7 March 1983), 23; Anonymous, "Cost Cutter," *Time* 121, no. 10 (7 March 1983), 29; and Hugh Sidey, "A Prescient Soldier Looks Back," *Time* 121, no. 10 (7 March 1983), 30.

Senator Tower's attempt to help Secretary of Defense Weinberger suppress Spinney's "Defense Facts of Life" in 1983 shows that there was overt opposition to the reform agenda within Congress. As SASC Chairman at the time, he was acting to support the establishment because he considered its existing programs and processes to be in the nation's greater defense interest. Indeed, the Pentagon and its allies in Congress were worried that the reform movement was undermining public confidence in Reagan's defense agenda, and that new operational test requirements designed to ensure the effectiveness of weapons being developed actually jeopardized essential programs. Even the more informed legislators, such as Senator John Glenn, who was a SASC member and former Marine, tended to focus on such threats to established procurement programs, either misunderstanding or mischaracterizing the reform movement's broader objectives. In April 1984 Glenn stated, "I do not agree with this smaller is simpler is better is cheaper approach that Mr. Hart has used."[264]

As the caucus co-chairs since 1983, Kassebaum and Courter promoted a more aggressive, blunter mode of action for the caucus, challenging the traditional interactions between the Department of Defense and cooperative congressional committees. Courter explained, "I've had a growing feeling that different and nontraditional points of view have not been properly aired, debated and expressed in the Armed Services Committee."[265] To some it appeared that the MRC was emerging as a competing power structure in Congress to the SASC and HASC, but this view was complicated by the fact that many MRC members served on those formal committees, including Courter. Despite the overlap, the MRC was intended to be a coalition for alternative viewpoints and policy choices when its members felt the HASC and SASC were too tolerant of the Defense bureaucracy's status quo and too deferential to the Pentagon and President.

[264] Charles Mohr, "On Military: Debating Frills and Fundamentals," *New York Times*, 3 April 1984, A28.
[265] Anonymous, "Courter's Audience is Growing," *New York Times*, 6 May 1984, NJ11.

Even members of the military came to see the reformers as enemies. A three-star Air Force general in the Pentagon breached basic professional standards by openly criticizing a Member of Congress when he stated, "Gary Hart and the military reformers are doing a disservice to their country."[266] This was a particularly vehement response from the uniformed military. There is a reason it came from the Air Force, and a general who was one of that service's leading advocates of high-technology aircraft. Whereas the Marine Corps, for example, had historically cultivated Congressional support for leverage within the Department of Defense because it was a minority interest in the Pentagon, the Air Force had long been a benefactor of centralized defense programs and Pentagon partnerships with industry. PA&E's TacAir Shop, where the Air Force's mavericks, the "Lightweight Fighter Mafia" had rooted themselves, now appeared to be leveraging Congress to endanger its most sacred programs. As another Air Force general, the head of Strategic Air Command, saw it, the U.S. faced two great threats in this era: the external threat of the USSR and the internal threat of the military reform movement.[267]

Spinney's testimony in early 1983 was just one of several that would occur over the next three years in which whistleblowers, including Burton, succeeded in exposing some of the worst excesses of the defense acquisitions process. Their findings received congressional and public scrutiny in hearings. The changing focus of the caucus, emphasizing hardware and affordability issues, was in part a reaction to media coverage. While beneficial for the caucus, increased media coverage tended to focus on the issues which were most easily understood and of greatest concern to the public, and the most sensational of these were hardware acquisitions and costs.

[266] Mohr, "On Military: Debating Frills and Fundamentals,"A28.
[267] Lind, interview of 29 January 2020.

The general public narrative was captured in a 1983 *Time* article titled "Gold-Plated Weapons" which summarized,

> The stunning costs of loading weapons systems with the latest sophisticated in technology, and the long production delays that result from this endless "improvement," might be tolerable if U.S. military forces in the end were equipped with the very finest weapons, or at least ones that could do the job. But all too often the gold-plated armaments bring embarrassingly small improvements in fighting capability. Sometimes, in fact, older, simpler and vastly cheaper weapons work as well or better.[268]

This narrative was attractive to elected officials from both parties who could score political points with their constituents by joining the MRC, and this in turn promoted legislative activism in the same areas. Issues like promoting new ways of fighting and professional reform within the armed services were harder to understand. The public showed less interest in such matters, and was more divided on matters such as the interfering with the professional prerogatives of uniformed military leadership, especially in the era of Reagan's resurgent patriotism and the All-Volunteer Force.

The loose coalition of politicians, civilian defense experts, and uniformed reformers reached its peak effectiveness in the 98th Congress, from 1983 from 1984. The legislative intervention planned by the caucus was the Operational Testing and Evaluation Act of 1983, introduced in the Senate in April by Democratic Senator David H. Pryor and then in the House a month later by Courter. The bill was designed to establish a new Senate-confirmed position to oversee all operational testing within the Department of Defense, reporting directly to the Secretary. With its own budget authority, the office of the Director of Operational Testing and Evaluation (DOTE) was meant to be an independent agency within the Department for the final assessment of weapons program effectiveness before major investments were made to field new systems or systems upgrades. The bill had bipartisan support in both houses, gaining as

[268] Anonymous, "Gold Plated Weapons," 14.

cosponsors 22 Senators and 37 Representatives from both parties.[269] It passed by a vote of 91 to 5 in the Senate and by acclamation in the House, making it a provision of the Department of Defense Authorization Act of Fiscal Year 1984 passed in September 1983.[270] This officially established the position of DOTE, which became a practical reality by Department of Defense Directive in April of 1984. At least in legislative terms, the operational testing bill was later recognized as the high-water mark of the MRC.[271] The success of the DOTE act certainly also boosted the political clout of the military reform caucus, which grew to 75 members in 1984.[272]

The MRC's focus on equipment tended to eclipse the military reform movement's concerns over less tangible people and idea issues like strategy and professional reform within the military. In 1983 the Reform Group, the caucus's think tank, formally incorporated as a non-profit organization, the Military Reform Institute (MRI), with Lind as its President. This was probably a device to preserve leverage for Lind and the Reform Group now that Hart was no longer a formal leader of the caucus. It may also have served to make sure the caucus did not lost sight of the Reform Group's priorities of people, ideas, then hardware as the caucus began to turn its attention towards acquisitions and testing reform under Courter and Kassebaum. The MRI was chartered to "assist in the task of bringing our defense policies and priorities back into line with what is needed for winning in combat." Its agenda included the sponsorship of a quarterly journal to be known as "Military Reform" that would "provide and open and objective forum in which to present and discuss proposals for change in the armed services." Though it does not appear this proposal ever made it to publication, its focus on the armed services rather

[269] S. 1170 was sponsored by 7 Republicans and 16 Democrats in a chamber where the Republicans held 54% of the seats. H.R. 3106 was sponsored by 22 Democrats and 15 Democrats in a chamber where the Democrats held 62% of the seats.
[270] Mohr, "Pentagon: New Breed of Military Reformer," B6.
[271] "Military Reform Caucus Oral History Seminar," 63.
[272] Mohr, "On Military: Debating Frills and Fundamentals," A28.

than the larger defense enterprise suggests that it was meant to keep people and ideas in the forefront of the discussion. The uniformed members of the military services tended to be more concerned with matters of doctrine, training, education, and personnel, where the Department of Defense was more occupied with acquisitions programs.

While the MRI remained the intellectual core of the reform movement and fed the caucus with information to support its legislative efforts, the MRI's members were indeed dissatisfied with the changing focus of the public debate, and with the caucus's legislative focus on equipment, while neglecting the higher priorities of people and ideas. A major blow to the legislators' credibility with the core reformers was their failure to protect a leading whistleblower, Air Force Lieutenant Colonel James Burton. Burton identified that tests of the Army's Bradley Fighting Vehicle prototypes were being rigged to cover up deficiencies in the new vehicle. A sensational exposé in congressional testimony made Burton a public hero for a time, but after that he was forgotten by the reformist legislators, who failed to block Pentagon leaders from getting their revenge with orders to a career-ending assignment.[273] This was consistent with the treatment other whistleblowers were receiving within a Pentagon that claimed to be committed to eliminating waste and fraud.[274]

Though Hart had given up his co-chairmanship of the Military Reform Caucus in 1983, he and Lind remained in an important partnership actively promoting military reform from a new platform, and they used the independence this conveyed to shift the agenda back towards the Reform Group's original priorities of people first, then ideas, then equipment. In 1981 Hart and Lind had deliberately decided to set strategic issues like those argued in the 1976 and 1978 White Papers aside, understanding it would be impossible to divorce strategic arguments from

[273] "Military Reform Caucus Oral History Seminar," 147.
[274] Dina Rasor and Donna Martin, "Protecting Pentagon Whistlers." *New York Times*, 23 October 1984: A33.

politics when they were trying to build a bipartisan caucus. Over time, they also observed interest in matters regarding personnel was eclipsed by more sensational issues like waste of taxpayer money on ineffective systems. As caucus's energy was captured by budgetary arguments, Hart and Lind observed, "The defense debate is increasingly a three-way debate among the old 'cut the budget' group, the 'give the generals what they ask for' group, and the reformers."[275] This was inconsistent with the Reform Group's goals of focusing on people, then ideas, then equipment. Hart had given up his leadership of the caucus to pursue a presidential campaign in 1984, then lost the Democratic nomination to Walter Mondale in July of that year. As a result, Hart's influence had waned, at least until Mondale was defeated by President Reagan's reelection bid in November. When Hart was quickly recognized as a frontrunner for the 1988 election, he and Lind worked aggressively to leverage that platform. Over 1985 Lind helped Hart write a book to reestablish Hart as the leading "defense reform" presidential candidate. It was published in 1986 as *America Can Win: The Case for Military Reform*.

Hart and Lind were deliberate in re-broadening the agenda in the public eye. In the introduction to *America Can Win* they spelled out "What Military Reform is Not," elaborating,

> Military reform is not an effort either to reduce or increase the defense budget. Some reformers favor increasing defense spending; some favor reducing it. This movement has not attempted to develop a consensus on this issue. Its goal, instead, is to reduce the amount of attention devoted in the Pentagon, the Congress, and the press to the size of the defense budget and to give more attention to whether we are buying and doing the right *kinds* of things—right for what is needed for success in combat…
>
> Military reform is not an effort to buy large numbers of individually inferior weapons instead of smaller numbers of superior weapons. Opponents of reform have made the charge that the reformers want "quantity instead of quality." That is not true. The weapons that reformers advocate are selected first and foremost to be more effective in combat than the establishment's weapons. Because of the dictates of combat, they generally turn out to be smaller, simpler, and less expansive than those sought by the Pentagon…[276]

[275] Hart and Lind, *America Can Win*, xi.
[276] Hart and Lind, *America Can Win*, 12-13.

After clarifying their position on hardware, they reminded readers of dimensions that had been lost in recent public conversation, adding,

> Military reform does not seek to define a new national or military strategy. Rather its concern is to make the military instruments of strategy, the armed forces, effective….
> …We need an effective system for thinking about and deciding on a strategy—and that system *is* [emphasis in the original] a concern of the reformers. But most of the issues that affect whether or not our forces can win in combat on the tactical and operational levels must be independent of strategy, because strategy is likely to change more rapidly than we can change our policies and practices in these other areas.[277]

To address these issues with the armed forces, their book devoted chapters to the ground forces, the Navy, and the Air Force, and had a separate chapter on the officer corps, among others. The chapter on the ground forces, the Army and Marine Corps, is the longest in the book, and lays out a case for maneuver warfare. Despite this panoramic vision of reform promoted by the original architects of the caucus, however, there is no indication that this vision was shared widely by the other members of the caucus.

Over the course of the 99th Congress, in session from 1985 to 1986, the Congressional Military Reform Caucus reached its peak of 133 members. This is very significant number, as it meant that nearly one out of every four Members of Congress were either committed to reform, or at the very least saw some political benefit from being associated with military reform. Courter and Kassebaum gave up their caucus leadership to a bipartisan co-chair arrangement within each chamber; Republican Charles Grassley and Democrat David Pryor in the Senate, and Republican Denny Smith and Democrat Mel Levine in the House. This reflected the bipartisan character of the bicameral caucus with 63 Republicans and 70 Democrats. In June 1986 the *National Journal* assessed that the voting patterns of the caucus's members demonstrated diverse ideological motives.[278] With such a large group, their motivations were bound to vary widely.

[277] Hart and Lind, *America Can Win*, 16-17.
[278] Malinshenko, 24.

Some were committed reformers seeking some combination of increased military effectiveness and efficiency in military spending. Most were inactive in the background work of the caucus, and "many" according to one Congressional staffer, saw membership simply as a valuable forum for getting useful information on defense matters.[279]

There was a reaction to the military reform movement and its caucus in the establishment, including Reagan's Pentagon and its allies in Congress. A key tactic used by such opponents to the military reform movement was coopting reform. Such had been the case from the start, with Secretary of Defense Weinberger instituting the Defense Acquisition Improvement Program (DAIP) chaired by Deputy Secretary of Defense Frank Carlucci in April 1981. This organizational reform cannot simply be interpreted as a response to Hart's effort to launch a reform caucus in January 1981, for as a presidential candidate Reagan had anticipated resistance to his platform for increased defense spending, and promised to get tough on waste in defense. Such administration efforts did make it more difficult for Hart to mobilize reformers, however, especially when Carlucci initiated 32 procurement reforms in a well-publicized campaign. In practice, however, the different measures were ineffectual and poorly coordinated. In some ways they even exacerbated problems. For example, one change instituted multiyear contracts with fixed prices to help stabilize costs. Doing this without requiring competitive bidding, however, actually gave industry more control and less incentive to reduce costs.[280] The failure of these reforms and the Military Reform Caucus's early legislative successes spurred further administration efforts, most notably the President's Blue Ribbon Commission on Defense Management, chaired by a former Republican Secretary of Defense, David Packard, from July 1985 to June 1986. The recommendations of the Packard Commission looked promising, such as

[279] Malinshenko, 24.
[280] Isaacson, et al., 26.

the establishment of a procurement czar who could effect "cultural change" to defense acquisitions. Congress went so far as to write the new position into law in 1986, but the effort was a failure. The first person to serve in that role, Richard Godwin, resigned in frustration after a year because he found Secretary of Defense Weinberger uninterested in forcing the Pentagon bureaucracy to evolve. Godwin's summary of his experience as procurement czar was, "everybody agreed that these changes were desirable so long as we did not make any change."[281]

The Pentagon's leaders also used stonewalling to defeat overt legislative interventions. For example, though Congress mandated the appointment of an independent Director of Testing and Evaluation in September 1983, it took Secretary of Defense Weinberger until the following April to issue a directive implementing the change. He then failed to include funding for the new position in his budgetary request for the next year, and he did not nominate a permanent director. When a nomination was made in 1985, he picked a business executive who had worked for McDonnell-Douglass for 25 years, John E. Krings. Many recognized that a man who had prospered in defense contracting was a poor choice to be the watchdog ensuring that new equipment being built for the military services would be subjected to rigorous testing. Most of the votes against his confirmation by the Senate came from Military Reform Caucus members, but they were insufficient to stop his appointment.[282] Over the next several years caucus members called for Krings's resignation on several occasions, such as when they discovered that his "independent" evaluations were merely copies of the reports submitted by the military services running their own tests for their own procurement programs.[283]

[281] Wirls, 502-504
[282] Wirls, 497.
[283] Wirls, 504.

Opposition to the Military Reform Caucus also continued to come from the "establishment" within Congress, particularly the Senate Armed Services Committee. The SASC was often populated with powerful members of Congress representing constituencies where defense industries were deeply rooted. These legislators had less incentive to see the federal money being spent in their districts curtailed, and would be leading contenders for presidential appointments within the Department of Defense. Such was the case with Senator John Tower of Texas, who became President George H.W. Bush's first nominee for Secretary of Defense in 1989. Such legislators had much to gain from working within the existing system, so much so that the reformers came to call the SASC "the overlook committee" rather than an oversight committee.[284] They had good reason. Just as Weinberger sought to coopt reform, so did Tower as SASC Chairman. As the Military Reform Caucus scored some legislative successes in the fall of 1983, Senator Tower initiated his own efforts to disarm its more radical efforts. In March 1984, Tower established his own Task Force on Select Defense Procurement Matters chaired by Senator Dan Quayle, another Republican who had not joined the reform caucus. After hearings in 1985, Quayle led the preparation of the Defense Improvement Act of 1985. The Military Reform Caucus considered Quayle's act a "Mary Kay bill…cosmetic reform as a way of preserving business as usual," so Democratic Senator David Pryor, the caucus's co-chair, introduced his own bill, the Competition and Ethics Enforcement Act of 1985, which came to be known as the "Pryor substitute." The Quayle Reforms and Pryor Substitute were both considered as amendments to the Defense Authorization Act of Fiscal Year 1986, but the Quayle Reforms won out by a vote of 89-11. The vote was a result of the reformers misreading the Senate's continued interest in radical reform and committing a tactical error, presenting their no-

[284] "Military Reform Caucus Oral History Seminar," 144.

compromise reforms in competition with a Quayle's less controversial bill. Senators could vote for Quayle's version without upsetting the defense lobby, and still be on record in the public eye for supporting defense reform. It was a bad misstep that lost the Military Reform Caucus credibility in the Senate, and which allowed their opponents to publicly claim the mantle of reform.[285] Tensions within the caucus rose when some Senate members blamed the House members for failing to stop the passage of the final bill, overlooking that the Senate caucus members had themselves been very divided over the Pryor substitute, voting 11 for and 17 against.[286] It was becoming clear that as the Military Reform Caucus grew larger it was not necessarily improving its legislative effectiveness; if anything, having more legislators involved brought greater diversity of interests on the issues and varying levels of commitment to reform, decreasing the caucus's cohesion and focus.

This trend continued the following year. Representative Les Aspin, Chairman of the House Armed Service Committee, who was not a reform caucus member, but represented the opposition party in the majority, invited the caucus to lead an effort to remedy the shortcomings of the Quayle reforms. Ultimately, a similar situation developed in 1985, with two different versions of procurement reform being considered. Again, the less aggressive reforms passed, with the caucus split, 38 Military Reform Caucus members voting for the more aggressive package, and 65 voting against it.[287] In combination, the caucus's legislative failures of the 98th and 99th Congresses show that even when the Military Reform Caucus was gaining apparent power in terms of its numbers, it suffered from a lack of consensus on their perceptions of problems and the solutions that would be required. Some of this may be related to the very

[285] Malinshenko, 27-28.
[286] Malinshenko, 27-28.
[287] Malinshenko, 28.

breadth of the movement, making it hard to generate consensus on specific issues. It may also be ascribed to aggressive legislating on the part of the caucus's leaders, who may not have perceived how limited the support of many caucus members would be. Though 1985 and 1986 were the busiest years in terms of the number of reform amendments introduced, they were not as successful due to the co-opting efforts of more establishment-oriented Members of Congress.

By the 100th Congress, in session from 1987-1988, the Congressional Military Reform Caucus had begun to wane, losing 16 members.[288] In addition to the lack of consensus within the caucus and some visible legislative defeats, there was "burnout" on the part of the most aggressive reformers in Congress, and some became timid after paying political consequences for their boldness.[289] Additionally, the context was changing. President Reagan had redefined the United States' competitive strategic relationship with the Soviet Union, and no longer needed to spend as much on defense, choosing instead to devote more attention to economic vitality. The Fiscal Year 1988 budget submitted by the President in January 1987 was considered "the least controversial defense budget since he took office" and Congress began focusing on the trade deficit.[290] By this time, the initial public outrage caused by the shocking exposure of ridiculous costs and rigged weapons testing had passed, and the press loss interest in covering such matters as "old news."[291] In combination, as Lind later recounted, "by the period of 1987-1988 this thing had run out of life."[292] In this environment, there was little to be politically gained for a legislator by associating himself with the reform movement. Even as the Democrats gained control of the Senate, Senator Pryor gave up his leadership of the caucus in that chamber,

[288] Malinshenko, 24.
[289] "Military Reform Caucus Oral History Seminar," 132, 149-150.
[290] Malinshenko, 29.
[291] "Military Reform Caucus Oral History Seminar," 132-135.
[292] "Military Reform Caucus Oral History Seminar," 133.

and no Democratic member was willing to take his place. In the House the two incumbent Military Reform Caucus co-chairs from each party also gave up their positions, though they were replaced.

By October 1987 the reform movement had weakened to the point that it was vulnerable to a direct public attack. In their own words, "the spike in the reform movement" that brought about its ultimate end was an article printed in the *New York Times*, *Washington Post*, and *Air Force* magazine by Fred Reed, a military affairs columnist and the Washington editor of *Harper's Magazine*. Reed titled his article in the *Washington Post* on October 11, 1987, "Let's Reform the Military Reformers: Pentagon Critics Can't Tell a Laser from a Latrine Fan," and began,

> Many and grave things are wrong with the military, about which nothing will be done; these defects could easily lose us a big war. A major reason why we will do nothing to remedy them is that a few evangelical critics of the military, by focusing on defects which do not exist, have distracted attention from defects that do exist. Not to mince words, much of what prominent adversaries of the military write is absolute, verifiable nonsense—yet Washington takes it seriously.[293]

To substantiate his claim Reed described several inaccuracies in articles written by reformers, and faulted them for sensationalizing problems on the basis of insufficient research, and making a caricature out of the flaws in the defense bureaucracy. Reed ended with the condemnation,

> The Reformers are zealots of the classic variety, with the usual self-righteousness and the usual hermetically-sealed minds. Having become partisan over years of polemical trench-warfare, having partitioned the world in Themselves and The Enemy, they are perfectly unconscious of the rolling non sequiturs and athletic leaps of logic that constitute their conversation. If the cause is good, the details aren't important.[294]

Though the *Post* printed rebuttals in its opinion columns, including one calling Reed "A mean-spirited, sniping, petty man, in fact, who reduces the national defense to scurrilous personal

[293] Fred Reed, "Let's Reform the Military Reformers," *Washington Post*, 11 October 1987, H1.
[294] Reed, "Let's Reform the Military Reformers," H1.

attacks," [295] the damage had been done, and such responses did not get the same visibility as the original accusations. Whether Reed's articles do indeed represent a catastrophic blow to the military reform movement's credibility, or was just another indication that the attitudes of major newspaper editors towards military reform had changed, there were few people who remained sympathetic to its agenda. The widespread publication of this article shows that by the fall of 1987 the political power of the Military Reform Caucus had evaporated.

In the end, the decline in the Military Reform Caucus was accompanied with the end of relatively broad interest in military reform, something that was never closely organized, but for a time might be considered a military reform movement. The relatively bloodless defeat of Iraq in Operation Desert Storm and collapse of the Soviet Union in 1991 also undercut claims that the U.S. needed a more effective military. As Senator Hart observed in 1984, when the MRC was enjoying its period of greatest influence, "No nation has ever undergone military reform without suffering a major military defeat. The reform movement is seeking the change without defeat."[296] After 1991 the impetus was further enervated, as a defeat of the U.S. military did not even seem to be a distant possibility. Interest in some of the main reform issues continued in select quarters, but the moment for a military reform movement had passed.

**Assessing the Military Reform Movement**

Having summarized the rise and fall of the military reform caucus, and its relationship to the broader, but less spectacular, military reform movement, it is appropriate to assess the effectiveness of the movement against the priorities expressed by the Reform Group, its intellectual core, and reaffirmed by Lind and Hart in 1986: people first, then ideas, then

[295] David Evans, "Military Reformers Should Not Be Singled Out," *Washington Post*, 20 October 1987, A20.
[296] Mohr, "On Military: Debating Frills and Fundamentals," A28.

weapons. In terms of tangible systemic change, the greatest accomplishments were in the last category, and the result of legislation. The leaders of the movement considered the 1983 operational test and evaluation bill to be the Military Reform Caucus's "high water mark," but after that point legislative efforts may have done more harm than good.[297] The very breadth of the movement was part of the problem, as it limited the true legislative progress that could be made. Of course, not all of the military reform movement's goals could be accomplished solely through legislation, or even through legislation at all. The efforts of the reformers to change "business as usual" in acquisitions was paralleled by the non-legislative efforts of its civilian intellectuals and uniformed reformers to create change within the military services, in the realms of people and ideas.

Confronting personnel issues required a deeper knowledge than reforming acquisitions processes, and a high level of political and interpersonal aggressiveness that most politicians were not interested in taking.[298] It was also the area where any legislative action had to be accompanied by some impetus for reform from within the military. In a retrospective interview in 1992, Lind explained,

> …essentially what we were trying to do is not reform the Pentagon through legislation from the Congress, we had little optimism about that, but rather use that to create a pulpit where these other largely non-budgetary issues could be made part of the defense debate and part of the consciousness of the military. …it was essentially an effort to change consciousness.[299]

The idea that the needed changes were a matter of consciousness shows how the reformers understood those changes in ideas and personnel to be complementary and interrelated. This wasn't just getting military people to adopt new ideas, but come to a fundamentally new

[297] "Military Reform Caucus Oral History Seminar," 63.
[298] "Military Reform Caucus Oral History Seminar," 144.
[299] "Military Reform Caucus Oral History Seminar," 13.

understanding about their profession. In this, the military reform movement saw some successes and failures. Lind later claimed the main purpose and accomplishment of the Caucus was

> …to spread this intellectual fermentation within the armed services themselves…. And without the Caucus and without this perception of the Caucus, the ideas would have gotten no attention within the military. It was the Caucus that created the situation where they got lots of attention, where, for example, I lectured, as you know, up and down the Marine Corps for almost fifteen years on this stuff, where we got a hand in with people like General Al Gray who became Marine Corps Commandant [and] to some extent with Shy Meyer who was Chief of Staff for the Army in the early eighties. And through that we exposed a lot of younger generation military personnel to these powerful new ideas. And when the Caucus' function is understood historically, it must be understood that at least myself, and a I think a number of others involved in it, saw this as its primary function."[300]

Lind is partially correct. The purpose of the caucus certainly shifted to deal with the cost and effectiveness of hardware, even as the wider group of reformers remained concerned with wide systemic change of the services and military profession. The limited impact of the caucus in achieving meaningful change in acquisition, however, means that its greatest accomplishment may have been the indirect support it provided for the broader reform goals. Therefore, an assessment of the military reform movement must look beyond the legislative success of the caucus, and consider how it shaped matters relating to its other focus areas: ideas and people. In these efforts the reformers enjoyed varying degrees of success within the military services.

The preceding chapter analyzed doctrinal change within the U.S. Army during this period, and showed that even if the reformers' ideas about maneuver warfare were ultimately rejected, the debate about these ideas occurred in a period of intellectual ferment. This was evident not only in the pages of the *Military Review*, but also in deliberate efforts by the U.S. Army, such as Senior Conference XX held at West Point in May 1982. Though, as chapter 2 described, this conference signified the high water mark for Lind's and Boyd's doctrinal influence within the Army, Senior Conference XX was much broader. It brought together a wide

[300] "Military Reform Caucus Oral History Seminar," 63.

range of reformers, civilian experts in addition to uniformed members of the Army and Marine Corps, in a set of seminars to discuss the most pressing issues regarding people and ideas. Further, the conference debates were made public in 1984 through Asa Clark's assembly and publication of its various presentations in *The Defense Reform Debate: Issues and Analysis*. Certainly, the pressure generated by the Military Reform Caucus and reformer's public criticism of Army doctrine and bureaucracy must be given considerable credit for encouraging the Army to look more closely at these ideas, even if the impact was ultimately limited. Meanwhile, the Marine Corps' adoption of a fundamentally new philosophy of war, and doctrinally embracing maneuver warfare, can be thought of as the most tangible accomplishment for the military reform movement in terms of ideas. That process is the subject of the following chapters.

**Conclusion**

This chapter describes essential context for the development of maneuver warfare in the 1970s and 1980s that has been underappreciated in other accounts: the military reform movement. Where chapter 2 explained the strategic and organizational challenges often associated with the development of maneuver warfare, this chapter provides an analysis of the military reform movement's agenda as a coherent body of thought reacting to perceived failures of Congress, the Pentagon, and the military services to adequately respond to these challenges. This constitutes an intervention to the orthodox narrative because the existing scholarship on the maneuver warfare movement focuses on the internal dynamics of the Marines and their Corps, and elides the complexity of forces shaping the movement, and critical interactions with outside individuals and organizations that incepted its ideas and shaped their development.

The military reform movement was a broad but poorly organized coalition of opponents to irrational Pentagon spending, strategy determined by bureaucracy, and doctrinal stagnation

under unimaginative military leaders. This movement was most powerful when it impelled the formation of the bipartisan Congressional Military Reform Caucus in 1981, when its ideas were guided by a think tank known as the Military Reform Institute. Though the focus of the Military Reform Caucus shifted to address dysfunctional acquisitions and spending, and the caucus later found its energy dissipated by its own ideological diversity, it did indirectly support the "people, then ideas, then weapons" agenda of the wider reform movement. Pentagon resistance and public attention to military matters did provide important leverage for the defense policy intellectuals of the reform movement, whose critical activism preceded the caucus and continued on even as the caucus fragmented.

This chapter identified the origins of the military reform movement in a small group of defense policy analysts who became its intellectual core, the Reform Group. This small group was particularly influential in the inception of the idea of maneuver warfare and its promotion. Though many accounts of the development of maneuver warfare have credited the involvement of William S. Lind and John Boyd, later chapters will show that Steven Canby and Edward Luttwak also provided important ideas. It is significant that four of the six original members of the Reform Group were so intimately involved, and it is therefore important to understand these men's backgrounds and common cause in military reform.

On that matter, this chapter showed these military reformers to be motivated by a shared understanding of perceived problems in the U.S. defense establishment, especially what they considered to be a managerial approach to leadership and policymaking that was exacerbated by the inherent flaws of bureaucracy. The reformers believed an atrophy of military professionalism and judgement handicapped the services' ability to understand and react appropriately to doctrinal problems, and believed that the very way of thinking and doing

business in the Pentagon and military services promoted an attritional way of war. Understanding this fundamental critique is vital to comprehending maneuver warfare as the viable alternative they argued for in place of attrition.

Finally, this chapter showed that maneuver warfare was not a single issue for the Army or Marine Corps to deal with, but part of a larger reform agenda that targeted the way the Pentagon and military services were doing business. This helps explain some of the opposition of leaders within the military services to these outside influences. These men were not simply resisting new doctrinal ideas, but reacting to a broad critique of their professional competence and of their fundamental assumptions about war. As chapter 2 showed was true of the Army, and later chapters will show to be the case in the Marine Corps, the new concepts the reformers advanced questioned soldiers' and Marines' very understanding of the nature of war and challenged deeply help assumptions of their organizational cultures. As later chapters will show, the debates over these topics shaped the concept of maneuver warfare itself. In some aspects these debates resulted in needed refinements, but in others they sharpened division. In those cases, these fundamental tensions proved insurmountable obstacles to the acceptance of maneuver warfare, and remain conceptual obstacles to this day. The military reform movement is therefore not merely context for the development of maneuver warfare, but an essential part of understanding how the concept of maneuver warfare was conceived and developed into an actionable approach to warfare, and how it is understood today.

## Chapter 4: The Origins of John Boyd's Theory of Conflict

In March of 1980 Marine Corps officers opening the latest issue of the *Marine Corps Gazette* encountered an article by William S. Lind titled "Defining maneuver warfare for the Marine Corps." The subject was not unknown to them. Maneuver warfare had been a topic of debate in the pages of the *Gazette* for about a year, and subscribing to and reading this journal was a professional obligation for all Marine officers. Lind had also become increasingly well-known to Marines through his *Gazette* articles, and clearly stated his purpose at the opening of this article,

> Several recent articles in the GAZETTE have referred to "maneuver warfare." The term may have occasioned some confusion among Marines. After all, doesn't all warfare involve fire and maneuver? Isn't maneuver just another word for movement? How can there be such a thing as "maneuver warfare"? It may be time to review just what this term means and why it's important to the United States Marine Corps.[301]

Intrigued by the opening, one page later Lind's readers encountered a passage which has done more to both promote the acceptance of maneuver warfare and create misunderstandings about its origins than any other:

> Recently, the concepts behind maneuver war have been organized and expanded into an overall theory of conflict. This theory was developed by Col John Boyd, USAF (Ret.) and is appropriately known as the "Boyd Theory."
>
> Col Boyd was the father of energy management air combat tactics. More recently he has devoted himself to studying the nature of conflict in general. He observed that in any conflict situation all parties go through repeated cycles of observation-decision-action. The potentially victorious party is the one with an observation-decision-action cycle consistently quicker than his opponent's (including the time required to transition from one cycle to another). As this party repeatedly cycles inside his opponent, the opponent finds he is losing control of the situation. Because of his longer cycle time, his reaction is facing a later action by the faster party than that which it was intended to oppose. Instead of achieving convergence with the first party's action, he finds himself facing ever-widening divergence. Suddenly, he realizes there is nothing he can do to control the situation or turn

[301] William S. Lind, "Defining maneuver warfare for the Marine Corps" *Marine Corps Gazette* 64, no. 3 (March 1980), 55.

> it to his advantage. At that point, he has lost. Often he suffers mental breakdown in the form of panic and is defeated before he is destroyed physically.
>
> The Boyd Theory is the theory of maneuver warfare.[302]

Marines may have been skeptical that a fighter pilot had divined a secret of warfare that could redefine how the Marine Corps fought. Lind was also well-known to the readers of the Gazette at this point due to a series of articles attacking Marine resistance to mechanization, and accusing Marine officers of being intellectually lazy, earning him attacks in rebuttals for being a pretentious civilian intellectual.[303] Regarding the relationship between Boyd, OODA, and maneuver warfare, however, the connection between Boyd and maneuver warfare had already been made by one of their own. Just four months earlier, Captain Stephen Miller closed a two-article series on maneuver warfare with,

> The origins of maneuver doctrine is not recent. It was the basis for the successes of both Alexander and Genghis Khan. It was first described in the writings of the 18th-century author/generals Saxe, Bourcet and Guibert. It has been expounded since by military writers such as J.F.C. Fuller, Heinz Guderian and more recently in the unpublished works of Col John Boyd, USAF (Ret.), father of the energy management approach to air combat tactics (who placed it in the analytical model popular today). Its theory is equally applicable to regular or guerrilla warfare, to tactics or to strategy and to air-to-air or ground conflict.[304]

The validity and relevance of a broad theory of conflict developed by an aviator was suspect to many, and it was not long before this became a focal critique. After hearing Boyd's lecture in 1981, Roger Spiller of the U.S. Army Combat Studies Institute wrote,

> The foundation of the OODA Loop is to be found in the aerial combat of the Korean War between the MIG-15 and the F-86…

---

[302] Lind, 56.
[303] This dialog is covered in greater detail in chapters 4 and 7. For examples, see William S. Lind, "Mechanization is needed," *Marine Corps Gazette* 60, no. 8 (August 1976), 13; William S. Lind, "Marines don't write about warfare," *Marine Corps Gazette* 62, no. 2 (February 1978), 14-15; and Kenneth W. Estes, "Leave history to the historians," *Marine Corps Gazette* 63, no. 11 (November 1979), 28-30.
[304] S.W. Miller, "Winning through maneuver: Conclusion--Countering the defense" *Marine Corps Gazette* 63, no. 12 (December 1979), 63.

> The provenance of Boyd's theory is important. …I believe that Boyd's early work in both the actual and theoretical aspects of aerial combat has preconditioned him to a particular view of warfare and thereby substantially colors his later work.[305]

The general skepticism among Army officers was summed up by Lieutenant Colonel Mark Hamilton in a critique written for their professional journal, *Military Review*, in 1987 titled "Maneuver Warfare and All That," Hamilton wrote,

> Boyd is a man whose diligence in research and enthusiasm in presentation have earned quite a following for his reduction of military history to the question of turning within an opponent's decision cycle. The metaphor is appealing and appropriate to a former fighter pilot for whom turning within his opponent's radius is certain victory. There is great potential for error for those who apply this metaphor directly to land warfare…[306]

The basic line of reasoning that the concept of maneuver warfare is founded upon John Boyd's OODA Loop, and Boyd developed the OODA loop from his aviation experience, has been a central critique of maneuver warfare from the start. Over time critics have consistently returned to this theme, and elaborated the argument. For example, in his 2001 *Air and Space Power Journal* article, "The Cult of the Quick," Thomas Hughes wrote,

> Since the 1960's Col John Boyd, a maverick Air Force officer, had conducted a lonely campaign to champion his OODA Loop (the observe, orient, decide, and act decision cycle). A fighter pilot, Boyd had derived this schematic from his experiences dogfighting with North Korean MiGs, during which he had learned that quicker decisions often led to victory in aerial combat. After the Korean War, Boyd extrapolated this concept from the tactical level of war to a new principle for everything from procurement to national strategic behavior.[307]

This critique has gained momentum and credibility by its repetition, including internationally. Boyd's harshest critics include the William F. Owen, a prominent British writer on defense and strategy matters, and frequent consultant to the British Army on its doctrine. Owen condemns Boyd as one of the biggest perpetrators of "The Manoeuvre Warfare Fraud," and argues "the

[305] Roger Spiller, letter to John Boyd, undated. John R. Boyd Collection, Collection 2062, Box 7, Folder 6: Roger Spiller Critique: Patterns of Conflict. Marine Corps Archives, 2-3.
[306] Mark R. Hamilton, "Maneuver Warfare and All That," *Military Review* 67, no. 1 (January 1987), 3.
[307] Thomas Hughes, "The Cult of the Quick," *Aerospace Power Journal* 15, no. 4 (Winter 2001), 61.

OODA loop is only valid in the context of certain activities, most of which are far removed from conflict."[308]

Two recent books, both published in 2021, are noteworthy for their inclusion of this argument: Antulio Echevarria's *War's Logic: Strategic Thought and the American Way of War* and Stephen Robinson's *The Blind Strategist*. Echevarria is the editor of the U.S Army War College's *Parameters* and a leading writer on American military thinking, and a frequent critic of maneuver warfare. *War's Logic* is Echevarria's most comprehensive exposition on American military thinking, and explains, Boyd's "experience in Korea laid the foundation for much of his later thinking about aerial maneuver and tactics, as well as the core of his conception of military strategy."[309] Echevarria later adds the OODA loop "captured a pilot's decision cycle…which Boyd elevated to a theory."[310] Robinson, an Australian reserve officer, has less academic gravitas than Echevarria, but published an elaborate book-length denouncement of Boyd and maneuver warfare, *The Blind Strategist*,. After claiming that Boyd developed OODA through insights gained from his aviation experience, Robinson castigates Boyd as "The Blind Strategist" with "A Temple Built on Sand," because "The O-O-D-A loop is a useful decision-making tool but is a far cry from being the universal key to victory, and maneuver warfare is essentially based on fraudulent concepts."[311] Both of these books have been lauded in scholarly journals and military professional journals, making it clear that it is time for a serious scholarly investigation into the origins of Boyd's thinking about conflict, and Boyd's influence on the maneuver warfare

[308] William F. Owen, "The Manoeuvre Warfare Fraud," *Royal United Services Institute Journal* 153, no. 4 (August 2008), 66.
[309] Antulio J. Echevarria, *War's Logic: Strategic Thought and the American Way of War* (New York: Cambridge University Press, 2021), 171.
[310] Echevarria, 180.
[311] Stephen Robinson, *The Blind Strategist: John Boyd and the American Art of War* (Dunedin, New Zealand: Exisle Publishing, 2021), 11, 16, 18.

movement.[312] The latter is the subject of this dissertation, and the former is the subject of this chapter.

In the process of explaining the origins of Boyd's ideas, this chapter begins to address a second major problem. Few people understand Boyd's ideas beyond a simplistic interpretation of OODA, including the Marines. Their foundational doctrine, Marine Corps Doctrinal Publication 1, *Warfighting*, is ostensibly based on Boyd's theory, yet merely relegates mention of the OODA concept to a single footnote:

> Tempo is often associated with a mental process known variously as the "decision cycle," "OODA loop," or "Boyd cycle" after John Boyd who pioneered the concept in his lecture, "The Patterns of Conflict." Boyd identified a four-step mental process: observation, orientation, decision, and action. Boyd theorized that each party to a conflict first observes the situation. On the basis of the observation, he orients; that is, he makes an estimate of the situation. On the basis of the orientation, he makes a decision. Finally, he implements the decision—he acts. Because his action has created a new situation, the process begins anew. Boyd argued that the party who consistently completes the cycle faster gains an advantage that increases with each cycle. His enemy's reactions become increasingly slower by comparison and therefore less effective until, finally, he is overcome by events.[313]

Within the military, wider audiences, and even the academy, Boyd's entire theory of conflict has often been reduced to this simple meme: the OODA Loop, a time-competitive process of observing and understanding one's environment as a basis for masking decisions and acting. In this simplistic conception the goal is to change a situation faster than one's adversary can understand and cope with it.

Owen, one of the harshest among Boyd's more reputable critics, reduces the OODA loop, and Boyd's theoretical insight, to be simply, "If you understand the situation better and more

---

[312] Franz-Stefan Gady, "The US Military's Enduring 'German Problem'," *Survival* 63, no. 5 (September 2021), 199-208; Michael W. Hankins, "*The Blind Strategist: John Boyd and the American Art of War*," *Journal of Military History* 85, no. 4 (October 2021), 1153-1154; and Matthew H. Ormsbee, "*War's Logic: Strategic Thought and the American Way of War*," *Air & Space Power Journal* 34, no. 4 (Winter 2021), 86-88.
[313] U.S. Marine Corps. Marine Corps Doctrinal Publication 1 (MCDP 1), *Warfighting* (Washington, DC: Headquarters United States Marine Corps, 1997), 102n18.

quickly than your enemy, you can employ surprise to defeat him."[314] Even those who see more value to Boyd's ideas fundamentally misunderstand them and their origins. Berndt Brehmer, a professor of Command and Control Decision Making at the Swedish National Defence College, argues, "Every self-respecting briefing on C2 [command and control] issues has a reference to it" and explains that understanding the concept's origins is important to understanding its features. He then advances, "The OODA loop was originally developed in an attempt to explain why American fighter pilots were more successful than their adversaries in the Korean war."[315] Such misperceptions continue to inform even well-meaning attempts to expand upon Boyd's ideas, even within the Marine Corps where Boyd is held in such high regard. In 2016, Colonel Matthew Kelly argued that OODA has new relevance in an era of information warfare because fighter aircraft can exercise information dominance rather than simply outmaneuvering their adversaries. In Kelly's mind Boyd's original concept was limited because,

> the basic idea is that the winner of a conflict will be the one able to execute the four phases of the loop faster than one's adversary, always staying a step or two ahead. Boyd's OODA loop of the 1970s valued maneuverability in a fighter because it could help a pilot gain a firing position or deny an adversary an attacking position. Boyd's point of reference was flying F-86 Sabres in Korea… Maneuverability was the key to Boyd's OODA loop in 1970, but a lot has changed since then.[316]

Kelly argues that while maneuverability was once the "primary tool for executing the OODA loop," the advanced sensors, information systems, and weapons of the latest fifth-generation fighter aircraft allow their pilots to execute "An Info-Driven OODA Loop."[317] What he misses is that Boyd's theory was always centrally about understanding one's competitive environment and

[314] Owen, 66.
[315] Berndt Brehmer, "The Dynamic OODA Loop: Amalgamating Boyd's OODA Loop and the Cybernetic Approach to Command and Control" (paper presented at the 10th International Command and Control Research and Technology Symposium, McLean, VA, June 2005), 1-2.
[316] Matthew G. Kelly, "The F-35's New OODA Loop," *U.S. Naval Institute Proceedings* 142, no. 3 (March 2016): 25.
[317] Kelley, 27.

acting in ways which frustrate an adversary's understanding. Similarly, in September 2019 Dr. George Gross argued in the pages of the *Marine Corps Gazette*,

> Boyd built the foundation for his work on the OODA loop largely during the 1950s and 1960s when the air domain was still a relatively new domain of warfighting. Boyd conceived the energy-maneuverability (E-M) theory on the insight that a fighter cannot control gravity, but he can exploit it by means of the tight control of velocity and turn. Boyd showed how to view air maneuver on a spherical, nonlinear surface, such that mastering velocity and turn and exploiting gravity enables a fighter to rapidly increase and decrease motion along the surface of the sphere as he gains ascendancy over his enemy and penetrates their decision cycle. Through successive cycles of maneuver in this fashion, a fighter dominates the tempo of engagement with the enemy.[318]

Gross offers a "new" insight, suggesting that Boyd's ideas might actually have some relevance in modern warfare because, "The air domain was the arena for Boyd to develop E-M theory and the OODA loop; in both instances, Boyd anticipated key features of warfighting in the nonlinear domains."[319] Gross goes on to suggest that the OODA loop has clear applicability to competition in information-intensive domains such as cyberspace, not realizing that OODA was just one component of what Boyd intended to be a universal theory of conflict, and neither derived from nor intended for air combat.[320] Kelley's and Gross's interpretations are particularly egregious in arguing that Boyd's theory originally applied to nothing more than dogfighting, and show how the flawed conception of the origins of Boyd's ideas can distort even the most well-intentioned understanding of their meaning and relevance.

There are several reasons for the widespread misperception of Boyd's most important ideas. First, few of them were written down in a durable and accessible form. Boyd's main body of work on the nature of conflict consists of one essay and five briefings. The essay titled, "Destruction and Creation," was never published, and consists of a personal theory of thinking,

[318] George M Gross, "Nonlinearity and the Arc of Warfighting," *Marine Corps Gazette* 103, no. 9 (September 2019), 42.
[319] Gross, 43.
[320] Gross, 45-47

learning, and adaptation that is not clearly connected to warfare. The five briefs exist only as stacks of briefing slides, most of which are located in a single place, the Marine Corps Archives in Quantico, Virginia, inside a military base with limited public access. Paper copies of these slides were provided to some audience members, but reading the slides after the fact without any briefing notes or presentation script can leave the reader quickly mystified by the complex terms Boyd used. Boyd did finally assemble these five works in one master presentation he called *A Discourse on Winning and Losing*, but it took him up to two full eight-hour days to go through this set of 354 slides.[321] For those who had the opportunity to attend these briefs the experience was often overwhelming and disorienting, and most found it was necessary to repeat the experience to begin to understand Boyd's sophisticated ideas. Boyd passed away in 1997, so today's reader does not benefit from his presence to interpret his work, and can become quickly frustrated with trying to understand the content of his slides. Fortunately, copies of Boyd's slides with some interpretive discussion has begun to appear in more accessible places such as internet sites maintained by Boyd's former colleagues. In the last decade some video and audio recordings of his presentations from the 1980s have been found and made publicly available either on the internet or in a printed transcript. This has resulted in greater attention for Boyd's ideas, but there has been little serious investigation into those ideas, and most of that does not come from the academy.

[321] When first produced in 1987 as a limited-edition publication, probably in the print shop of a military base in the Washington, D.C. area, A Discourse on Winning and Losing was known informally as "The Green Book" because of the color of its cover. In 2018 the Air University made it more widely available through formal publication as John R. Boyd, *A Discourse on Winning and Losing*. ed. Grant T. Hammond (Maxwell AFB, Alabama: Air University Press, 2018), 1. Hereafter "Boyd, *A Discourse on Winning and Losing*, Air University Press publication," to distinguish it from archival versions.

**The Most Credible Scholarship on John Boyd**

The most recent works to address Boyd and maneuver warfare are not informed by the significant archival resources available on the topic.[322] For analyses based on serious archival research, one must turn to three older book-length academic works on John Boyd's ideas: Grant Hammond's *The Mind of War: John Boyd and American Security* (2001), Frans Osinga's *Science, Strategy, and War: The Strategic Theory of John Boyd* (2007), and Ian Brown's *A New Conception of War: John Boyd, Maneuver Warfare, and the U.S. Marines* (2018). All three highlight the importance of Boyd's "Patterns of Conflict" briefing, a massive set of almost 200 slides that Boyd would sometimes take more than eight hours to present. Boyd gave this brief hundreds of times to groups of military leaders and policymakers, and Hammond, Osinga, and Brown agree that it is the primary means by which he influenced the maneuver warfare movement in the U.S. Marine Corps.

Of the three academic treatments, Osinga, a former Dutch F-16 pilot and now professor of War Studies, has done the most to correct the general ignorance of Boyd's ideas. Asserting in a 2013 article that "The neat graphical depiction of the OODA loop…is often regarded as the concise representation of his ideas, and the simplified model and limited interpretation—rapid OODA looping—is being mistaken for his theory," Osinga argues that a key problem is inadequate engagement with Boyd's work and insufficient understanding of his arguments.[323] Osinga identifies four major critiques of Boyd's work, all ill-informed: that Boyd's ideas are not the product of proper academic research, that Boyd provides a biased overview of military

[322] Echevarria's citations (260-263) indicate he depended significantly secondary sources and printed materials with only very limited reference to any of the extensive archival materials available in the Boyd and Lind papers. Likewise, Robinson's source list (306-320) includes Boyd materials available on the internet, but no archival materials.

[323] Frans Osinga, "'Getting' *A Discourse on Winning and Losing*: A Primer on Boyd's 'Theory of Intellectual Evolution'," *Contemporary Security Policy* 34, no. 3 (2013), 603-604.

history, that Boyd's theory is not truly original or comprehensive, and finally that Boyd's OODA loop is too simplistic or abstract.[324] Osinga's 2007 *Science, Strategy, and War* is the single most important piece of scholarship on Boyd's military theory to date, and does much to undermine these critiques. His objective in writing the book was to provide the first comprehensive study of Boyd's ideas to facilitate "a better understanding of the strategic thought developed by John Boyd."[325] Osinga's approach is to analyze the full body of Boyd's work, consisting of one essay and six briefs, of which "Patterns of Conflict," is the "historical heart," and "the opus of Boyd's research on conflict and warfare."[326] Osinga does this to translate Boyd's briefing slides, which contain many complicated ideas and are very difficult to understand without the supporting speech, into a readable version accessible to a wider audience. While *Science, Strategy, and War* did provide the first translation of the ideas into a readable form, it makes another critical contribution. Boyd was heavily influenced by the scientific ideas and philosophy of the 1960s and 1970s, which Osinga collectively refers to as postmodern. These ideas emphasized the limitations of knowledge acquired through traditional scientific processes, the subjectivity of knowledge, and systems thinking to acknowledge the fundamental uncertainty and apparently chaotic nature of the universe.[327] Osinga's book provides an excellent explanation of the "postmodern turn" as Boyd's scientific *Zeitgeist*, and explains the development of Boyd's thought by examining four of his major products, illuminating how this science and philosophy shaped Boyd's thinking in defining ways. By showing Boyd's ideas to be a multidisciplinary synthesis that integrated new thinking about the chaotic nature of the universe and the subjective

[324] Osinga, "'Getting' *A Discourse on Winning and Losing*," 604-605.
[325] Frans P.B. Osinga, *Science, Strategy, and War: The Strategic Theory of John Boyd* (New York: Routledge, 2007), 1.
[326] Osinga, *Science, Strategy, and War*, 1-2.
[327] Osinga, *Science, Strategy, and War*, 106-121.

nature of knowledge, Osinga argues "Boyd was doing for the military realm what others were doing for philosophy, sociology and the arts at the end of the 1970s and early 1980s", therefore "it is fruitful and warranted to regard Boyd as the first postmodern strategist"[328]

Osinga's work devotes very little attention to the way Boyd's ideas shaped the doctrine of armed forces. In fact, *Science, Strategy, and War* makes relatively little mention of maneuver warfare, or maneuver conflict as Boyd called it. This might seem surprising to those who have argued that Boyd was an aggressive advocate of maneuver warfare, and developed the theory behind Marine Corps doctrine. The implication of Osinga's lack of attention to this topic is that he does not see maneuver warfare as a major component of Boyd's theory or the focus of his advocacy. This is consistent with a central argument of this dissertation. It is not consistent with the two book-length analyses by Americans addressing Boyd's ideas as represented in maneuver warfare, Air University professor Grant Hammond and Marine Corps Major Ian Brown.

Grant Hammond's 2001 *The Mind of War: John Boyd and American Security* preceded both Coram's popular history and Osinga's interpretive work. Later self-described as "the first book on John Boyd that focused more on his ideas than his personal story," *The Mind of War* is essentially a biography of John Boyd and his lifelong impacts on the U.S. defense establishment.[329] Hammond devotes two chapters to explaining "Patterns of Conflict" as the origins of maneuver warfare, but of the 39 pages devoted to the topic, most narrate "Patterns of Conflict," and only six address how Boyd's ideas were institutionalized, generally focusing on the U.S Marine Corps.[330] Hammond argues "The most comprehensive application of Boyd to

[328] Osinga, *Science, Strategy, and War*, 111, 242.
[329] Boyd, *A Discourse on Winning and Losing*, Air University Press publication, 1.
[330] Grant T. Hammond, *The Mind of War: John Boyd and American Security* (Washington, D.C.: Smithsonian Books, 2001), 118-154, 195-196. These last two pages are not part of the two chapters mentioned, but are counted towards the page totals.

date is found in FMFM-1, the Marine Corps manual entitled 'Warfighting'," and adds, "The synthesis that FMFM-1 represents rests largely on the one that Boyd created."[331] The implication is that Boyd's core theoretical arguments are reflected in FMFM-1, which describes itself as "based on maneuver" and "a doctrine of maneuver warfare."[332]

Ian Brown addressed this topic more closely in 2018, seeing the Marine Corps' doctrine of maneuver warfare as the result of two "interrelated threads that eventually wove together," the first being the Marine Corps' search for new ideas on fighting "during a long period of institutional soul searching following the end of the Vietnam War."[333] The second thread that Brown traces is the "relentlessly curious mind" of John Boyd, who provided the intellectual foundation for maneuver warfare by way of a presentation entitled 'Patterns of Conflict.'"[334] Brown's account does not overturn Hammond's, but provides a more balanced argument based on the contents of "Patterns of Conflict" and closer examination of the dialog in the professional journal of the Marine Corps, the *Marine Corps Gazette*.[335] Brown also obtained an audio recording of Boyd's presentation of "Patterns of Conflict" in a seminar at the Marine Corps Command and Staff College in 1989, and prepared a full transcript. This transcript informed his interpretation of Boyd's ideas, providing a better sense of Boyd's concepts than had been possible in the earlier works based purely on his briefing slides. Brown ultimately reinforces the notion that Boyd was the fount of new ideas that ultimately changed the Corps, and the father of

---

[331] Hammond, 195.
[332] U.S. Marine Corps. Fleet Marine Force Manual 1 (FMFM 1), *Warfighting* (Washington DC: Headquarters United States Marine Corps, 1989), 37.
[333] Ian T. Brown, *A New Conception of War: John Boyd, the U.S. Marines, and Maneuver Warfare* (Quantico, VA: Marne Corps University Press, 2018), xxvi.
[334] Brown, xxvii-xxviii.
[335] In this respect, Brown's book is a continuation of a project begun by Fideleon Damian in his master's thesis, "The Road to FMFM1: The United States Marine Corps and Maneuver Warfare Doctrine, 1979-1989." Master's Thesis. (Manhattan, KS: Kansas State University, 2008). This work is not covered in the historiographic review above for the sake of brevity, but must be acknowledged as an important step forward in the scholarship on this subject.

maneuver warfare, arguing, "the great gift of 'Patterns of Conflict' to the Marine Corps was the conceptual framework of conflict called maneuver warfare."[336]

One additional, though significantly shorter, analysis of Boyd's work bears mention here, James Hasík's 2013 *Contemporary Security Policy* article, "Beyond the Briefing: Theoretical and Practical Problems in the Works and Legacy of John Boyd." Hasík, a senior fellow both in the School of Business at George Mason University and at the Atlantic Council, provides a thoughtful and balanced critique of Boyd's epistemology, theoretical logic, evidence, and medium for communicating his ideas. The portions of Hasík's critique which merit close consideration are addressed within this chapter and chapter 6, but other parts of his argument are founded upon information drawn from Coram's popular history and ill-informed analyses which show poor understanding of Boyd's ideas. As such they reinforce Hasik's ultimate conclusion that Boyd's work needs closer examination and explanation.[337]

Collectively, the three most significant academic analyses of John Boyd's ideas written by Hammond, Osinga, and Brown provide a good overview of his concepts, and established a connection between some of them, particularly those expressed in "Patterns of Conflict" and in Marine Corps *Warfighting* doctrine. Collectively, they also refute the reductionist view that equates Boyd's ideas as simply the OODA Loop. Hammond, Osinga, and Brown all address Boyd's process, and rightly argue that understanding Boyd's approach to knowledge and theory is fundamental to understanding the way he presented his ideas and the actual content of those presentations. All three, however, focus on his finished product, the version of "Patterns of

---

[336] Brown, 86.

[337] James Hasík, "Beyond the Briefing: Theoretical and Practical Problems in the Works and Legacy of John Boyd" *Contemporary Security Policy* 34, no. 3 (2013), 594-595. Examples of questionable evidence include Hasík, 589, which cites two critiques of OODA as command and control theory, but demonstrate little understanding of Boyd's concept; and Hasík, 591, which references a critique by David Mets based on Mets's very early and inaccurate observation of Boyd's brief.

Conflict" dated December 1986, as the best source for understanding those ideas. For understanding Boyd's process, they depend upon generalizations about his approach from his earlier writing in an essay titled, "Destruction and Creation," and limited primary evidence describing the process provided by Boyd and his associates.

Rather than resting its analysis on the finished, final version of "Patterns of Conflict," this dissertation more closely examines its origins, sources, and development to provide a much better understanding of how Boyd developed his ideas and what Boyd actually argued. To accomplish this requires a deep investigation of several projects Boyd was involved in prior to beginning his "Patterns of Conflict" study, and a close study of the development of that brief itself. This is possible because the author has located 32 different versions of Boyd's briefing slides which document the progressive evolution of his ideas over the ten-year period from 1976 to 1986. These briefing slides also contain a source list which evolved along with them, making it possible to see what works Boyd was reading, and where he was drawing his ideas from as "Patterns of Conflict" matured. The Boyd papers in the Marine Corps Archives also contain 87 books and several manuscripts from his personal collection, many of which are heavily annotated in the margins in Boyd's handwriting. That collection also includes numerous working papers and notebooks which demonstrate Boyd's engagement with different sources. The chronology of Boyd's reading from his source lists helps place these notes in the context of other sources he was consulting and ideas he was developing as he read these texts, yielding a much more complete picture of when and how his ideas evolved.

This study also benefits from four full transcripts of Boyd's brief. The first "transcript" is actually an oral history interview conducted of Boyd in January 1977 by the Office of Air Force History. Though the first 127 pages of this interview follow Boyd through a typical set of

questions and answers about his experiences, the next 106 pages are a verbatim record of Boyd presenting "Patterns of Conflict" to an audience of one. The second transcript is from May 1978, when Boyd presented his brief at a conference on anti-tank warfare in Arlington. The third transcript was made by the author from a video recording in the Marine Corps Archives, in which Boyd presented his brief to a group of congressional staffers circa 1986. The final transcript was prepared by Ian Brown from an audio recording of a seminar Boyd conducted with Marines in Quantico in 1989. Through the use of these sources, chapters 4 and 6 of this dissertation will present the first process-oriented history of Boyd's ideas as argued in "Patterns of Conflict."

This chapter will focus on the development of Boyd's ideas from 1974 to 1978. This is the period in which the focus of his interest shifted from aviation matters to developing a wider theory of conflict, and it ends when he first integrated the concept of maneuver warfare into his "Patterns of Conflict" briefing, though Boyd used the phrase "maneuver conflict." It will challenge the prevailing interpretation of Boyd's work in several ways. First, it will show that the relationship between Boyd's work in aircraft design and the development of his theory has been fundamentally misunderstood because the OODA loop was not an insight gained from fighter tactics, but instead the result of Boyd's historical inquiry. This begins the process of positively refuting criticisms that Boyd's entire theory is a minor insight supported by a fraudulent historical argument, a task that will be continued in chapter 6. Hammond, Osinga, and Brown have not explicitly marshalled this argument. Chapter 6 will return to complete the analysis of "Patterns of Conflict" as it evolved from 1978 to 1986 for the purposes of examining Boyd's relationship with maneuver warfare. It will intervene by showing that advocacy of maneuver warfare was never Boyd's central argument, but instead a relatively small part of his

work. This chapter lays the groundwork for chapter 6 by showing the inception and evolution of Boyd's other key ideas before he integrated the concept of maneuver conflict. Most notable among them was his insistence that military competition takes place in a domain where Mind, Time, and Space are inseparable, and victory is promoted through competitive adaptation promoted by acting with Initiative, Quickness, Fluidity, and Cohesion. Though Boyd eventually reorganized these concepts as Mind-Space-Time and Variety, Rapidity, Harmony, and Initiative, identifying the early appearance and the place of these central concepts relative to others in Boyd's growing system of ideas will make it more clear in Chapter 6 that OODA and maneuver conflict were just two elements of Boyd's larger theory of ideas in "Patterns of Conflict," and *neither was his main point*. These interventions are possible only because this study takes a process-oriented approach to understanding Boyd's ideas, while the other scholarship to date focused more on the product (literally the final product), with only limited insight to the process gained from oral history and limited archival research.

**Situating "Patterns of Conflict"**

Chapter 3 introduced Boyd as a member of the Military Reform Movement, most notably his work as an engineer creating Energy-Maneuverability (E-M) Theory as a new basis for understanding aircraft flight performance and fighter design, and his larger critique of the U.S. Department of Defense's acquisitions system. This study closely analyzes Boyd's major theoretical works on the nature of war depicted in Figure 1. An initial glace at this graphic shows how the development of these ideas was a very long work in progress, and indicates the importance of studying the full body of his works if one is to get a deep understanding of his concepts, rather than just relying on a single signature product such as "Patterns of Conflict."

Figure 1. Timeline of John Boyd's major works. The blue portions indicate the periods during which each work was in development. The green portion indicates when one essay ("Destruction and Creation") and four briefs ("Patterns of Conflict," "Organic Design for Command and Control," "The Strategic Game of ? and ?," and "Revelation") were considered complete enough for assembly as a limited-publication book titled "A Discourse on Winning and Losing." This was informally known as "The Green Book" for the color of its cover.

This particular chapter focuses on the works Boyd produced up to 1978, where there is a strong case for considering the early years of "Patterns of Conflict" in the context of two of his other works, the essay "Destruction and Creation" and another theoretical brief, "A New Conception of Air-to-Air Combat." and "Patterns of Conflict." With so many criticisms on Boyd centering on the alleged misapplication of ideas about aerial combat to other forms of warfare, these works are critical for better understanding how Boyd's interests fundamentally shifted in this period, and how his aviation expertise related to his historical inquiry.

## "Destruction and Creation"

It is important to start with Boyd's essay titled "Destruction and Creation" not only because it was his first work of non-technical theory, but also because of its importance to his later work. Hammond calls it Boyd's "sacred text," and "the basis for most of his thought thereafter."[338] Osinga calls it the "foundation" of Boyd's later work.[339] Brown refers to it as Boyd's mental framework.[340] All of these are fair assessments, for "Destruction and Creation" is

[338] Hammond, 118.
[339] Osinga, *Science, Strategy, and War*, 131.
[340] Brown, 90-93.

Boyd's exposition on the nature of understanding and adaption, and provides critical context for understanding how he approached his subsequent studies.

In Boyd's own words, "Destruction and Creation" reflected "a pattern of thoughts that had been welling up and taking form since 1960."[341] His personal papers show that he began to compose some notes on these topics, and what he thought might become a "theory of learning," during a deployment to Thailand in 1972, if not sooner.[342] He began the serious writing with six months of focused effort in the fall of 1975, probably starting right after his retirement from active duty in September of that year.[343] Though he was substantially done with the essay in March 1976, the final version is dated September 3, 1976.[344] This essay and his timing is important for several reasons. First, his final work on this essay was coincident with his start of Boyd's "Patterns of Conflict" studies and reveals his thinking at the time when he was dramatically expanding his interest far beyond matters relating to aerial warfare and aircraft design. Second, this unpublished essay, his only traditionally-written expression of any of his theories, essentially communicated his understanding of cognition and metacognition, how people and groups make sense of the world around them. This would undergird all of his work, and was unique in its finality. Boyd constantly revised and expanded the ideas he later presented

[341] John R. Boyd, letter to "Professor Ericson," March 26, 1976. John R. Boyd Collection, Collection 2062, Box 4, Folder 3: Comments on Destruction and Creation, Memoranda on Attack Geometry, and Agenda. Marine Corps Archives.
[342] Boyd, letter to "Professor Ericson; and John R. Boyd, untitled notes, circa 1972, John R. Boyd Papers, Box 3, Folder 4: Precursor to "Destruction and Creation." Marine Corps Archives, contains outlines and notes, some dated in August and September 1972, that were ultimately incorporated in "Destruction and Creation."
[343] John R. Boyd, letter to "Bob," April 3, 1976, John R. Boyd Collection, Collection 2949, Box 18, Folder 3: Notes, Rough Drafts, Marine Corps Archives, provides a copy of the essay in its near-complete form and explains the "writing consumed about 6 months."
[344] The earliest draft of this essay is John R. Boyd, "Destruction and Creation," 1976, John R. Boyd Papers, Box 3, Folder 5: Destruction and Creation 11 Feb. 1976. Marine Corps Archives. The final version of the essay is John R. Boyd, "Destruction and Creation," 1976, John R. Boyd Papers, Box 4, Folder 1: Destruction and Creation, 3 September 1976. Marine Corps Archives. The folder contains two versions with the same date. One includes handwritten notes and the other appears to be a final smooth copy. The citations are to this final smooth copy, hereafter "Boyd, 'Destruction and Creation,' 3 September 1976."

in his briefs, and probably chose to present his argument in such briefs instead of formal writing because it prevented him from being tied to any static expression of ideas. Once "Destruction and Creation" was finished in September 1976, on the other hand, Boyd never went back and revised it, and its ideas remained central to every other brief he gave. Indeed, when Boyd did assemble a collection of slides from his three major briefs on the nature of conflict for limited publication in 1987, the capstone he added to the end was a copy of "Destruction and Creation" and a one-slide graphic titled "Revelation."[345]

"Destruction and Creation" is therefore the intellectual foundation of Boyd's ideas. "Patterns of Conflict" and his later briefs are embedded with terms and concepts such as open and closed systems, interaction and isolation, and adaption to changing conditions. Without reading "Destruction and Creation" these concepts appear vague, as faint threads. Informed by a close read of this essay, however, the reader recognizes these as structural themes of Boyd's work, the central concept binding all of his work together.

The contents of "Destruction and Creation" have been thoroughly distilled by Hammond, Osinga, and Brown, and bear explanation here only as they relate to understanding Boyd's work that followed. Boyd was intrigued by his own accidental discovery in graduate school that fighter tactics might be thought of and explained as a competition in energy management. This was an insight that ultimately led to his development of E-M Theory, and eventually a complete overhaul in the U.S. Air Force's approach to designing aircraft. Boyd wanted to understand why he, a fighter pilot with only a basic graduate education in engineering, was able to discover an explanation of fighter performance which had eluded the top experts in aerodynamics, engineering, and physics, revolutionizing their whole approach to aircraft design. Ultimately,

[345] John R. Boyd, *A Discourse on Winning and Losing*, August 1987, John R. Boyd Collection, Collection 2062, Box 8, Folder 7: "A Discourse on Winning and Losing, [sic] August 1987. Marine Corps Archives, 1.

Boyd traced this all back to an incident one night in the winter of 1961-1962, when he was studying at Georgia Tech. During a break in a group study session preparing for a thermodynamics exam, he attempted to answer a question from one of his fellow graduate students about what being a fighter pilot was like. Boyd later recounted, "because this guy did not know what fighter pilots did, I had to interpret to him in a different frame of reference, using energy."[346] This insight ultimately led Boyd to develop E-M Theory, but a decade later, in the early 1970s, he though back on the accomplishment and realized that his insight came from being able to relate two fields of thought that most people, even experts, considered unrelated. This led Boyd to undertake a wide study of works in philosophy and science, products of Osinga's "postmodern turn" to understand how powerful new ideas came about. Boyd's stated purpose in his abstract for "Destruction and Creation" was to sketch out how people form "mental patterns or concepts of meaning."[347] Boyd saw the creation of these patterns as necessary to survival, which required both shaping and being shaped by a changing environment. Boyd's key idea was that such pattens are not simply created, but first require the destruction of old patterns to permit the formation of new ones in a dialectic activity that generated both order and disorder.[348] Early in the essay Boyd made it clear that in a world of limited resources characterized by constant competition, individuals and groups must improve their capacity for independent action at the expense of other individuals and groups. This meant constraining that competitor's capacity for freedom of action in their struggle to cope with their physical and social environments.[349] Boyd wrote,

---

[346] U.S. Air Force, *Oral History Interview: Col John R. Boyd, 28 Jan 1977, Corona Ace Interview*. John R. Boyd Collection, Collection 2062, Box 24, Folder 10: General U.S. Air Force Oral History Interview – Col John R. Boyd, 28 January 1977, Marine Corps Archives, 92-120. The quote is found on page 120. Hereafter, "U.S. Air Force, *Corona Ace Interview*."
[347] Boyd, "Destruction and Creation," 3 September 1976, abstract.
[348] Boyd, "Destruction and Creation," 3 September 1976, abstract.
[349] Boyd, "Destruction and Creation," 3 September 1976, 2.

> Against such a background, actions and decisions become critically important. Actions must be taken over and over again and in many different ways. Decisions must be rendered to monitor and determine the precise nature of the actions needed that will be compatible with the goal. To make these timely decisions imply [sic] that we must be able to form mental concepts of observed reality, as we perceive it, and be able to change these concepts as reality itself appears to change. The concepts can then be used as decision-models for improving our capacity for independent action.[350]

Boyd saw two ways to develop and manipulate mental concepts to represent observed reality: going from the general to the specific in a process related to deduction, analysis, and differentiation, or going from the specific to the general in a process related to induction, synthesis, and integration. These two processes can work in combination. Ideally, one engages in analysis and differentiation to understand the many components of different things that have an apparent relationship, and then synthesizes and integrates the common parts in a large coherent whole. Boyd refered to the first process as destructive deduction, and the second as creative or constructive induction, hence the title of the essay, "Destruction and Creation." With this in mind, Boyd explained that since "we use concepts or mental patterns to represent reality, it follows that the unstructuring and restructuring just shown reveals a way of changing our perceptions of reality."[351]

Boyd argued that, to be valid and useful, any mental pattern meant to represent reality must be both internally consistent and match up with observed reality.[352] He explained that when we observe that our conception of reality is not internally consistent or does not match up with observations, we do not throw away the entire structure, but instead identify the particular parts that are coherent and build a new pattern, which we then test against observed reality.

[350] Boyd, "Destruction and Creation," 3 September 1976, 2-3. Of note, with knowledge of the importance of OODA to Boyd's later work, in this passage can be seen the seeds of the later concepts of Action, Decision, Observation, and even Orientation.
[351] Boyd, "Destruction and Creation," 3 September 1976, 6.
[352] Boyd, "Destruction and Creation," 3 September 1976, 6.

Boyd wrote, "Over and over again this cycle of Destruction and Creation is repeated until we demonstrate internal consistency and match-up with reality."[353] Boyd's end notes for this portion of his essay pointed to Werner von Heisenberg and Jean Piaget, but another important source was Thomas Kuhn's *Structure of Scientific Revolutions*. Kuhn theorized that science does not progress through incremental improvements, but instead through revolutionary changes in conception. While the scientific community might be satisfied with its explanation of natural phenomena for some time, eventually its accepted explanation, or paradigm, is challenged by new information. In science new information which challenges existing paradigms is often the result of developing of more accurate instruments. For a time, such deviations are written off as anomalies, but eventually so many accumulate that the scientific community realizes its current paradigm is bankrupt. Science then enters a period of revolutionary science, when new explanations are developed. Each of these is tested for logical coherency and to see if it accounts for all measurements. If a model fails to meet both criteria, then the process continues until a new model is found, proven, and accepted as the new paradigm. The parallel with Boyd's process of "Destruction and Creation" is clear, with a mental pattern or concept of meaning being analogous to a scientific community's paradigm. In both cases new models are formed only from the destroyed pieces of old ones, and with a relentless demand for match-up with observed reality.

Boyd recognized that the condition of having an existing pattern of meaning is orderly and pleasant, and the process of destroying that to build a new one is uncomfortable, similar to Kuhn's scientific community experiencing periods of revolutionary science. Just as a scientific community will attempt to explain away or write off anomalies, Boyd understood that

[353] Boyd, "Destruction and Creation," 3 September 1976, 7.

individuals and groups have a tendency to look inward when faced with inconsistencies, and stifle efforts to form a more precise match-up between concept and observed reality.[354] This led to the second major insight from "Destruction and Creation" that would carry through all of Boyd's subsequent work: the nonviability of closed systems.

In "Destruction and Creation" Boyd turned to an explanation of three scientific principles which have massive implications for his belief system. First, he explained Kurt Gödel's 1931 assertion that it is impossible to prove the consistency of a system of thinking within its own logic. This was not to say that a system cannot be internally consistent, but simply that internal consistency depends on certain logical assumptions, and these cannot be provided without appeal to logic unbounded by those assumptions. Next, he interpreted Werner Heisenberg's Indeterminacy Principle to mean that uncertainty is a lack of precision that prevents us from determining "the character or nature (consistency) of a system within itself." In other words, uncertainty contributes not to the destruction of an existing pattern of meaning, but the sustainment of it. Boyd then explained that confusion and disorder are features related to entropy and the Second Law of Thermodynamics. Entropy increases, even within a closed system. The implication, again, was that closed systems will become less ordered and consistent, so that again, "<u>we cannot determine the character or nature (consistency) of such a system within itself</u>."[355] This was the second of Boyd's great insights, that closed systems are unable to adapt—only systems which are open to the outside and can undertake the messy process of destruction and creation can adapt and survive. Boyd wrote a letter to a colleague explaining how he felt his synthesis of ideas on the nature of knowledge offered something novel, different than Heisenberg, Kuhn, Gödel and his other sources: "My contribution seems to be the <u>How</u> and <u>Why</u>

[354] Boyd, "Destruction and Creation," 3 September 1976, 7.
[355] Boyd, "Destruction and Creation," 3 September 1976, 13.

together with the What provided by other authors. (Others talked around as to the How and Why but—as far as I can determine—were unable to from a coherent pattern of How and Why.)"[356]

The major insights explained in "Destruction and Creation," then, are twofold. First, individuals and groups understand the world through patterns of meaning which are formed by a process of destruction and creation. Second, this process must admit observations from outside a mental pattern to either validate the existing pattern or discover the need for, and shape the formation of, a new, better pattern. Hasík encourages us to reexamine the validity of a theory transposed from the physical sciences to strategy, for "it may be more than a stretch to think that micro-physical phenomena are generalizable to macros-social phenomena."[357] Ultimately, however, he feels this is surmountable if Boyd's ideas about conflict are sound in themselves.[358] Echevarria recently recast Hasík's analysis of this essay into an attack on Boyd's method for "extracting laws and principles from distinct fields of study and attempting to apply them, quite inappropriately, to other matters."[359] The point of the discussion in this chapter, however, is not to show the validity of Boyd's theory in "Destruction and Creation" or even in "Patterns of Conflict" but instead to show how the latter cannot be understood without first understanding the former.

This pair of concepts: the world is understood through creative mental models and those models must be open to revision and replacement, explains Boyd's relentless drive to reconcile theory with reality, and is the centerpiece of the entire body of theory he developed. All of his work would tie back to the turbulent process of forming mental patterns as central and necessary for adaptation and survival in a competitive world. Again, when Boyd eventually assembled

[356] Boyd, letter to "Bob," 1.
[357] Hasík, 586-587.
[358] Hasík, 587.
[359] Echevarria, 178.

many of his briefs in one massive volume titled "A Discourse on Winning and Losing," the product he put at the end was this first theoretical work, the essay "Destruction and Creation."[360] This was just before a condensation of all his ideas into a single-slide "Revelation" that explained a loser is an individual or group who cannot build new patterns of meaning when facing uncertainty and unpredictable change, while a winner is an individual or group who could do so in an appropriate fashion.[361]

**Boyd's Point of Departure: The "New Conception for Air to Air Combat"**

By 1972 Boyd's thoughts on aerial combat were evolving to recognize the importance of human decision making. As explained in Chapter 3, Boyd's first significant contribution to the Air Force was to rationalize fighter tactics and training. His 1960 *Aerial Attack Study* used physics and aerodynamics to explain how various maneuvers served to increase or decrease one fighter's positional advantage relative to another, so that a pilot understood that there was science to complement skill in aerial combat. Between 1962 and 1966 he developed his next major contribution, Energy-Maneuverability (E-M) Theory, a synthesis of thermodynamics and aerodynamics to create a new system for evaluating aircraft performance. In E-M Theory aircraft performance is understood as a tradeoff between instantaneous turn capability (being able to quickly point at and shoot one's adversary) and energy management (flying the aircraft in less aggressive ways would preserve airspeed and altitude to be traded for turn performance at the optimal time). E-M formula plotted aircraft flight envelopes to allow a deeper understanding of the relative performance differences between two aircraft, which could in turn be used to identify optimal tactical gameplans to exploit certain performance advantages. As such E-M Theory

[360] Boyd, *A Discourse on Winning and Losing*, 1.
[361] Boyd, *Discourse on Winning and Losing*, 15, 355-356

provided a new framework for pilots to make tactical decisions. A few months before leaving on a deployment to Thailand in 1972, the place where Boyd would sketch some ideas that would become "Destruction and Creation," he typed a single page of notes titled "QUESTIONS." These questions show he was considering the basis by which pilots selected the maneuvers that they used to operate their aircraft in different portions of the flight envelope. By asking "What decision logic is used for maneuver selection and region for employment? Basis for selection? When accomplished?" it is clear that Boyd considered a pilot's decision-making, and the timing of decisions, to be an important part of fighter performance in combat.[362] Boyd's last work focusing specifically on aerial combat, his "New Conception for Air-to-Air Combat," expands upon this theme. Indeed, his decision to title this a "New Conception" indicates that when Boyd tested his own E-M Theory against his experience and observations of aerial combat, he found its inability to account for human factors unsatisfying, and eventually developed this broader theory as a new model to replace it, in the spirit of "Destruction and Creation."[363] Significantly, the date Boyd finalized "New Conception for Air-to-Air Combat" is August 4, 1976, one month before he finalized "Destruction and Creation." The archives indicate that both efforts probably began at about the same time, his year-long deployment to Thailand in 1972-1973, and both were concluded within a month of each other, a year after Boyd retired from active duty and continued on as a civilian in the Tactical Air section of the Pentagon's office for Program Analysis and Evaluation. This shows that Boyd's interests in metacognition and in human decision making in fighter combat were simultaneous.

[362] Boyd, John R. "Questions." January 18, 1972, typewritten notes, John R. Boyd Collection, Collection 2062, Box 3, Folder 4: Precursor to Destruction and Creation. Marine Corps Archives.
[363] U.S. Air Force, *Corona Ace Interview*, 144-145.

The immediate precipitant of Boyd's "New Conception for Air-to-Air Combat" was a NASA aerodynamic project he was involved in right after his military retirement in the fall of 1975. Osinga ties this project back to Boyd's surprise at the radically superior performance of the YF-16 over the YF-17.[364] In interviews in 1977 and 1992, however, Boyd related that it grew out of a project (possibly involving one of these aircraft) which moved from a phase of pure computer modeling phase to manned simulators. This was one step in the progression from a paper concept to actually building and flying a new aircraft design. Planned aircraft parameters were fed into a computer-driven cockpit simulator inside a projection dome, allowing pilots to "fly" that aircraft against projected images of a maneuvering adversary fighter. In these particular tests, the manned simulator results differed from the predictions in the computer models, and there was wide disagreement among the project participants about the cause of the discrepancies. Agreeing that they could not come to a consensus on the cause, the matter was left officially unresolved, but it apparently continued to bother Boyd. Since the computer model was based on pure mathematics, the anomalies could not be written off as resulting from unrecorded variables in the environment or an actual aircraft's mechanical or aerodynamic performance. That would leave the timing and precision of pilot actions as one of few ways to rationally explain the difference between mathematical model and simulator performance. For Boyd, who had been thinking about E-M Theory's inability to account for pilot decision making and timing for at least three years, this was a catalyzing event.

Osinga implies that Boyd's "New Conception" was an official project to solve the simulator discrepancy problem for NASA, but instead this was a project Boyd initiated at his own discretion, when one of his colleagues from NASA suggested that he look into the matter

[364] Osinga, *Science, Strategy, and War*, 26-27.

further.[365] Boyd had an anomaly to account for, a discrepancy between observed reality and mathematical model, and it coincided with a nagging concern he had about the adequacy of E-M Theory, so it demanded his personal attention. His progress on other projects, including his first six months of work on "Destruction and Creation," left him free to pursue this. The result would be a "whole new concept for air-to-air combat."[366] Though there are no extant recordings or transcripts of the "New Conception of Air-to-Air Combat" brief, with the knowledge that this key insight was derived from manned simulation and not an actual aircraft fly-off (as Osinga and others have asserted), it is possible to follow the emergence of his ideas in the slides for this brief.

Boyd's slides state that the investigation's original purpose was to assess the relative importance of physical capabilities such as turn performance in air combat maneuvering, which probably refers to the NASA project itself. He noticed, however, a discrepancy in the manned simulation in which pilots were not flying optimum energy management profiles, in other words flying their aircraft at less than ideal combinations of turn rate, G force, and altitude changes. This was particularly pronounced in vertical maneuvers.[367] In horizontal maneuvers, with a fighter circling in a plane parallel to the ground without changes in altitude, a pilot's problems are simpler than in vertical maneuvers, also known as "out of plane" maneuvers. In out of plane maneuvers, the force of gravity is an additional variable affecting both turn performance and the rate at which energy is lost or gained, and relatively slight differences in constantly-changing

[365] U.S. Air Force, *Corona Ace Interview*, 123-126; and Center for Legislative Archives, "Military Reform Caucus Oral History Seminar." Draft transcript. June 27, 1992. William S. Lind Papers, Collection 4939, Box 31 (no folder). Marine Corps Archives, 66-67. The quotes from this source contain many errors and edits because this is pre-edited transcript taken directly from a tape without the benefit of contextual knowledge such as the proper spelling of names and terms.

[366] U.S. Air Force, *Corona Ace Interview,* 126.

[367] John R. Boyd, "New Conception for Air-to-Air Combat." August 4, 1976. John R. Boyd Collection, Collection 2062, Box 4, Folder 4: New Conception for Air-to-Air Combat, 4 August 1976. Marine Corps Archives, slides 13-14.

aircraft pitch dramatically affect performance. Equally important, it is considerably more challenging for a fighter pilot to interpret the relative position and energy state of an adversary fighter, which is also subject to these same highly dynamic variations. This complicates his understanding of the tactical situation and ability to identify the most effective maneuver to employ at any given moment. Boyd noticed that for the simulation pilots, ambiguity in aircraft altitude and attitude in out-of-plane maneuvers led to missed opportunities for executing optimum maneuvers. Additionally, the pilots tended to engage in more "horizontal, slow speed fights" where the number of variables were reduced, simplifying the problem of understanding the relative positions and energy states of the two aircraft.[368] In other words, the simulation results were furthest from the model in vertical maneuvers where pilots had the greatest challenges perceiving the more dynamic conditions, and pilots tended to fly profiles which simplified these problems of perception. The key point Boyd had recognized was that pilot perception and understanding of a rapidly changing situations were critically limiting factors in a fighter's combat performance.

Boyd ties this into another key insight explained in the "New Conception for Air-to-Air Combat," his observation that, in both manned simulation and in actual aircraft performance tests, deviations could not be fully explained by aerodynamic models, which were then based upon his E-M Theory. E-M models depicted flight envelope showing where one aircraft had advantages over another in terms of its ability to change its flight path (G), ability to point its nose in a desired direction (turn performance) and ability to sustain the energy levels needed to do both. Logically, an aircraft which maximized each of these categories would have an advantage over another aircraft. Aircraft design generally required trade-offs in these

[368] Boyd, "New Conception for Air-to-Air Combat," slides 5, 13.

capabilities, so only rarely would a particular aircraft be superior to its adversary in all three categories. This is where E-M theory brought aircraft design and tactics together. Knowing that he had an energy or maneuverability advantage in one portion of the envelope, a fighter pilot would ideally focus his maneuvers in that regime to build a positional advantage which would grow over time. Once a sufficient advantage was obtained, he would convert the remaining energy into a high-G turn, pointing the aircraft's nose at his adversary to take a shot. In this conception it was always advantageous to conserve energy until it came time to use it in a killing shot. Probably referencing the YF-16/YF-17 flyoff, Boyd noted that this failed to tell the whole story.

Counter to the theory, the tests revealed there were advantages from being able to lose energy and then regain it faster than one's adversary, which meant "you not only have the privilege of gaining energy but you also have the opportunity of losing it; that now you are able to play a two-sided game."[369] This meant that is it was more important for an aircraft to be able to change from one maneuver to another faster than its adversary than it was to be able to outperform that adversary in any given maneuver, even if it meant "wasting" energy. Boyd explained, "in most cases you might be concerned with G; in a few cases, however, you are more concerned with rate. I am not going to show which is more important than the other because that would depend on the circumstances."[370] Boyd was explaining that the selection of a tactical gameplan was always situationally dependent, and as an experienced fighter pilot he undoubtedly understood that adversary aircraft maneuvers was the most important variable. To be able to deal with a variety of circumstances, Boyd saw that it was better to have a fighter which could rapidly move from one type of gameplan for exchanging energy and nose position

[369] U.S. Air Force, *Corona Ace Interview*, 129-130.
[370] U.S. Air Force, *Corona Ace Interview*, 130.

to another, creating more options. If these transitions could be made more quickly than the adversary, it seemed to offer great advantages. This ability to quickly transition from one flight regime to another Boyd called a "fast transient," what pilots had referred to as the "natural hook" maneuver that seemed to be the secret of the YF-16's dramatic success.[371]

Boyd explained that the ability to transition from one type of action to another more quickly than one's adversary essentially meant one was able to operate on a more compressed time scale than that adversary. Being able to act quicker allows one pilot to think ahead, while the other is trapped in "real time" and subject to an environment already being shaped by first pilot's actions.[372] In essence, the first pilot is operating in a faster rhythm of action and decision-making.[373] Boyd brings this together in two key insights, what he called his "Idea Expansion" that would later become themes in "Patterns of Conflict." First, he states, "Idea of <u>fast transients</u> suggests that – in order to win or gain superiority – we should operate at a <u>faster tempo</u> than our adversaries or inside our adversaries [sic] <u>time scales</u>."[374] As a result, "Such activity will make us appear ambiguous (non-predictable) thereby generate confusion and disorder among our adversaries—in accordance with Gödel's' Proof, the Heisenberg Principle and the Second Law of Thermodynamics."[375] Here Boyd was explicitly connecting the advantage gained from fast changes in maneuver not just to the momentary positional advantages they might create, but also to the problems they created in the mind of the opposing pilot, who had to recognize the change and react appropriately. With fast transients, a pilot could change what he was doing faster than his adversary could make sense of his actions and would constantly be struggling with the

[371] Boyd, "New Conception for Air-to-Air Combat," slides 17-18.
[372] U.S. Air Force, *Corona Ace Interview*, 137.
[373] U.S. Air Force, *Corona Ace Interview*, 133-137.
[374] Boyd, "New Conception for Air-to-Air Combat," slide 19
[375] Boyd, "New Conception for Air-to-Air Combat," slide 19.

mismatch between his mental model (what he thought was going on in the fight) and observed reality (the actual fight as the pilot exploiting fast transients had redefined it). Second, Boyd asserts, the New Conception that results from all this is that fighters should be designed and flown to generate a rapidly changing environment and to "inhibit an adversaries [sic] capacity to adapt to such an environment" by suppressing its signature or distorting adversary observations. Doing this would "Unstructure adversaries [sic] system into a 'hodge podge' of confusion and disorder by causing him to over and under react because of activity that appears uncertain, ambiguous, or chaotic."[376] Boyd's great insight from his New Conception for Air to Air Combat was that a fighter should not simply be designed for superior performance to turn tighter or faster than another aircraft, or even to have superior energy retention and recovery. Instead, a fighter should be design and flown so that it would defeat the adversary pilot's ability to make sense of the situation and fight back.

It is clear, then, that between the fall of 1975 and late summer of 1976, on the eve of drafting the first version of "Patterns of Conflict," Boyd was synthesizing his extensive expertise in aerial combat with his theory of competitive sense-making that valued recognizing and adapting to changing circumstances as the key competency for survival and prosperity. Though Boyd returned to specific recommendations for aircraft design at the end of his "New Conception" brief as a "Recipe for Generating Confusion and Disorder"[377] it is also clear that Boyd was beginning to glimpse wider relevance for these ideas, for his brief included three historical examples where these concepts appeared to be at play: the German invasion of France in 1940, the performance of the F-86 versus the Mig-15 in the Korean War, and the Israeli raid

[376] Boyd, "New Conception for Air-to-Air Combat," slide 21.
[377] Boyd, "New Conception for Air-to-Air Combat," slide 21A.

on Entebbe in 1976.[378] Inductively, this led him to the hypothesis "Fast transients (faster tempo) together with Synthesis associated with Godel, Heisenberg, and the Second Law of Thermodynamics suggest a new conception for Air-to-Air Combat and for Waging War."[379]

Before moving on to Boyd's historical investigation of that hypothesis in "Patterns of Conflict," a few important observations are in order. First, in his work from the fall of 1975 to the late summer of 1976 on "Destruction and Creation" and the "New Conception for Air-to-Air Combat," Boyd had not developed the OODA concept. This chapter will show that OODA was in fact two years away and would be produced *because of* his "Patterns of Conflict" inquiry. Second, what Boyd did gain from his decades-long inquiry study of fighter performance instead was an idea that would frame his historical inquiry, the notion that in combat decisive advantage might come not from superior physical capabilities, but instead from the ability to change one's actions quickly enough that one's adversaries would have trouble making sense of the changing situation. The corollary to this was captured on Boyd's final slide in the "New Conception" brief, the message "He who can handle the quickest rate of change survives."[380] With these two insights in mind, Boyd turned to a new project, one that would not merely be an expansion of his ideas on fighter combat, *but would also reflexively shape them*: "Patterns of Conflict."

**Origins of "Patterns of Conflict"**

According to Boyd's own statement, in August 1976, as he completed his work on the original version of the "New Conception for Air-to-Air Combat" and was finalizing "Destruction and Creation," he began to develop the brief for which he would become famous in military

[378] Boyd, "New Conception for Air-to-Air Combat," slide 19.
[379] Boyd, "New Conception for Air-to-Air Combat," slide 20.
[380] Boyd, "New Conception for Air-to-Air Combat," slide 22.

reform circles: "Patterns of Conflict."[381] This is also the brief most closely associated with maneuver warfare, and his ideas as communicated within are the central subject of this chapter. Before getting to Boyd's intent, method, and evolving ideas in "Patterns of Conflict" it is appropriate to consider the origins of this project, which are misunderstood.

Coram's popular biography of Boyd asserts "it was the superiority of the YF-16 over the YF-17 that precipitated his research" and "A month after the fast-transients briefing [the 'New Conception for Air-to-Air Combat' dated August 4, 1976], Boyd was ready with his first version of his 'Patterns of Conflict' briefing."[382] In fact, about two years elapsed between the Air Combat Fighter flyoff and Boyd's initiation of "Patterns of Conflict." Osinga does get the chronology correct, but is ambiguous on the reasons Boyd embarked on "Patterns of Conflict."[383] Likewise, Hammond does not discuss how Boyd's ideas on aerial combat shaped his fundamental conclusions in "Patterns of Conflict."[384] While Brown does develop the importance of the New Conception defining fighter combat as a contest of perception and decision-making, he lacks a deep investigation of the process that lead to "Patterns of Conflict," contributing fundamental chronological errors.[385] Hammond and Brown argue that Boyd's involvement in aviation projects, most directly the design of the A-10's anti-tank cannon, brought him into contact with former *Wehrmacht* officers, and this in turn inspired his wider interest in history.[386] The archives show Boyd's first contact with a former *Wehrmacht* officer on aviation projects came in a seminar from October 14-15, 1976, and was indeed sponsored by the A-10 Program as it investigated design parameters for its anti-tank armament. Boyd, however, had already

[381] U.S. Air Force, *Corona Ace Interview*, 92.
[382] Robert Coram, *Boyd: The Fighter Pilot Who Changed the Art of War* (Boston: Little, Brown and Company, 2002), 327-328.
[383] Osinga, *Science, Strategy, and War*, 26-28.
[384] Hammond, 120-122.
[385] Brown, 97-98, 103, 107.
[386] Hammond, 121; Brown 88-89.

produced three versions of "Patterns of Conflict" by this point. In combination, the existing accounts contribute to the impression that Boyd got some key insight from a singular event in aircraft testing, and this inspired him to inappropriately apply that insight on air combat to other domains. This, of course, parallels charges that Boyd derived OODA from aerial combat, and his historical investigation served the predetermined conclusion that OODA applied to other domains of warfare. Such narratives also tend to emphasize a radical turn in Boyd's interests at this time, as if an epiphany drove him into an alien field of knowledge, one his experience made him ill-equipped to explore. Coram's biography of Boyd, for example, is neatly divided in three parts, "Fighter Pilot," "Engineer," and "Scholar." Each part is aligned with one of Boyd's major theoretical contributions, and the last of these parts suggests Boyd's work on OODA and "Patterns of Conflict" was a result of Boyd's metamorphosis into a scholar.[387] The relationship between Boyd's work on aerial combat and the initiation of his historical inquiry therefore requires greater attention.

Boyd's "Patterns of Conflict" investigation cannot be clearly separated from his efforts in "Destruction and Creation" and the "New Conception for Air-to-Air Combat." His emphasis over time, however, shifted from one project to the next. In general, analysis shows that Boyd's focus shifted from work on "Destruction and Creation" to the "New Conception for Air-to-Air Combat" in the spring of 1976. While working on the "New Conception," probably in the summer of 1976, Boyd did make a preliminary historical inquiry to investigate the wider relevance of his ideas. By August 1976 that suggested enough parallels between air combat and other forms of warfare, so Boyd began working on "Pattens of Conflict" in earnest in that month,

[387] Coram, xi-xii.

refining and finalizing the other two products to make time for the serious historical research that project would require.

It is clear that Boyd did see a possible connection between the importance of perception and tempo in aerial combat and other forms of warfare at some interval before he began his intense historical study, for in his "New Conception for Air-to-Air Combat" he makes specific reference to the German invasion of France in 1940 and the Israeli raid on Entebbe in 1976. These are presented as non-aviation examples within a much larger body of analysis which, "suggest a New Conception for Air-to-Air Combat and for Waging War."[388] This was no more than a hypothesis, a suggestion in Boyd's own words, and not supported by a serious study of military history, but a cursory inquiry.

In a 1992 interview Boyd explained that as a result of his investigation into the simulator discrepancies, the issue that led to the "New Conception," his ideas focused on "pacing your adversary,"

> And then it occurred to me because some of the things I'd read about German blitzkrieg and I looked real quickly at some stuff on the blitzkrieg and said, "Hell, that what's [sic] they were doing with [the] French..." So it seems that these ideas that we had in aerial combat even though in a specific senses [sic] they're different, in a general sense they're quite the same.[389]

This notion that Boyd's ideas on aerial warfare might have wider relevance was not a casual inference. The "New Conception" is in most respects a highly technical argument about aviation matters, but it was appropriate for Boyd to question if the ideas would be valid when applied to a wider span of activities. Just a few months later Boyd described thinking, "Now, wait a minute. This is a very general idea. If it is true, it should apply to warfare in general."[390] In essence,

[388] Boyd, "New Conception for Air-to-Air Combat," slide 21.
[389] Center for Legislative Archives, "Military Reform Caucus Oral History Seminar," 67.
[390] U.S. Air Force, *Corona Ace Interview*, 92.

reflecting his intellectual manifesto in "Destruction and Creation," Boyd was making an appeal outside the system of ideas that was fighter tactics because this was the only way the ultimate validity of those ideas on air combat could be proven. Testing the ideas against a wider domain was as important, if not more important to Boyd at this stage, to validating his New Conception for air-to-air combat as it was to seeing how widely those ideas might apply to waging war.

Just as important as the idea that Boyd had every reason to investigate the relevance of his New Conception outside the domain of air combat is the way he described it: a "very general idea" that might apply to "warfare in general." Contrary to charges Boyd was transferring a very narrow idea derived from air combat, such as OODA, to warfare in general, Boyd's New Conception was an abstract concept developed inductively from aerial warfare, and then examined in the light of historical evidence. Osinga seems to be the only Boyd scholar who has made this vital point explicitly clear.[391]

Boyd knew this would require a serious project, and one not well matched to his aviation expertise. As he recounted in 1977, just six months into his "Patterns of Conflict" studies, stating, "That new idea in air-to-air combat led to warfare when I expanded upon it. Now when I saw that at first, I said, 'Oh, god, I don't want to do this. I will have to read history books and everything else.' But the more I looked at it, there was no escape from it."[392] What got Boyd to begin the exploration was the persistent urging of a close reform colleague, Pierre Sprey. As Boyd recounted in 1992, he initially responded,

> "That's not of any value." And I really didn't want to do it. The grunts [soldiers], that's their job, they would understand it better. In any case, what happened was he kept heating up on me and finally I said well I've got a month or two, I'll work on that I've got a whole

[391] Osinga, "'Getting' *A Discourse on Winning and Losing*," 612.
[392] U.S. Air Force, *Corona Ace Interview*, 26.

> month or two to work on that. So ten years later, I'm still working on it, instead of a month or two.[393]

This shows that Boyd was consistent in his account of "Patterns of Conflict" starting as a reluctant exploratory project that justified itself and demanded greater attention as Boyd's research expanded and deepened. Boyd was wary to explore a whole new field, but felt compelled to do so. Boyd's initial work on "Patterns of Conflict" should therefore be viewed as an exploration into the idea that the New Conception, a hypothesis that tempo and perception were decisive components in competitive adaption, might have wider relevance to warfare. This preliminary exploration was virtually mandated by Boyd's intellectual standards, and had as much to do with testing the integrity of his aviation work as it did his curiosity about wider relevance.

The timing of Boyd's work is also revealing. The first extant copy of "Patterns of Conflict" is version 3, and though it is undated, it is clear that this version came after September 3, 1976 because it includes the finished and dated version of "Destruction and Creation" in its source list.[394] The first dated version of "Patterns of Conflict" is "Warp IV" dated October 20, 1976.[395] This indicates that Boyd worked through four versions of "Patterns of Conflict" no later than seven weeks after finalizing "Destruction and Creation" and eleven weeks after finishing his "New Conception for Air-to-Air Combat." If late summer 1976 corresponds to the time Boyd had a "month or two" to make his initial historical inquiry, his engagement of sources in that period is also revealing.

---

[393] Center for Legislative Archives, "Military Reform Caucus Oral History Seminar," 67.
[394] John R. Boyd, "Patterns of Conflict, Version #3," circa 1976, John R. Boyd Collection, Collection 2062, Box 4, Folder 5: Patterns of Conflict, Version #3. Marine Corps Archives, slide 2. Hereafter, "Boyd, 'Patterns of Conflict,' Version #3."
[395] John R. Boyd, "Patterns of Conflict, Warp IV," October 20, 1976, John R. Boyd Collection, Collection 2062, Box 4, Folder 7: Warp IV: Patterns of Conflict, 20 October 1976. Marine Corps Archives, slide 1. Hereafter, "Boyd, 'Patterns of Conflict,' Warp IV."

Version 3 of "Patterns of Conflict," which must be from September or early October 1976, includes a source list of 14 works including J.F. C. Fuller's *The Conduct of War, 1789-1961* (1961), T.E. Lawrence's *Seven Pillars of Wisdom* (1926), B.H. Liddell Hart's *Strategy* (1967), Kenneth Macksey's *Guderian: Creator of the Blitzkrieg* (1976), Mao Tse-Tung's *On Guerrilla Warfare* (1937), Lynne Montross's *War through the Ages* (1960) and Baljit Singh's and Mei Lo-Wang's *Modern Guerilla Warfare* (1971).[396] Some of these are lengthy and comprehensive works of military history and theory. Others are more specific, yet written by respected authorities on these subjects. Boyd's notebooks from this period contains lengthy notes on these sources, showing he was engaging them critically and deeply. This is further supported by the voluminous notes Boyd made in the margins of his personal copies of these books in his library.[397]

The volume of material and Boyd's deep reengagement with it so soon after competing his "New Conception for Air-to-Air Combat" and "Destruction and Creation" essay indicates that his "Patterns of Conflict" effort was underway before those other products were finalized. The final version of the "New Conception" dated August 3, 1976 also cites three historical examples and hypothesizes that his new conception was one "for Air-to-Air Combat *and for Waging War*[emphasis added]."[398] Collectively, this chronology suggests the notion of exploring the wider relevance of the New Conception was a seed planted in the spring or early summer of 1976, leading to some comprehensive exploratory readings after Boyd was substantially done with "Destruction and Creation" and was refining his air-to-air work. Then,

[396] Boyd, "Patterns of Conflict," Version #3, slide 2.
[397] John R. Boyd, notebooks, miscellaneous dates. John R. Boyd Collection, Collection 2062, Box 18, Folder 5: Spiral Notebooks. Marine Corps Archives, see the green "Spell-Write" stenographer's pad. Hereafter, "Boyd, notebooks folder."
[398] Boyd, "New Conception for Air-to-Air Combat," slide 19, 21A.

consistent with his statement, the real work began in August 1976 after his "New Conception for Air-to-Air Combat" was completed. This led to the first extant versions of "Patterns of Conflict": the undated version 3, the undated Warp III, and Warp IV of October 20, 1976.

All three of Boyd's major projects of 1976 ("Destruction and Creation," his "New Conception for Air-to-Air-Combat," and "Patterns of Conflict") were self-initiated. They were the fruits of the period after he retired from active duty in the Air Force in August 1975, when he had more latitude in focusing his personal time and efforts on the projects that interested him. Boyd's shift from "Destruction and Creation" and his "New Conception" to "Patterns of Conflict" in this period does indeed indicate a radical shift in his interests. At the same time, it is important to recognize that Boyd remained deeply involved in aviation matters. This was a natural product of his professional expertise and networks, his employment as a civilian consultant in the Pentagon's TacAir shop, and his passionate involvement in the military reform movement. Several of Boyd's notebooks from this time are filled with notes on aircraft programs and tests, but when turned over and read from back-to-front, the reverse sides of these pages are packed with notes on his readings in military history.[399] At times, there was also overlap in his aviation and historical inquiries, as in Boyd's participation in the October 1976 interview of former German Stuka pilot Hans Rudel in support of the A-10 program. Instead of viewing Boyd's "Patterns of Conflict" work as the result of some great transformation of interest and effort, and perhaps a foray into a field for which he was ill-equipped, it is more appropriate to regard Boyd's decade-long inquiry into military theory and history as a radical expansion of Boyd's interests, and completely consistent with his principles of intellectual rigor and lifelong commitment to personal growth.

[399] See, for example, Boyd, notebooks folder, green "Spell-Write" stenographer's pad.

Though this chapter does explicitly argue that Boyd's OODA concept was not derived from his aviation experience, the point of this section is not to argue that Boyd's aviation experience did not shape his thinking about war. It would be absurd to lodge such an argument for a man whose entire military career, post-service employment, and personality were deeply tied to both his talent as a fighter pilot and his expertise in fighter tactics and design. Instead, this analysis contests simplistic arguments that Boyd simply transferred the OODA concept from fighter combat to land warfare. It also contests more sophisticated, yet fundamentally linear arguments that Boyd saw specific events in flight tests or ideas in his "New Conception for Air-to-Air Combat" which might have wider relevance. Instead, it indicates a much more organic evolution of thinking, showing that Boyd's thoughts on air combat inspired some historical questions, and his initial research into military history in turn shaped his thinking on air combat. This synthesis showed Boyd that the larger questions about conflict deserved much greater attention, leading him to embarked upon the "Patterns of Conflict" project in earnest in August of 1976. This did not come from a moment of insight and confident self-assurance that he had come upon a universal truth, but only after Boyd had begun to read on these matters to make an initial exploration, and then made a deliberate decision to focus on a wider investigation into military theory and history with a good awareness of the magnitude of effort a serious investigation would require.

**Boyd's Purpose and Historical Method**

One of the frequent charges of Boyd's greatest critics is the accusation that Boyd used a simple idea gleaned from his aviation experience, OODA, and then made inappropriate use of select historical events to try and prove the universal relevance of that idea. This chapter has already begun to refute the first aspect of that argument, by showing that it was the idea of fast

transients, not OODA, that inspired Boyd to begin a preliminary investigation of history. This task will be continued at the end of this chapter by showing Boyd's concept of OODA did not evolve until 1978 and was the result of two years of historical investigation. In the interim, this chapter will focus on analyzing Boyd's ongoing, deliberate historical investigation to highlight other key ideas that he developed in this same period, showing that his efforts were both earnest and intellectually responsible. This argument is supported by four main elements: intent, method, sources, and synthesis. This section will begin by examining Boyd's stated intent and method, before moving on to a summary analysis of his sources and their integration. After that this chapter will move on to narrate Boyd's evolving ongoing historical inquiry and synthesis to show that it was based upon great historical breadth, depth, and quality; and there is clear evidence that Boyd's ideas evolved significantly as a result of that investigation. This task is continued in chapter 6, which focuses on Boyd's relationship with the concept of maneuver warfare.

Boyd clearly stated the intent of his "Patterns of Conflict" studies. The first extant copy, version 3 from September or early October 1976, opens with an assumption. Consistent with "Destruction and Creation," Boyd asserts that life is fundamentally competitive, for the goal of any organization is to improve its capacity for independent action, which might require depriving an adversary of its capacity for independent action.[400] In the next slide, Boyd poses the two fundamental questions his study was meant to answer, "How do we realize such a goal by waging war?" and "Does History give any insight or suggest any useful pattern?"[401] This is

[400] Boyd, "Patterns of Conflict," Version #3, slide 3.
[401] Boyd, "Patterns of Conflict," Version #3, slide 4.

consistent with the title, "Patterns of Conflict" and the inclusion of a "Pattern for Successful Operations" slide in its final synthetic discussions.[402]

Figure 2 depicts how over a decade "Patterns of Conflict" would grow from a simple structure of 33 slides which could be covered in an hour to a complex structure of 193 slides that would take a full day to present. Despite this growth in ideas and complexity, the title "Patterns of Conflict" remained the same, and the essence of his stated intent remained the same.

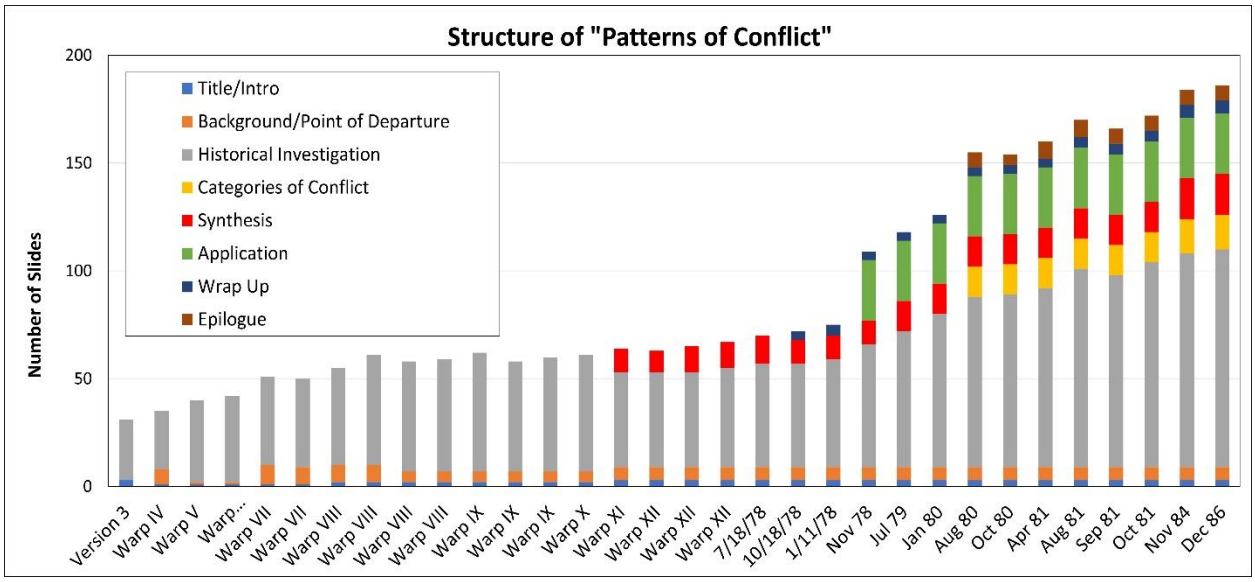


Figure 2. The changing size and structure of the 32 extant versions of "Patterns of Conflict."

In its final version, that of December 1986, Boyd's statement of purpose was,

Mission

- To make manifest the nature of Moral-Mental-Physical Conflict
- To discern a Pattern for Successful Operations
- To help generalize Tactics and Strategy
- To find a basis for Grand Strategy

Intent

- To unveil the character of conflict, survival, and conquest.[403]

[402] Boyd, "Patterns of Conflict," Version #3, slides 1, 29.
[403] John R. Boyd, "Patterns of Conflict," December 1986, John R. Boyd Collection, Collection 2062, Box 7, Folder 2: Patterns of Conflict, December 1986, Marine Corps Archives, slide 2. Hereafter, "Boyd, 'Patterns of Conflict,' December 1986."

This differed from his original statement of September 1976 more in its specificity than in purpose or focus, which remained substantially the same. The character of his brief as a historical inquiry at its core, was also consistent. Though his historical investigation (the grey zone in Figure 2) expanded and evolved over that decade, and Boyd elaborated his analysis and explanation, the bulk of the brief remained devoted to historical narration and analysis.

Some, especially those ignorant of Boyd's reluctance to embark upon this project and his preliminary historical investigation showing parallels between air combat and other forms of warfare, might suspect Boyd was blinded by intellectual hubris. Stephen Robinsons explains Boyd's "fatal mistake," to be "After formulating his views on air combat over Korea, he convinced himself he had unlocked a universal truth. Therefore, he approached history with a preconceived view and sought confirmation of his theory, ignoring critical information which did not suit his quest."[404] Boyd did not, it has been shown, form his key ideas based on Korean War air combat. Nor did he set out seeking to overturn established military theory or historical interpretation. Boyd did, however, have every reason to believe that he *might* provide a new perspective on military history, despite his initial reluctance to explore that field. As a relatively inexperienced fighter pilot, and at his own initiative, he had begun developing an explanation of fighter tactics that eventually revolutionized Air Force tactical fighter training. As a novice to the field of engineering while still a graduate student, he saw connections between thermodynamics and competitive aerodynamics that yielded a whole new theory evaluating fighter performance, revolutionizing the Air Force's system of thinking that guided aircraft design and employment. His "Destruction and Creation" essay was an investigation into the reasons why he had come up with such revolutionary ideas, and in it Boyd concluded that major

[404] Robinson, 16.

advancements in knowledge came from radically enlarging a field of inquiry beyond its traditional bounds. Boyd therefore had every reason to believe it was worth his time to tread ground that would otherwise have been left to experts in military history and theory. In his own words, he was surprised how his preliminary historical investigation slowly grew into a study that would take him more about a decade to complete, but he did so because his efforts continued to bear fruit.[405]

Having examined Boyd's intent, his method must be scrutinized, especially because he has repeatedly been criticized for his lack of historical training, both by trained historians and others. Most recently, Stephen Robinson charged, "Boyd never genuinely studied history in the disciplined manner of a professional historian" and lacked "the ability to analyze events in their proper historical context."[406] Boyd faced such criticisms even as he was working on "Patterns of Conflict," and his reactions to them will be discussed in Chapter 6.[407] Here it is worth examining a recent, more detailed critique from a more credible source, Antulio Echevarria's 2021 *War's Logic*. Echevarria sees Boyd's intellectual eclecticism as a trait which endeared him to the anti-establishment personalities of the military reform movement, but also one which created serious drawbacks, especially without a properly trained intellectual mentor to guide Boyd "away from intellectual dead-ends toward more productive goals."[408] Echevarria states,

> Strictly speaking, Boyd's method was neither inductive nor deductive. His personal experience has already taught him which principles (though he eschewed the term) he ought to promote… …It had more in common with the comparative method, the third step in the scientific approach Luce promoted at the Naval War College more than seventy years earlier… The comparative method permitted him to draw illustrative parallels, to

[405] Center for Legislative Archives, "Military Reform Caucus Oral History Seminar," 67.
[406] Robinson, 20.
[407] Jay Luvaas, "Patterns of Conflict in History," unpublished essay, 9 March 1981. John R. Boyd Collection, Collection 2062, Box 7, Folder 5: Jay Luvaas Critique: Patterns of Conflict in History, 1981. Marine Corps Archives; and Spiller.
[408] Echevarria, 179.

> extend his principles beyond the cockpit, and to apply them to human decision-making in any competitive environment. But the connections were asserted rather than proved.[409]

Unfortunately, Echevarria's explanation of the comparative method in an earlier chapter does little to explain how this is different from induction. He does link the comparative method to positivist thinking at the turn of the 20th century holding that rigid principles akin to science could be drawn from less scientific phenomena, allowing the "formulation of hypotheses, or guesses, which in turn coalesced into principles via some combination of induction, deduction, testing, and revision."[410] As Echevarria himself points out in the passage above, however, Boyd rejected principles of war. Rather than consider what this really indicates about Boyd's method, Echevarria asserts that the "Paradoxical Maverick" Boyd came up with principles anyway: "observing first, orienting first, deciding first, and acting first."[411] This reduction of Boyd's work to the trite meme of OODA indicates a lack of familiarity of Boyd's body of work, and is probably more reflective of Echevarria's own epistemological system, which in *War's Logic* drives him to define the "first principles" advanced by each of the formative American strategists who collectively are his subject.[412] Frans Osinga, who shows considerably more insight into Boyd's work, correctly places Boyd in a scientific *Zeitgeist* which rejected this very mode of thinking, "away from a scientific worldview based on Newtonian, linear, analytical, objectivistic, reductionist, deterministic, or mechanical concepts, towards a focus on change, diversity, evolution, unpredictability, complexity, non-equilibrium, and non-linearity…"[413]

Boyd explained his use of history in terms that at first seem more appropriate to his engineering background. In scientific language he described history as "tests" that "have been

---

[409] Echevarria, 180.
[410] Echevarria, 23.
[411] Echevarria, 170, 180.
[412] Echevarria, 6.
[413] Osinga, "'Getting' *A Discourse on Winning and Losing*," 608.

run," generating evidence to be collected.[414] If this sounds like a predetermined approach to history, one needs only bear in mind that throughout Boyd's aviation career flight tests had been the ultimate standard for either validating or disproving a design, model, or theory. In "Destruction and Creation" Boyd also argued that any mental framework must be rigorously tested against outside evidence before it could be accepted, and then needed to be retested again and again to ensure its continued validity. In the case of Boyd's study of history and his developing theory regarding perception, tempo and disruption, he argued that if what he believed about the nature of conflict was true, "when I open a book and look at some history or reports of what had happened, I should expect to see words like chaos, panic, hallucinations, paralysis, and that kind of thing. If I don't see those kinds of words, then I am probably all wet with the idea I've got."[415] His attraction to the German invasion of France in 1940 is obvious, for these are exactly the types of words that appear in primary accounts and many of the best historical analyses. Boyd continued,

> I had never read that stuff before, you see, and the very first history book I picked up started to talk about when the Germans were going through France, and how the French gradually became uncertain, confused, disordered—almost like I had said it, I felt like I had written the goddam passage. Then I read about how the French started hallucinating when they would talk about where the Germans were and weren't. They started developing these bizarre mental patterns, trying to compete against it—total paralysis.[416]

Boyd's approach to history was therefore a genuine effort to explore military history to test the ultimate consistency of previously observed patterns, and modify those observations in search of new patterns of meaning when the evidence indicated it was necessary. Indeed, the rest of this chapter will demonstrate that Boyd was quite willing to revise his ideas when the historical evidence called for it.

---

[414] U.S. Air Force, *Corona Ace Interview*, 139.
[415] U.S. Air Force, *Corona Ace Interview*, 140.
[416] U.S. Air Force, *Corona Ace Interview*, 140.

Like Echevarria, James Hasík sees parallels between Boyd's method and Mahan's, but he differs from Echevarria by clearly identifying it as inductive reasoning from historical evidence.[417] Hasík rightly points out that a significant problem of the inductive method relative to deduction is its lack of certainty, since it draws general conclusions from specific observations.[418] In the same passage, however, he admits even the most solid conclusions drawn from "Today's predominant deductive scientific world view," such as Newtonian physics, are understood to be nothing more than useful approximations.[419] Further, Hasík argues that Boyd was dealing with social science, which is governed by different standards than the hard sciences, and we must be aware that we

> subject Boyd to tests that his oldest historical predecessors never faced. Few ask to see Clausewitz's dataset, although its time-bound nature is widely noted. No one wonders about Sun Tzu's regression analyses. Even the German historian Hans Delbrück (1848–1929) did not really undergo contemporary peer review…[420]

Osinga, who shows more insight into Boyd than any other scholar, likewise argues that Boyd must be understood as an interdisciplinary talent rather than a historical hack. Osinga explains that Boyd learned from Kuhn and Popper that the most significant advancements in knowledge came not from within the existing system of thinking in any one discipline, but by challenging its fundamental assumptions.[421] This is entirely consistent with Boyd's own intellectual philosophy as expressed in "Destruction and Creation." If Osinga is correct in seeing Boyd to be "the first strategist to introduce the epistemological debates of the 1960s and 1970s into strategic thought and to see the value and consequences of these debates, and other emerging scientific concepts, for strategy," it is inappropriate to judge Boyd according to the professional standards of

[417] Hasík, 587, 589.
[418] Hasík, 587.
[419] Hasík, 587.
[420] Hasík, 585.
[421] Osinga, "'Getting' *A Discourse on Winning and Losing*," 609.

contemporary historians.[422] Ultimately, assessing Boyd's entire body of work, Osinga concludes,

> He may have applied insights from epistemology, biology, physics, or mathematics that seem improper, but in doing so at the time, he was merely following in the footsteps of intellectual giants such as Werner Heisenberg and Ludwig von Bertalanffy, Nobel Prize winners Ilya Prigogine and Murray Gell Mann, and accomplished economists Kenneth Arrow and Brian Arthur, and many others (including contemporary social scientists, historians, and leading management consultants).[423]

It is therefore more appropriate to judge Boyd a novel theorist, rather than an amateur historian.

Having considered Boyd's intent and method this must now turn to the third and fourth major areas of critique: his sources and willingness to revise his synthesis. For Boyd's inductive approach to be valid his evidence, his historical "data set," needed to be wide, deep, and credible. Further, over time, his major concepts should have been modified in response to new evidence he was considering. Before this chapter resumes its narrative of Boyd's investigation and ideas to show that he was deliberately wide, deep, and judicious and his selection of sources, and constantly revised his ideas in response, a summary of his approach to sources is in order.

Hammond and Brown both argue that Boyd's aviation theorizing led to an intense study of German military history, and this led him on a search leading further and further back in time, ultimately reaching the ancient Chinese theorist, Sun Tzu. In Hammond's explanation, this backwards-progressing search was critical to his discoveries, for

> Studying military history in this manner made him focus on what had remained the same rather than on what had changed, which is what tends to emerge if one reads history forward. Going backward gave him a sense of the continuity as well as the significant changes that had occurred, but clearly emphasized the continuity. After a year and a half of study, the beginnings of the "Patterns of Conflict" briefing emerged.[424]

[422] Osinga, "'Getting' *A Discourse on Winning and Losing*," 607.
[423] Osinga, *Science, Strategy, and War*, 21.
[424] Hammond, 121-122.

Overlooking the unclear logic that looking backwards somehow makes continuities more obvious than moving forward through time, one thing seems clear to Hammond: Boyd worked his way backwards through history. Brown provides a similar narrative, arguing that one of Boyd's colleagues had "focused on the aircraft and tactics that made German C[lose] A[ir] S[upport] missions successful. Building on that, Boyd, in the first year of his retirement broadened the scope to examine German tactics and strategy in World War II, and then worked his way back to the time to Sun Tzu as he studied history's most successful military commanders."[425] Brown cites a U.S. Air Force oral history interview of Boyd from 1977, where he presumably read Boyd's own statement,

> I really wanted to go back to look at the Blitzkrieg, which I did. You know, the more I looked at it, the more confused I became. …(they would always tell me to go somewhere else to look). I thought, "Now wait a minute, this is based on some previous things people did." Instead, I went all the way back to Alexander the Great and Sun Tzu and then just swept forward; that is when it all revealed itself. Rather than doing it piecemeal, I went at it in a very systematic way. I started out piecemeal and I became confused, so I did it this way."[426]

Here, however, Boyd describes the direction as moving forward in time. More important than the direction, however, is what this says about Boyd's approach to his sources. This quote would seem to confirm the interpretation that Boyd moved through history systematically, except for one thing. The copy of this interview transcript in the Boyd papers was sent to him for content editing, providing him the opportunity to make sure he meant what he had actually said on tape. On that copy, Boyd scratched out the sentence, "Rather than doing it piecemeal, I went at it in a very systematic way." In reading his own words on paper, Boyd felt "systematic" was an inappropriate descriptor for his studies. The passage that remains after his edit expresses that Boyd was unsatisfied by his research into Blitzkrieg, and this impelled him to begin a very broad

[425] Brown, 89.
[426] U.S. Air Force, *Corona Ace Interview*, 147-148.

investigation into history, which was driven by the references to other events and ideas in the material he was reading. Boyd relates reading in four main topic areas: "war in general," apparently meaning theories of war that claimed or apparently had wide applicability; blitzkrieg; guerrilla warfare; and what he called "dirty games," meaning stratagems and ruses.[427] Boyd continues,

> So I wanted to cover it rather generally; however, no matter where I looked there were millions of documents regarding war history. I was trying to get a general coverage to see if anything from the past would support my theory, and I did not pick just one source because I knew at the time what it said. I just started grabbing sources to see if they supported my theory or not—sources in different categories.[428]

This more episodic approach to history is also clear in the many versions of "Patterns of Conflict," for each of Boyd's briefs included a source list which provides a clear sense of what he was reading as time went on.

Generally, the source lists and the narrative which follows in the rest of this chapter reveals that Boyd was reading widely, looking for patterns or continuities not just over time, but also through four main topic areas over time: "war in general," blitzkrieg, guerrilla warfare, and "dirty tricks."[429] Though he would show particular interest in one topic or another from time to time, he consistently expanded his knowledge in each of these areas as time went on, and broadened these topics further. Often, after doing some initial research in a topic such as blitzkrieg, Boyd would come back to that topic again and again over the years, deepening his knowledge. This directly contradicts accusations that Boyd was "cherry-picking" his cases and

[427] U.S. Air Force, *Corona Ace Interview*, 148.
[428] U.S. Air Force, *Corona Ace Interview*, 148-149.
[429] Battelle Columbus Laboratories, *Proceedings of Seminar on Air Antitank Warfare (May 25-26, 1978)* (Alexandria, VA: Defense Technology Information Center, 1982), 10. Hereafter, "Battelle, *Seminar on Air Antitank Warfare (May 25-26, 1978)*."

"undertakes no serous analysis of the set; he provides no 'thick description' of any single one."[430]

The chronology of the sources Boyd read shows that his historical investigation was not a simple read through history looking for evidence of what he already believed. In his first year of effort Boyd worked to develop a sense of the most important historical topics. For the remainder of the decade which followed he constantly worked to deepen his knowledge of the historical topics about which he knew least, usually in areas where he sensed there were important ideas that warranted investigation. Figure 3 presents a quantitative picture of how Boyd's "Patterns of Conflict" study grew over the course of the decade he worked on it. It shows that by the time he finished this study in 1986, he was referencing a massive volume of work, 246 sources, not to mention others he was reading as he began his work on the "Organic Design for Command and

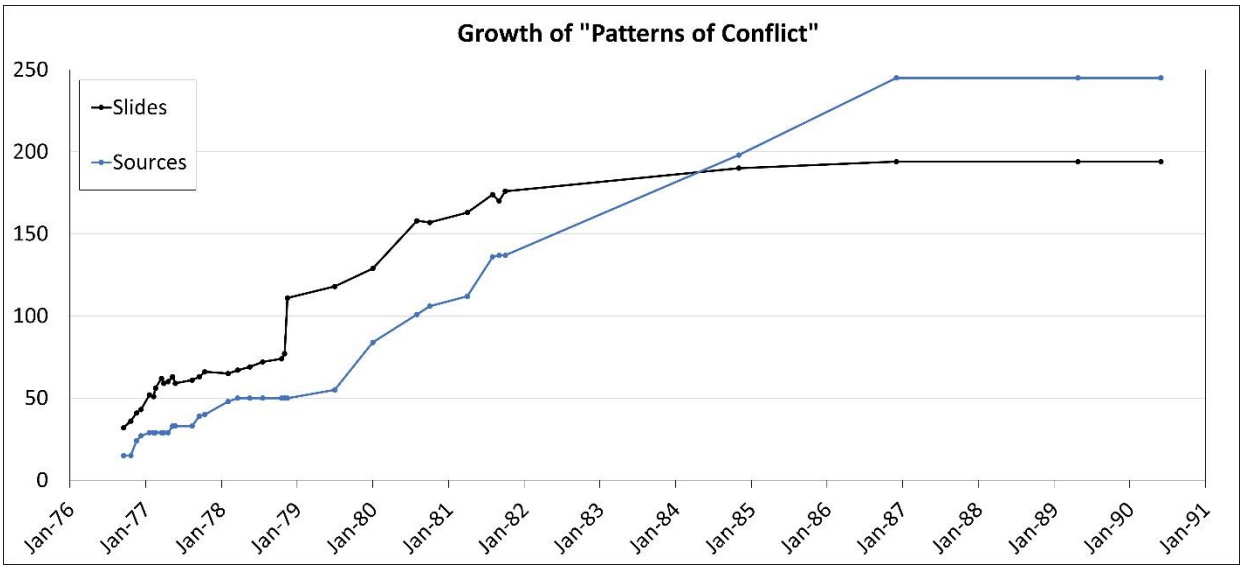



Figure 3. The progressive growth of Boyd's "Patterns of Conflict" study. This graph compares the number of sources in his source lists (blue line), with the total number of slides in his exposition (black line).

[430] Hasik, 590. Hasik's discussion here specifically relates to the notion that Boyd was focusing on specific historical cases, "the big successful ones that attract attention" and avoided counterexamples. This is inconsistent with Boyd's work, which certainly privileges blitzkrieg and insurgency, but also deliberately addressed "counter-blitz and "counter-guerilla" operations.

Control" starting in 1982. This figure demonstrates how Boyd's exposition grew in response to his engagement with his growing sample of historical and theoretical evidence.

With this summative analysis of Boyd's intent, method, and engagement of sources complete, this chapter returns to narrate his expanding and deepening inquiry into military theory and history, and the progressive development of his ideas in response. This narrative also serves to establish the primary influences on Boyd's ideas as they evolved over the decade before he finalized "Patterns of Conflict," a task to be completed in chapter 6.

**"Patterns of Conflict": Initial Historical Inquiry and Synthesis**

The first known version of "Patterns of Conflict," Version 3, is undated. As explained earlier in this chapter, Version 3 was completed sometime between September 3 and October 20, 1976, probably closer to the beginning of this period. Its source list shows that Boyd's earliest investigation was broad, including two titles on Soviet strategy and history; five on irregular warfare including T.E. Lawrence's *Seven Pillars of Wisdom*, Mao Tse-Tung's "On Guerilla warfare, and Che Guevara's "Guerilla Warfare"; and two comprehensive works of theory, J.F.C. Fuller's *The Conduct of War, 1789-1961* and Basil Liddell Hart's *Strategy*.[431] While Osinga and others have identified Liddell Hart as a major influence, particularly because of his observations on the importance of Sun Tzu, this privileging of the theoretical influences on Boyd obscures the value of history in the development of Boyd's ideas. Though six of Liddell Hart's titles would appear on Boyd's final source list a decade later, there was only one during this period.[432] The most influential historical work on Boyd during this period was Lynn Montross's third edition of *War Through the Ages,* published in 1960.

[431] Boyd, "Patterns of Conflict," Version #3, slide 2.
[432] Boyd, "Patterns of Conflict," December 1986, slide 190.

Lynn Montross was a historian with military experience in France during World War I. His first edition of *War Through the Ages* was published in 1944, and it earned high respect as a comprehensive work of military history, becoming the basic text for military history at military service academies, among other places. It also earned Montross a position within the History Division of the United States Marine Corps. The third edition, which Boyd read, was Montross's final work produced before his death in 1961.

Montross's goal in *War Through the Ages* was to provide a "general survey of tactics, strategy and battle during the past thirty centuries," which he felt had been missing in a field where books had typically been "divided between the heroic and the ethical, giving the reader his choice between a saga and a sermon."[433] To Montross, World War II showed the folly of believing war was avoidable, and the need for a more scientific approach to the topic. Montross started with Ancient Greece and brought his history up through the Korean War. Though most of it focused on European history in the modern era, it had sections addressing not just European warfare, but also the Far East and the "Mohammedan world," making it as global as any military history existing at that time. Montross also inclined to Boyd's fundamental beliefs about conflict. Boyd's entire military career had centered in one way or another on the concept of fighter combat, a stark contest of clear winners and losers, contributing to his belief that the world is a fundamentally competitive place where the goal of all organisms is to "improve our capacity for independent action" which may require us to "deprive our adversary of his capacity for independent action."[434] Montross opened a chapter by quoting Xenophon, "The art of war is, in the last result, the art of keeping one's freedom of action," and Boyd marked his personal copy

[433] Lynn Montross, *War Through the Ages*, 3rd ed. (New York: Harper & Row, Publishers, 1960), xiv. Copy annotated by John R. Boyd. John R. Boyd Collection, Collection 2949, Box 3, Marine Corps Archives. Hereafter, "Montross, copy annotated by Boyd."
[434] Boyd, "Patterns of Conflict," Version #3, slide 4.

of the book to indicate that he was highly impressed by this passage.[435] Boyd's notations also show that he was impressed by Montross's emphasis on the moral dimension of war, such as his insistence "There is, in short, no reason to believe that the hydrogen bomb has effected Napoleon's famous dictum, 'The moral is to the material in war as three to one'." [436] This became a quote Boyd would use himself many times. Montross also emphasized the timeliness and continuity of war, writing,

> …the first war of the new Atomic Age was fought in Korea with weapons and tactics often reminiscent of the Western Front in 1915. Battles were won in the conflict by a reliance on principles which have not changed since the time of Alexander the Great. For in 1950, as in 331 B.C., the decisiveness of weapons depended largely on the use made of such timeless elements as preparedness, secrecy, deception, and surprise.[437]

Boyd's attention had already become sensitized to concepts such as ambiguity, and though his studies he would become just as interested in associated concepts such as deception and surprise, which were not features he had studied in aerial combat. Throughout the book Boyd paid special attention to Montross's use of words such as "adaptability" and "mobility."[438] Though Montross's book was later criticized for paying too much attention to operations and battle at the expense of the larger contexts of war, that was not an impediment to Boyd's inquiry, which at this stage was focused on studying what created decision in warfare. His marginal notes and underlining show he paid the greatest attention to the portions of this book that narrate decisive events and leaders, such as the Battle of Cannae, Genghis Kahn's leadership of the Mongols, Gustavus Adolphus, and German infiltration tactics at the end of World War I and mechanized warfare in World War II. It will be shown that each of these became features of his brief.

[435] Montross, copy annotated by Boyd, 16.
[436] Montross, copy annotated by Boyd, 532, xiii.
[437] Montross, copy annotated by Boyd, xiii.
[438] Montross, copy annotated by Boyd, 532.

Boyd depended on Montross particularly for his interpretation of ancient history. In Montross's narrative Boyd recognized common themes among Alexander, Hannibal, Belisarius, Genghis Khan, and Tamerlane. They were "Surprise, Deception, Mobility, Fire-Power, Shock" in actions that combined the defensive and offensive to "lure and trap."[439] Boyd's first versions of "Patterns of Conflict" also contained illustrations of the Battle of Cannae and the Mongol invasion of the Persian Empire which were copied directly from this book, and as his brief expanded in later years he incorporated some of Montross's other illustrations.[440]

Boyd was deeply impressed by Montross's explanation of Genghis Khan's operations. To begin with, Montross explained that the Mongols obtained unique advantages by developing their way of war out of an immediate necessity, rather than being handicapped by an existing paradigm or pattern of meaning. He wrote,

> The strength of the steppes warrior thus derived from the fact that he was not a trained soldier, snatched from a softer life and drilled in the use of unfamiliar arms. For that reason his tactics have always been effective against trained soldiers. From Alexander down to Napoleon, those same harassing advances, swirling envelopments and elusive retreats have never failed to confuse a formal opponent.[441]

Given Boyd's intuition that rapid changes in maneuver and ambiguity seemed to convey some advantage, it is no wonder he underlined this passage in his copy of *War Through the Ages*. Genghis, according to Montross, had delivered a crushing blow to the Persian empire in 1220 despite the Persians having a larger army. This occurred because the Persian troops were committed to a passive defense along their frontier, while Genghis divided his invaders into four massive columns of swiftly-moving horsemen. Montross wrote, "The movements executed by these four columns have never been bettered by any modern army of invasion. Both of the

[439] Boyd, "Patterns of Conflict," Version #3, slide 5.
[440] Boyd, "Patterns of Conflict," Version #3, slides 6 and 7 are hand-drawn diagrams that exactly match the illustrations on Montross, 61 and 150.
[441] Montross, copy annotated by Boyd, 145-146.

shah's flanks were turned, his communications severed and his two principal cities caught between swiftly closing pincers."[442] Genghis personally led one of the columns, which "suddenly vanished into the vast desert of Kizl-Kum, only to reappear even more dramatically in Mohammed's left rear."[443] In Montross's assessment, "the entire campaign is remarkable for economy of means," explaining "the victims of Mongol aggressions sincerely believed that they had been overwhelmed by countless hordes. But this illusion owed to tactics and mobility, since the Mongols themselves usually contended against numerical odds."[444]

This lengthy exposition on Montross's narrative is appropriate for several reasons. First, when Boyd traced ancient history in "Patterns of Conflict," though the brief eventually grew to enormous size over the course of a decade, Boyd always privileged his explanation of Genghis Khan and the Mongols. Second, he later used this history to introduce a key idea developed from other sources, the notion of war being a game of concentration and dispersion in which time was the critical factor. This shows that Boyd was forming his own synthesis from historical sources as much as he may have been influenced by existing theories, such as Liddell Hart's.

Boyd's first reference to theory in the finished version of "Patterns of Conflict" would be to that of Sun Tzu, and ancient Chinese military expert, but this was not his first engagement or employment of military theory in the life of this brief. The very first version of the brief highlights the ideas of the "18th Century Theoreticians" Maurice de Saxe, Pierre-Joseph Bourcet, Jacques-Antoine-Hippolyte Guibert, and Jean du Teil, all of whom were European practitioners of and writers on war. Among the themes Boyd pointed out on slides summarizing the ideas of

[442] Montross, copy annotated by Boyd, 150.
[443] Montross, copy annotated by Boyd, 150.
[444] Montross, copy annotated by Boyd, 152.

these men are "Mobility/Fluidity of Force" and "Dispersion and Concentration."[445] In his explanation of this slide a few months later, Boyd elaborated,

> They all recognized the importance of fluidity of force and cohesiveness. All of these factors were used to play the dispersion and concentration game. In other words, they wanted to keep their forces separated, initially. This way they could force their enemy to separate his forces by getting him committed to a certain way and then they would at the last moment bring their forces together to slice up the enemy.[446]

Though Boyd would later use the Mongols to introduce the idea of war being a game of concentration and dispersion, these notions first got his attention in relation to early modern warfare in Europe, and were closely associated with the notion of fluidity. Osinga implies that Boyd "discovered" the notion of fluidity from T.E. Lawrence's *Seven Pillars of Wisdom*.[447] While this book was on the short list of sources included in the earliest remaining version of "Patterns of Conflict," Boyd's use of the specific phrase "fluidity of force," and the context in which he used it, mirror Liddell Hart in *Strategy*. Boyd underlined Liddell Hart's explanation that Napoleon "acquired an idea of the supreme value of mobility and fluidity of force" from Guibert.[448] Boyd also underlined Liddell Hart's observation, "Fluidity of force may succeed where concentration of force merely entails a perilous rigidity."[449] It is curious why Boyd paid such close attention to these passages, when Liddell Hart mentions the concept only rarely. It seems clear that Boyd was inductively drawing themes from a variety of sources, and certainly not using select historical examples to illustrate a preconceived notion.

Since Liddell Hart is widely regarded to have such a strong influence on Boyd, his relationship with that author bears closer examination. *Strategy* appears on Boyd's first source

---

[445] Boyd, "Patterns of Conflict," Version #3, slide 8.
[446] U.S. Air Force, *Corona Ace Interview*, 166.
[447] Osinga, *Science, Strategy, and War*, 30-31.
[448] B.H. Liddell Hart, *Strategy*, Second Revised Edition (New York: Frederick A. Praeger, Inc., Publishers, 1967). Copy annotated by John R. Boyd. John R. Boyd Collection, Collection 2062, Book Box 1, Marine Corps Archives, 114.
[449] Liddell Hart, *Strategy*, copy annotated by Boyd, 346.

list, and this was Liddell Hart's most influential work of the time. In this book, Liddell Hart lays out an argument that the most decisive military campaigns in history have achieved their success through the use of indirect strategic approaches which "dislocate" an adversary's mind, as opposed to direct confrontation with the aim of destroying an adversary's force.[450] Liddell Hart's basic argument is that a direct approach consists of attacking along the "line of natural expectation" which, being predictable, allows an opponent to prepare, and therefore "consolidates an opponent's balance and thus increases his resisting power."[451] In such clashes victory is only possible with greater strength, and attempts to apply that strength are costly and often undecisive. The indirect approach as an alternative can take many forms, but generally consists of focusing one's efforts along "the line of least expectation," which means applying force in places and ways where the enemy is unready to counter such moves with his own force.[452] The objective in doing so is not merely to achieve surprise so that one's own combat power outmatches that of the enemy, but also the psychological effect, which is to "dislocate" the adversary. As Liddell Hart argues, "the indirectness has usually been physical, and always psychological."[453]

Osinga has produced the most thorough analysis of "Patterns of Conflict" to date, and spends more time highlighting the similarity of Boyd's ideas with those of with Liddell Hart than with any other author, concluding "Boyd's work can be easily understood as standing in a direct theoretical line with that of Liddell Hart."[454] This understates the degree to which Boyd subjected Liddell Hart's ideas to destructive analysis and then made them part of an inductive

[450] Liddell Hart, *Strategy*, copy annotated by Boyd, 161-164.
[451] Liddell Hart, *Strategy*, copy annotated by Boyd, 25.
[452] Liddell Hart, *Strategy*, copy annotated by Boyd, 79, 341, and 348.
[453] Liddell Hart, *Strategy*, copy annotated by Boyd, 25.
[454] Osinga, *Science, Strategy, and War*, 33-35. Quote drawn from page 35.

synthesis. Boyd never adopted Liddell Hart's concept of indirect and direct approaches. Though he would make extensive use of the phrases "paths of least expectation," he employed it in a much richer explanation. Boyd also considered Liddell Hart's notion of fluidity, and of warfare writ large, as too focused on the notion of concentration. After the quote above where Liddell Hart connects fluidity with the avoidance of dangerous inflexibility, he adds, "The principles of war, not merely one principle, can be condensed into a single word—'concentration'. But for truth this needs to be amplified as the 'concentration of strength against weakness.'" Boyd underlined this passage and responded with the marginal note, "No!—should be concentration and dispersion…"[455] In line with his observation that the great theorists of the 18th century identified common themes of fluidity and the complementary relationship of dispersion and concentration, Boyd was arguing with Liddell Hart. Rather than focusing on war as a matter of concentrating forces in the optimal time and place to achieve numerical superiority, Boyd felt war should be understood as a game of concentration and dispersion. This meant dispersing forces to avoid battle at disadvantageous times, and then reconcentrating them at opportune times and places to surprise adversaries, before they could likewise concentrate enough force to defeat that attack.[456] The rest of that marginal note makes it clear that Boyd is comparing elements from a very broad effort at destructive deduction, for in its entirety that note reads, "No!—should be concentration and dispersion—otherwise how do you explain guerilla war?"[457]

---

[455] Liddell Hart, *Strategy*, copy annotated by Boyd, 347. Boyd may not have been giving Liddell Hart enough credit, for the rest of this paragraph reads, "And for any real value it needs to be explained that the concentration of strength against weakness depends on the dispersion of your opponent's strength, which in turn is produced by a distribution of your own that gives the appearance, and partial effect of dispersion. Your dispersion, his dispersion, your concentration—such is the sequence, and each is sequel. True concentration is the fruit of calculated dispersion." In this passage, only the last line of which is underlined in Boyd's copy, can be glimpsed Boyd's game of concentration and dispersion, and even the primary importance of perception within such a game.

[456] U.S. Air Force, *Corona Ace Interview*, 166-167; Battelle, *Seminar on Air Antitank Warfare (May 25-26, 1978)*, 13 and 16.

[457] Liddell Hart, *Strategy*, copy annotated by Boyd, 347.

In *Strategy* Liddell Hart wrote more of conventional operations than irregular operations, but on the matter of guerilla war, he observed

> Guerilla war, too, inverts one of the main principles of orthodox war, the principle of 'concentration'—and on both sides. Dispersion is an essential condition of survival and success on the guerilla side, which must never present a target and thus can operate only in minute particles, though these may momentarily coagulate like globules of quicksilver to overwhelm some weakly guarded objective. For guerillas, the principle of 'concentration' has to be replaced by that of 'fluidity of force…"[458]

Boyd underlined this entire passage, and must have found it unsatisfying that Liddell Hart thought concentration to be the overriding principle for conventional operations, while fluidity of force was the overriding principle for irregular operations. Within the intellectual philosophy described by "Destruction and Creation," such contradictions indicated the inadequacy of a unifying paradigm, or "conceptual pattern" in Boyd's words.[459] Boyd recognized that fluidity was actually an advantageous quality for both types of operations, so Liddell Hart's distinction was false. Looking at the matter holistically, fluidity represented the ability to smoothly and rapidly shift from concentration to dispersion and back again, and the ability to do this faster than one's adversaries constituted an advantage in any type of conflict. All war, then, could be thought of as a game of concentration and dispersion.

By assessing Boyd's final product, Osinga is able to highlight Boyd's synthesis and point out important influences such as Liddell Hart. Only by studying Boyd's progressive reading, analysis, integration, and recombination of these ideas is it clear how critically these ideas were filtered, with important ideas like Liddell Hart's being rejected as often as they were accepted. Some of Liddell Hart's minor concepts such as fluidity gained entirely new importance within Boyd's synthesis, shaped by Boyd's own experience, and his reading of history and theoretical

[458] Liddell Hart, *Strategy*, copy annotated by Boyd, 377.
[459] Boyd, "Destruction and Creation," 3 September 1976,"7-8.

explanations in other sources. The universal value of fluidity in all forms of war, providing an edge in the game of concentration and dispersion, was a central theme in his earliest presentations of "Pattens of Conflict," and would remain so through next decade and beyond when Boyd continued to give that brief.

Boyd's brief continued by explaining that Saxe, Bourcet, Guibert, and du Teil influenced Napoleon, but also wrote ideas which seemed to comport well with the most successful operations of American, Spanish and Russian guerillas, specifically how they "in unexpected ways, used Mobility/Fluidity of Force as a basis for Dispersion and Concentration…"[460] Montross is the only source on Boyd's early lists who addresses all four of these writers. He credits Saxe with realizing that large battles were not essential to secure victory, which could instead be achieved by manoeuvre based upon rapid movements." [461] Bourcet "evolved new methods of concentration" and advocated deploying forces to threaten the adversary at many positions so he will divide his force, and then taking "advantage of the geographical conditions to reunite our own at the critical point before he can unite his."[462] Bourcet wrote a treatise which incorporated "principles of mobility and concentration" and Guibert, who was also influenced by Saxe, improved those ideas in a "sort of lightening warfare, combining the advantages of dispersion and concentration with those of mobility."[463] Montross credits du Teil with improving on these ideas further by discussing how to mass troops and artillery at a desired point of attack "while creating an illusion of attack on the others."[464] Montross sees all of these techniques as particularly appropriate for France's revolutionary army, whose logistics handicaps

[460] Boyd, "Patterns of Conflict," Version #3, slide 8.
[461] Montross, copy annotated by Boyd, 382.
[462] Montross, copy annotated by Boyd, 448.
[463] Montross, copy annotated by Boyd, 448-449.
[464] Montross, copy annotated by Boyd, 449.

both prevented it from adopting more formal techniques and made it more mobile, adopting "horde tactics."[465] As the French army became larger and more proficient, it also benefited from the leadership of Napoleon Bonaparte, who appreciated the ideas of these four theorists. Montross explains Napoleon understood that "manoeuvre must take the place of numbers," and threatened multiple points to force his adversary to disperse. With this accomplished, he then moved his forces "with bewildering rapidity" against an enemy "never dreaming of such celerity" to deliver crushing blows to the smaller parts of his adversary's army in succession.[466] Montross also described the activities of the American revolutionaries and Iberian guerillas, sometimes in similar terms, and at times making direct connections to these theorists. Boyd's marginal marks in his copy of this book, and mention of these specific historical examples in his brief, makes it clear he attached some significance to these passages.[467] Many of Boyd's early, formative observations on military history were adopted from his heavily-annotated copy of *War Through the Ages*.

Boyd's earliest versions of "Patterns of Conflict" incorporated many of Montross's terms, with the notable exception of "manoeuvre." This is significant because even though Boyd has been known as a great advocate of maneuver conflict closely associated with Marine Corps maneuver warfare doctrine, he did not begin to incorporate the concept of maneuver conflict in this brief until July 1978.[468] This meant Boyd was aware of the concept of a maneuver-based approach to warfare from the start of his historical studies, but about two years elapsed before he

[465] Montross, copy annotated by Boyd, 455-456
[466] Montross, copy annotated by Boyd, 463-465.
[467] Montross, copy annotated by Boyd, 420, 527-528.
[468] John R. Boyd, "Patterns of Conflict," July 18, 1978, John R. Boyd Collection, Collection 2062, Box 5, Folder 7: Patterns of Conflict, 18 July 1978, Marine Corps Archives, unnumbered slide inserted between slides 57 and 58. Hereafter, "Boyd, 'Patterns of Conflict,' July 18, 1978."

considered it to be an element worthy of incorporation into his creative induction about the nature of conflict and successful patterns for waging it.

The influence of other historians and theoreticians on Boyd cannot and should not be discounted, for Montross is not unique in highlighting these features. It is significant, however, that while Liddell Hart wrote of Guibert and Bourcet as exceptional theorists of their time, and also mentions their influence on Napoleon, the British historian never mentions Saxe or du Teil in *Strategy*, the only one of Liddell Hart's books that Boyd read at this time. *Strategy* also omits mention of the American Revolution, and its analysis of Napoleon's war in Iberia refers to guerilla activity only as a sideshow distracting French attention from Wellington's more conventional operations.[469] This is not to say that Liddell Hart would not have a major influence on Boyd's interpretation of history or his theory. Indeed, eventually six of Liddell Hart's works would appear on Boyd's source list, more than any other author.[470] A closer look at the development of Boyd's ideas simply reveals that there are other major influences, particularly as Boyd began a broad inquiry into military history, and these historical works have been overlooked in the few serious treatments of Boyd's work to date.

The preceding narrative analysis illustrates the dynamic interaction of ideas that resulted from Boyd's deductive analysis and inductive synthesis of a diverse range of sources, all expressed in just a few slides in the earliest versions of "Patterns of Conflict." In so doing, it has highlighted the early emergence of a few key themes that would permeate this brief throughout its ten-year development and numerous presentations thereafter. This section now turns to the rest of Boyd's basic historical narrative in his early briefs, for this reveals more of the early themes that preceded OODA. It also reveals the narrative framework within which later ideas

[469] Liddell Hart, *Strategy*, copy annotated by Boyd, 127-138.
[470] Boyd, "Patterns of Conflict," December 1986, slide 190.

would be explained, and shows how that narrative connected to his ultimate objective to see if there was a pattern of behavior which promoted success in war.

In the first extant version of "Patterns of Conflict" Boyd goes on to analyze historical trends of the 19th and early 20th century where the industrialization of war resulted in greater emphasis on massed firepower and logistics, and deemphasis of surprise deception, and mobility. Closer analysis of World War I depicts this as a contest of "Stagnation and enormous attrition since advances made generally as expected and along paths of hardened resistance…"[471] Boyd offers a detailed discussion of German infiltration tactics and T.E. Lawrence's guerilla operations as alternatives, stressing that their similarity was because "Both use fluidity-of-action to concentrate strength against weakness..."[472] A similar analysis of World War II highlights German blitzkrieg and its keys to success. These are "Fast tempo and fluidity of action to continuously permit concentration of strength against weakness," to "generate doubt and uncertainty," and "Command at local level to exploit opportunities generated by rapid action within a broad loosely woven scheme laid down from above."[473] The continued influence of Montross can be seen in the text and in the graphic Boyd uses to illustrate blitzkrieg concepts. The slide is titled "Impression of the Blitzkrieg" and it is a direct copy of an illustration in *War Through the Ages* with the caption "Impression of the Blitzkrieg."[474]

"Patterns of Conflict" then focuses on guerilla campaigns, where Boyd believes the idea is to "Defeat adversary by continuously using fast tempo/fluidity of action as basis for dispersion, concentration and shifting of forces to harass, confuse, and ultimately destroy his will

[471] Boyd, "Patterns of Conflict," Version #3, slide 13.
[472] Boyd, "Patterns of Conflict," Version #3, slide 18.
[473] Boyd, "Patterns of Conflict," Version #3, slide 22.
[474] Boyd, "Patterns of Conflict," Version #3, slide 21, Montross; 779.

or capacity to resist."[475] After providing lists of successful and unsuccessful blitz and guerilla campaigns to show his audience that his observations were based on a wide sample of historical events, Boyd asks, "Why have Blitz and Guerilla Warfare been so extraordinarily successful?"[476] Boyd's interest in doing so was driven by the nature of his inquiry. His entire investigation was predicated on an analysis of these two major forms of conflict, on the suspicion that guerilla and regular warfare might have some common components. In Boyd's mind, categorizing them as two distinct phenomena elided these commonalities, and was therefore a flawed mental conception.[477] Once discarded, Boyd was free to examine their various constituent parts and highlight the features they shared. This he did in a summative observation of historical patterns, presented in a slide titled "Fundamental Message" to wrap up his historical presentation. There Boyd wrote,

> Action
> - Blitz and Guerillas disperse or concentrate more quickly to or from lower levels of distinction (or organization) without losing cohesion of overall effort.
> - Put another way, Blitz and Guerillas "get inside adversary's" Mind-Space-Time Continuum.
>
> Result
> - Such activity by Blitz and Guerillas make them appear ambiguous (unpredictable) and awesome which magnifies into confusion, disorder, and panic among their adversaries—in accordance with Gödel's Proof, the Heisenberg Principle and the Second Law of Thermodynamics.[478]

With his historical inquiry complete, the first extant version of "Patterns of Conflict" turns to answering his initial question as to whether history provides any insight or suggests any useful pattern for realizing the goal of improving our capacity for independent action by waging war.

[475] Boyd, "Patterns of Conflict," Version #3, slide 23.
[476] Boyd, "Patterns of Conflict," Version #3, slide 27.
[477] U.S. Air Force, *Corona Ace Interview,* 169.
[478] Boyd, "Patterns of Conflict," Version #3, slide 28.

In version 3 this is presented in a set of four slides which represents Boyd's synthesis. This section of his brief would slowly evolve through all versions of "Patterns of Conflict" over the next decade, and was eventually given the clear title, "Synthesis."

In the first transcript of his brief, made within months of finishing version 3, Boyd explained that he chose to call this synthesis a "Pattern for Successful Operations" because he wanted to avoid reducing his ideas to any "so-called principles of war." Such principles tended to become "things in themselves," meaning self-contained systems of thought out of touch with their context. In Boyd's understanding of the world, this meant they were doomed to collapse in the face of any changes in the character of war. As an alternative, Boyd related, "I like to look at things in terms of patterns or frameworks—the way you operate… I tend to think that way and it does give you the flexibility, the fluidity, to take those opportunities. I do not want this thing to restrict somebody. If it does that, then it is not worth a damn."[479] Rather than striving for actions he could prescribe, Boyd was seeking to describe a general way of acting that promotes success.

The pattern Boyd recommends is to "Deprive an adversary of his capacity for independent action" which can be accomplished by actions which "Exploit fast tempo and fluidity of action as a basis for either quick concentration or fluid dispersion of effort."[480] These abstract concepts are best applied through strategies which select actions that are least expected by the adversary, move along paths of least resistance, and pursue directions that threaten "alternative," or multiple, objectives. The desired outcome is not the destruction of enemy forces, but "uncertainty, confusion, disorder, and chaos."[481] After hearing Boyd's narrative of almost a

[479] U.S. Air Force, *Corona Ace Interview,* 211.
[480] Boyd, "Patterns of Conflict," Version #3, slide 29
[481] Boyd, "Patterns of Conflict," Version #3, slide 31.

millennium of military history in the preceding 29-slides, Boyd's audience would clearly understand that the outcome of "uncertainty, confusion, disorder, and chaos" meant catastrophic defeat of an adversary.

If Boyd's earliest extant historical analysis seems highly dependent on a single comprehensive historical work, Montross's *War Through the Ages*, the point, it must be remembered, is to show that Boyd was making a serious investigation into military history from the start of his project, and never simply cribbing from Liddell Hart. Based on the number of books he incorporated in his first months of study, Boyd would deserve censure if he had *not* leavened sources like Liddell Hart and Fuller with works of high academic repute. Montross's book was highly respected in the field of military history at the time. For example, it has already been shown that *War Through the Ages* was used as a survey text in military academies.

**"Patterns of Conflict": Warps IV through VI of October through December 1976**

The preceding analysis in this section reflects Boyd's initial research and inductive synthesis, based largely upon the first extant copies of his brief, the undated version 3. The first dated version is Warp IV of October 20, 1976.[482] While the first three were not shown "to anybody except a couple of guys in the office," Warp IV was the first version Boyd actually presented to an audience. [483] With this in mind, it is clear the preceding analysis reflects Boyd's ideas on military history at the moment when they first began to congeal into a coherent body of thought. That first version is also distinctive because it makes no mention of Boyd's aviation experience or theorizing, even though he had finalized his "New Conception for Air-to-Air

[482] Sometime between September 3 and October 20, 1976, when Boyd produced version 3, he made an identical copy subtitled "Warp III." See Boyd, "Patterns of Conflict," Version #3; and John R. Boyd, "Patterns of Conflict, Warp III," circa 1976, John R. Boyd Collection, Collection 2062, Box 4, Folder 6: Warp III: Patterns of Conflict, n.d. Marine Corps Archives.
[483] U.S. Air Force, *Corona Ace Interview*, 128.

Combat," at least a month earlier, showing that Boyd's initial historical synthesis was not overtly tied to his conclusions about air combat or hypothesis about wider relevance. That changed in Warp IV. Before turning to that aspect, an important event which may have precipitated Warp IV must be considered.

Boyd's first contact with a former *Wehrmacht* officer came in a conference from October 14-15, 1976, about a week before Boyd produced WARP IV. This "Antitank Warfare Seminar" featured Colonel Hans-Ulrich Rudel, a *Luftwaffe* Stuka pilot credited with destroying more Russian tanks than any other in World War II, to draw insights that would be useful for NATO in a war with the Soviet Union.[484] The conference was sponsored by the A-10 Program as it was investigating design parameters for its anti-tank armament, and the panel included two of Boyd's closest associates.[485] As discussed above, this conference is described as the genesis of "Patterns of Conflict" by both Hammond and Brown, but Boyd's initial exploration and serious historical inquiry preceded this event by at least several months. It is almost certain that Boyd was in attendance, but it is not clear how the conference affected Boyd's thinking at this time. Discussion focused on air-to-ground tactics, training, and command and control, and though the last of these subjects occupied a significant portion of the discussion and became a central feature of Boyd's work, this was not evident in Warp IV.[486]

The only substantive change to Warp IV was the addition of a new section, titled, "Background," which was a collection of six slides from his "New Conception for Air-to-Air Combat." The first includes a handwritten note, "Key Chart that started Breakthrough in new

[484] Battelle Columbus Laboratories, *Antitank Warfare Seminar (14-15 October 1976), Washington, D.C.* (Alexandria, VA: Defense Technology Information Center, 1985), i. Hereafter, "Battelle, *Antitank Warfare Seminar (14-15 October 1976)*."
[485] Battelle, *Antitank Warfare Seminar (14-15 October 1976)*, 2-3.
[486] Battelle, *Antitank Warfare Seminar (14-15 October 1976)*, 23-46.

conception."[487] These slides walk through the portions of the "New Conception" brief that reveal that New Conception to be intentionally generating a rapidly changing environment to inhibit an adversary's capacity to adapt, unstructuring his system in confusion and disorder through activity that appears uncertain, ambiguous, or chaotic.[488] On the final slide of this section, titled, "Recipe for Generating Confusion and Disorder," Boyd provided a list of technical aircraft design characteristics that would logically follow from his abstract ideas reconceiving aerial combat. At the top of this slide Boyd scrawled "A-To-A & A-To-G" [air-to-air and air-to-ground]. [489] This suggests that the Rudel conference may have helped Boyd see that these same aircraft design features were just as relevant to antitank attacks, suggesting a wider relevance for the New Conception, enough for him to now integrate it in "Patterns of Conflict" as a hypothesis that warranted historical investigation.

Curiously, in the next version of "Patterns of Conflict," Warp V of November 17, Boyd removed this entire section.[490] Then in the next extant version, Warp VI-2 of December 8, Boyd replaced it with a single slide "Background" stating only "Asymmetric Fast Transient Conception of Tactics and Strategy."[491] It will be shown in the next section that Boyd was particularly impressed with Sun Tzu's emphasis on asymmetry. It is therefore worth exploring how this concept came to his attention in November and December of 1976, before he read Sun Tzu's *Art of War*.

---

[487] Boyd, "Patterns of Conflict," Warp IV, slide 3.
[488] Boyd, "Patterns of Conflict," Warp IV, slide 7.
[489] Boyd, "Patterns of Conflict," Warp IV, slide 8.
[490] John R. Boyd, "Patterns of Conflict, Warp V," November 17, 1976, John R. Boyd Collection, Collection 2062, Box 4, Folder 8: Warp V: Patterns of Conflict, 12 November 1976. Marine Corps Archives, slides 1-5. Hereafter, "Boyd, 'Patterns of Conflict,' Warp V."
[491] John R. Boyd, "Patterns of Conflict, Warp VI-2," December 8, 1976, John R. Boyd Collection, Collection 2062, Box 4, Folder 10: Warp VI-2: Patterns of Conflict, 8 December 1976. Marine Corps Archives, slide 2. Hereafter, "Boyd, 'Patterns of Conflict,' Warp VI-2."

It is not clear why asymmetry began to gain such an important place in Boyd's thinking at this time. His expanding source list in Warp V suggests he was focusing on deepening his knowledge of blitzkrieg and combined arms, with such titles as Heinz Guderian's *Panzer Leader*, (1952), Friedreich von Mellenthin's *Panzer Battles* (1956), F.O. Miksche's *Blitzkrieg* (1941) and Stephen Patrick's 1972 *Strategy and Tactics* article "Combined Arms Combat Operations in the 20th Century." Boyd was also reading recent Soviet works, A. Sidorenko's *The Offensive* (1970) and V. Savkin's *The Basic Principles of Operational Art and Tactics* (1972).[492] Most of the changes made to "Patterns of Conflict" in Warp V are minor word and phrase changes, such as placing slight greater emphasis on cohesion.[493] It is not clear what drove him to the major change of adding a penultimate slide to his brief stating "PATTERNS OF CONFLICT Reveal An Asymmetric Fast Transient Conception of Tactics and Strategy," but the addition of "Asymmetric" to the preexisting concept of fast transients would clearly prove to be significant in time.[494]

The source list for the next version, Warp VI-2 of December 8, adds only three books with no clear theme or significance, but there were important changes in this version. In Boyd's discussion of blitz and guerillas being able to concentrate and disperse quickly, Boyd adds that this allows them to "repeatedly and rapidly shift strength against weakness."[495] This same concept is generalized in the Pattern for Successful Operations slide, which includes "Exploit fast tempo and fluidity-of-action as basis for either quick concentration or fluid dispersion to repeatedly and rapidly shift strength against weakness."[496] The notion of strength against

[492] Boyd, "Patterns of Conflict," Warp V," slide 3.
[493] Boyd, "Patterns of Conflict," Warp V, slides 32, 36, and 37.
[494] Boyd, "Patterns of Conflict," Warp V, slide 40.
[495] Boyd, "Patterns of Conflict," Warp VI-2, slide 32.
[496] Boyd, "Patterns of Conflict," Warp VI-2, slide 38.

weakness clearly anticipates Boyd's acute interest in Sun Tzu, who does not appear on his source list until the next version, a month later. The following analysis will show, however, that a number of texts were pointing Boyd in that direction.

It was not until this sixth version of "Patterns of Conflict" produced at the end of 1976 that Boyd began to feel comfortable with the brief.[497] This was according to an interview he gave the following month, in January 1977. This statement is significant, indicating that he had begun to see patterns and connections among the various ideas he had subjected to destructive analysis, and was beginning to form, new, holistic concepts. That the turn of 1976 into 1977 represented Boyd's first great synthesis in the life of "Patterns of Conflict" is indicated by the appearance of important new concepts in the Warp VII version, dated January 18, 1977. This version didn't merely highlight themes drawn from history in a pattern. It integrated the ideas of Sun Tzu, explicitly referenced aerial combat to introduce a proto-concept for OODA, and emphasized four qualities that would promote success in conflict: Inconspicuousness, Quickness, Fluidity, and Cohesion. This quartet of traits was in itself a proto-concept for another, underappreciated, element of Boyd's final theory, the importance of Variety, Rapidity, Harmony, and Initiative. Each of these three major topics is covered in one of the next three sections of this chapter.

**Sun Tzu, Boyd's "Conceptual Father"**

Boyd's initial foray into military history and theory to inform his "Patterns of Conflict" study was a broad swath of history and theory, covering 22 different works between September and November 1976. After that, between November 1976 and May 1977, he seemed to trade breadth for depth, incorporating just nine books in that six-month period. The centerpiece of that effort seems to have been his in-depth read of the two most influential works of military theory

[497] U.S. Air Force, *Corona Ace Interview*, 128.

in human history, Sun Tzu's *The Art of War* and Carl von Clausewitz's *On War*. Though Boyd never subjected Saxe, Bourcet, Guibert, and du Teil to direct study, and his knowledge of these theorists therefore depended on secondary sources, the way he discussed Sun Tzu and Clausewitz in "Patterns of Conflict," and the marginal notes he made in his copies of these books, indicate he engaged with these theorists closely and deeply.

It is significant that of these two theorists Boyd turned to Sun Tzu first, probably inspired by his initial foray into history in in the fall of 1976. Osinga describes Sun Tzu as Boyd's "conceptual father," and points out that Liddell Hart paid tribute to Sun Tzu by quoting him in the introductory pages of *Strategy*.[498] This book was among the 27 works Boyd read in those early months. Boyd also underlined six of the 13 quotes from Sun Tzu that Liddell placed at the front of the text, but Sun Tzu is not explained or even mentioned anywhere else in this book.[499] The chronology of Boyd's engagement with other texts during this period suggests that Liddell Hart was not the only one pointing him in Sun Tzu's direction. Boyd read five works on guerilla warfare, including T.E. Lawrence's *Seven Pillars of Wisdom* (1935), Che Guevara's "Guerilla Warfare" (1961), and Samuel B. Griffith's 1961 translation of Mao Tse-Tung's "On Guerilla Warfare" (1937). The common denominator in all of these texts is some relationship with Sun Tzu, either by direct reference or by conceptual similarities.[500]

Montross also played a role in pointing Boyd towards Sun Tzu. Montross only explicitly mentions Sun Tzu once in his book, but the way he does it is significant, quoting him as an example of the ancient Chinese understanding of war, "not war in the contemporary Western

---

[498] Osinga, *Science, Strategy, and War*, 35-36.
[499] Liddell Hart, *Strategy*, copy annotated by Boyd, 11-12.
[500] While Boyd's copies of these particular books are not in his collection in the Marine Corps Archives, the Griffith translation of Mao in Boyd's source list and the 1961 translation of Guevara he was probably using both make explicit reference to Sun Tzu's influence. Mao Tse-Tung, *On Guerilla Warfare*, trans. Samuel B. Griffith (New York: Praeger Publishers, 1961), 37; Che Guevera, On Guerilla Warfare, trans Harries-Clichy Peterson (New York: Praeger Publishers, 1961), xi.

sense of trading hard blows, but war as an art and science founded on intellectual values."[501] Further, it is clear that Boyd was deeply impressed by Montross's analysis of Mongol operations, and in Montross's analysis of Genghis Kahn, Chinese military theory was described as transformational. Initially the Mongols differed starkly from the Chinese, for they were "Younger and more robust peoples [who] might make war on flesh and blood" while "Chinese generals studied the art of attacking a foeman's mind."[502] After Genghis led them into China, however, the two civilizations blended. Montross relates, "The Mongol had always been cruel, but his ravages were merely brutish until he came under Chinese intellectual influences."[503] He summarizes, "the horsemen who invaded China in 1211 were a horde or skin-clad primitives as compared to the military machine which set out in 1220 for the conquest of Asia. In every detail the operations of this organization reveal a profound knowledge of war."[504] In essence, Montross saw the Mongols as possessing enormous potential that was not fully realized until imbued with Chinese thinking about war. On this subject, Sun Tzu was the only intellect Montross mentioned by name.

Endorsement of Sun Tzu to a lesser or greater degree was therefore a common feature of several of the more influential works Boyd turned to at the start of this historical investigation. If Boyd's approach to knowledge, as defined in "Destruction and Creation," was to analyze and deconstruct these various works, then look for commonalities that might serve as a new framework of meaning, it is no surprise his first deep investigation into military theory was to study Samuel B. Griffith's 1971 translation of Sun Tzu's *The Art of War*. Boyd's copy of *The Art of War* in the Marine Corps Archives has remarkably few marginal notations compared to

[501] Montross, copy annotated by Boyd, 147.
[502] Montross, copy annotated by Boyd, 148.
[503] Montross, copy annotated by Boyd, 149.
[504] Montross, copy annotated by Boyd, 149.

Boyd's other books, but the first version of "Patterns of Conflict" to include Sun Tzu on its source list, that of January 1977, makes it clear that Sun Tzu was shaping Boyd's thinking.

Boyd added a slide to his brief explaining that Sun Tzu's themes are deception, swiftness-of-action, fluidity-of-action, cohesion, dispersion/concentration, surprise, and shock. Key elements of Sun Tzu's strategy Boyd identifies are "Probe enemy's organization and dispositions to unmask intentions and learn his strengths and weaknesses," "'Shape' enemy's perception of world to manipulate his plans and actions," and "employ Cheng and Ch'i maneuvers to quickly and unexpectedly hurl strengths against weakness" with the desired outcome of subduing the enemy without fighting and avoiding protracted war.[505] Sun Tzu is also frequently referenced in Boyd's synthetic ideas, and was highly influential in Boyd's rewrite of his Fundamental Message at the end of his historical analysis. Once he had written,

> Blitz and Guerillas <u>disperse or concentrate more quickly</u>… Such activity by Blitz and Guerillas make them appear ambiguous (unpredictable) and awesome which magnifies into <u>confusion</u>, <u>disorder</u>, and <u>panic</u> among their adversaries – in accordance with Gödel's Proof, the Heisenberg Principle and the Second Law of Thermodynamics. [506]

Now, in January 1977, he deleted reference to Gödel, Heisenberg, and Carnot, which must have been confusing, if not alienating, to his many audiences, and wrote,

> Blitz and Guerrillas <u>repeatedly and unexpectedly hurl strength against weakness</u> by being able to <u>move and shift more quickly</u> and to <u>concentrate or disperse more quickly</u>… Such activity by Blitz and Guerillas make them appear ambiguous (unpredictable) and awesome which magnifies into <u>confusion</u>, <u>disorder</u>, and <u>panic</u> among their adversaries -- a notion implied by Sun tzu around 400 BC… [507]

Boyd's synthesis slides, "Pattern for Successful operations" and "Illumination" were also modified to include concepts clearly drawn from Sun Tzu, including "Probe and test adversary to

---

[505] John R. Boyd, "Patterns of Conflict, Warp VII," January 18, 1977. John R. Boyd Collection, Collection 2062, Box 4, Folder 11: Warp VII: Patterns of Conflict, 18 January 1977. Marine Corps Archives, slides 13-14. Hereafter, "Boyd, 'Patterns of Conflict,' Warp VII of January 18, 1977."
[506] Boyd, "Patterns of Conflict," Version #3, slide 28.
[507] Boyd, "Patterns of Conflict," Warp VII of January 18, 1977, slide 42.

unmask strengths, weaknesses, and intentions." And "Shape adversary's perception of the world to manipulate or undermine his plans and actions."[508]

Only so much can be determined from looking at Boyd's slides, which are but traces of his actual ideas. Fortunately four transcripts capture the words Boyd used when presenting his brief over the years, and these show that Sun Tzu's influence was indeed profound. The first of these transcripts is dated January 28, 1977, just ten days after he completed the first version of "Patterns of Conflict" to mention Sun Tzu. While Sun Tzu was specifically mentioned in only three slides, he is pervasive in the verbal explanation, showing that Boyd's initial read of the *Art of War* affected many aspects of Boyd's maturing synthesis and historical investigation. Boyd starts with the appreciation that Sun Tzu wrote in very different literary and philosophical context, and this was a challenge for westerners who were more liable to take the text on face value, rather than working hard to understand the deeper meeting of its metaphors, analogies, and aphorisms. Scholars of Sun Tzu have made this same point using more sophisticated arguments. For example, Derek Yuen's 2014 *Deciphering Sun Tzu: How to Read* The Art of War, argues

> Given the sorry state of Western research on Sun Tzu and Chinese strategic thought, it is hardly surprising that the West's understanding of Sun Tzu, despite the passage of thousands of years, has never moved beyond facile references to short one- or two-sentence axioms, aphorisms, and phrases from *The Art of War*. Worse still, this tendency to treat Sun Tzu's thought as nothing more than maxims in a decontextualized manner without considering the history, philosophy, and overall design of Sun Tzu's thesis has become a common practice.[509]

Roger Ames, the first scholar to produce an English translation of Sun Tzu that incorporated the critical archaeological discoveries of 1972, explores the epistemological challenges. Ames

[508] Boyd, "Patterns of Conflict," Warp VII of January 18, 1977, slides 49-50.
[509] Derek M.C. Yuen, *Deciphering Sun Tzu: How to Read* The Art of War (New York: Oxford University Press, 2014), 4.

argues one of the fundamental obstacles for Westerners is leaving behind an objective view of phenomena as isolatable happenings understandable through discrete analysis, and adopting the Taoist understanding that all events are always part of a larger whole subject to an ebb and flow of energy.[510] This, of course, was already a key element of Boyd's understanding of the universe. In "Destruction and Creation" he argued that the nature of any body of knowledge could not be deeply understood without appeal to knowledge outside that system. His "New Conception for Air-to-Air Combat" took his existing conception of fighter tactics as an exercise in energy management and then argued that two fighters were not merely seeking to outmaneuver each other, but instead each trying to adapt to the larger changing situation in which they both existed. Boyd's explanation of Sun Tzu's text makes it clear that he appreciated the fundamentally contextual perspective of Chinese thinking.

Boyd observed that Sun Tzu called for knowing oneself, one's environment, the terrain, and the weather. While Westerners might think of the terrain and weather as the environment in which one fights an adversary, Boyd, already conditioned to think of two fighters as each existing in an environment that included the other. He explained,

> …if we are in a competitive situation, a hostile situation, "You are my enemy, I am your enemy," or "You are my adversary and I am Your adversary." In that sense, I am your environment, you are my environment… I am a hostile environment, you are a hostile environment, depending upon whose eyes we are looking from.[511]

Where most Westerners saw Sun Tzu's four "knows" as a simple list of important considerations for planning military operations, Boyd argued that Sun Tzu saw the advantage belonging to the side that had a better holistic understanding of the environment. In an attempt to explain this unfamiliar concept to his listener, he invoked the image of primitive hunter, who was struggling

[510] Sun Tzu, *The Art of Warfare*, trans. Roger T. Ames (New York: Ballantine Books, 1993), 35-43.
[511] U.S. Air Force, *Corona Ace Interview*, 133.

not just to defeat his prey, but always to survive in the total environment, where many things could kill him in the course of a hunt.[512] In military conflict, this meant the advantage would go to the side that best adapted to all these factors as the total environment of competition, ideally leveraging the terrain, weather, and even his own adversary's strengths and weaknesses to his advantage. The idea that an adversary's mental patterns of meaning might constitute and exploitable portion of that environment will be explained shortly through Boyd's attraction to Sun Tzu's concepts of *cheng* and *ch'i*.

Boyd's entire postmodern conception of knowledge predisposed him to appreciate Sun Tzu's assumption that war and combat were never a matter of two combatants fighting within a closed system susceptible to fixed principles, but was instead a matter of competitive co-adaptation in an ever-changing environment. This viewpoint also reflects the Taoist conception of the universe, and it is clear that Boyd studied at least one important work on Taosim in the months soon after reading Sun Tzu.[513] It is possible that an earlier study of Taoism informed Boyd's initial read of Sun Tzu, but also that Sun Tzu helped Boyd appreciate that Taosim merited his attention. In some respects the answer is irrelevant, for Boyd's study of these topics was iterative, and his understanding of Sun Tzu, Liddell Hart, Taoism, and many other topics became intertwined. According to his own words, Boyd's study of general military history over the previous months had helped him see the deeper meaning of Sun Tzu,[514] and his previous intuitions about the importance of ambiguity and perception attuned him to recognize these themes in Sun Tzu's writing. In Yuen's estimation, Boyd became "Sun Tzu's best 'successor' in the West," and Yuen further credits Boyd above Liddell Hart and J.C. Wylie as the one "who

[512] U.S. Air Force, *Corona Ace Interview*, 153.
[513] Later in this chapter is an analysis of Boyd's read of Alan Watts, *Tao: The Watercourse Way* (1975) in March and April 1977.
[514] U.S. Air Force, *Corona Ace Interview*, 150.

best captures the essence of Sun Tzu's thought" on certain topics.[515] Indeed, Yuen introduces his book with high praise for Boyd, stating,

> He recognized that simply borrowing Sun Tzu's principles, as his predecessors had, was ineffective and insufficient: any adoption of Chinese strategic thought would be unsuccessful without first grasping the Chinese way of thinking, worldview, and logical and dialectic system. Boyd's insistence on the need to capture the basis of Chinese strategic thought eventually bore fruit, leading to substantial progress in Western understanding of Sun Tzu, as well as in bridging the gap between Chinese and Western strategic thought. This book seeks to augment Boyd's unfinished endeavor.[516]

Yuen's explanation even employs OODA and several of Boyd's other ideas to decipher Sun Tzu for his readers.[517]

Boyd was therefore primed for a deeper understanding of Sun Tzu's work. He explained that the ancient scholar's metaphors deserved close attention. In using words such as "thunderbolt," "lightening," and a "swift wind," to describe swiftly-moving military units, he explained, Sun Tzu was not merely invoking images of fast movement, but also phenomena which had psychological effects.[518] Boyd also saw that Sun Tzu understood the concept of a surprise in a way that would be novel to Westerners, not as something one does to create an effect on one's adversary, but instead as the desired product of deception, swiftness, and fluidity. Boyd argued "Normally when we Westerners speak of surprise, the emphasis seems to be on the input side of the house, you are going to get the surprise and everything is going to be wonderful later on. On the other hand, when you look at it through Chinese eyes, they do all these other things so that they can actually have surprise manifest itself."

Boyd didn't dismiss Sun Tzu's well-known proverb, "All war is based on deception," as some hyperbolic or cryptic comment, as many have come to do. Instead, Boyd explained

---

[515] Yuen, 119, 125.
[516] Yuen, 3.
[517] Yuen, 117-125.
[518] U.S. Air Force, *Corona Ace Interview*, 154.

"deception drives his scheme of warfare,"[519] and the concept infused Sun Tzu's text, so "The book literally drips with deception on every page."[520] Boyd saw that deception wasn't simply a technique that might be used to surprise an opponent, but something that fundamentally "shaped" the mental pattern of meaning an adversary built to understand events. Boyd also understood that Sun Tzu placed a premium on understanding one's adversary because that meant getting oriented to your environment "so you can adapt to it and also be able to shape that environment and make it difficult for your adversary."[521] For Sun Tzu, according to Boyd, this meant always "trying to shape his adversary's perception of the world," which adds a whole deeper meaning to the trite phrase "all warfare is deception."[522] By doing so, one is always undermining and defeating his adversary's plans, most directly captured by Sun Tzu's assertion that "attacking an enemy's plans is the best policy."[523] To Boyd this meant that shaping an adversary's perceptions of the environment was in effect altering his plans. Boyd elaborated,

> Sun Tzu likes to use the word "shape." To shape the enemy's perception and manipulate his plans and actions. In other words, by your behavior in that the other guy is going to be looking at you and he is going to start drawing certain conclusions. As a result of that, this will start affecting his plans and actions."[524]

Over time, Boyd came to understand that Sun Tzu's concept of deception went beyond presenting one's adversary with false information. Since the "New Conception for Air-to-Air Combat" he had paid special attention to the value of ambiguity. Boyd appreciated that Sun Tzu's emphasis on formlessness contributed both to remaining inscrutable to the enemy and handicapped his efforts to find a relevant mental pattern of meaning, for that always depended on a match up with observed reality. In this way, he was circling back to his comment that for Sun

[519] U.S. Air Force, *Corona Ace Interview*, 151.
[520] Battelle, *Seminar on Air Antitank Warfare (May 25-26, 1978)*, 12.
[521] Battelle, *Seminar on Air Antitank Warfare (May 25-26, 1978)*, 13.
[522] Battelle, *Seminar on Air Antitank Warfare (May 25-26, 1978)*, 13.
[523] Battelle, *Seminar on Air Antitank Warfare (May 25-26, 1978)*, 13.
[524] U.S. Air Force, *Corona Ace Interview*, 157.

Tzu, surprise wasn't something done to an enemy, but instead the desired result of a particular way of operating.

Boyd drew several other important themes from Sun Tzu besides the importance of swiftness and shaping an adversary's perceptions and understanding. One concept that many Westerners would not have a good feel for was the notion of "fluidity of action." Boyd had already taken note of Liddell Hart's phrase "fluidity of force" even though *Strategy* made only rare mention of fluidity. Now Boyd saw Sun Tzu's urging for an army to behave like water going downhill as communicating several interrelated concepts. Not only did this mean seeking the path of least resistance, but also adapting to one's environment and doing it quicker than one's adversary. The water metaphor related to the idea of pitting strength against weakness not just in a positive sense, avoiding strength and flowing through weakness, but also in denying one's adversary a static mass to strike in the "dispersion-concentration game." In Boyd's mind, this was fundamentally different from the Western approach to warfare, for "Whereas Westerners think of two concentrations bashing against one another and bodies flying all over," he said, "Sun Tzu has a completely different notion."[525] This importance of this remark is underscored by Osinga, who summarizes, "Sun Tzu is cited in Patterns of Conflict as a starting point for venturing into alternatives for the attritionist style of warfare," a major topic Boyd would develop in the coming years.[526]

Boyd also drew practical ideas from *The Art of War*. One important set of concepts that Boyd embraced because it brought multiples themes together is *cheng* and *ch'i.* Boyd drew from a footnote Samuel B. Griffith added to his translation,

> The concept expressed by *cheng* [Chinese character for *cheng*], 'normal' (or 'direct') and *ch'i* [Chinese character for *ch'i*], 'extraordinary' (or 'indirect') is of basic importance. The

[525] Battelle, *Seminar on Air Antitank Warfare (May 25-26, 1978),* 13.
[526] Osinga, "'Getting' *A Discourse on Winning and Losing*," 607.

> normal (cheng) force fixes or distracts the enemy; the extraordinary (*ch'i*) forces act when and where their blows are not anticipated. Should the enemy perceive and respond to a *ch'i* manœuvre in such a manner as to neutralize it, the manœuvre would automatically become *cheng*.[527]

In his briefs, Boyd rendered this explanation in very colloquial terms to explain how such maneuvers can be used *"*as a basis to throw strength against weakness," refencing a popular line from George C. Scott's 1970 movie *Patton* as a lead-in to the conversation. Boyd explained,

> [Scott's Patton] made the comment to the effect, "What you want to do is you want to hold them by the nose and kick them in the ass." …That was a very important statement he made because it really represents in a sense a cheng and a chi. The hold by the nose to get his attention and then the undisclosed movement to the rear in order to pull him apart. That is one manifestation of it. Let us go a little deeper. The idea comes out about the cheng and chi: You are talking about the cheng representing a direct move and the chi an indirect move, or the cheng being the expected and the chi being the unexpected, or the cheng being the obvious and the chi being the hidden. If you want to take it all the way, the cheng in a sense presents the deception, the chi represents the surprise. And it is not cheng or chi. It is cheng and chi.[528]

In Boyd's interpretation, then, *cheng* and *ch'i* are inseparable. They are as much about creating a false perception within the enemy's mind by presenting him with something expected, as they are about hitting him on a flank or weak spot with something unexpected. All warfare is deception because advantage in war is created by showing the enemy what he expects to see, or otherwise shaping his perceptions, to make him more vulnerable to something else. This is a very different, much more active view than Western attempts to define war in principles, which generally promote concertation of force at a critical point.

Sun Tzu's concepts explicitly infused much of what Boyd discussed afterwards. Boyd explained that Alexander the Great, Hannibal, Belisarius, Genghis Khan, and Tamerlane "were quite consistent with Sun Tzu."[529] Boyd continued,

---

[527] Sun Tzu, *The Art of War*, trans. Samuel B. Griffith (New York: Oxford University Press, 1963), copy annotated by John R. Boyd. John R. Boyd Collection, Collection 2062, Book Box 1, Marine Corps Archives, 91.
[528] Battelle, *Seminar on Air Antitank Warfare (May 25-26, 1978)*, 14.
[529] U.S. Air Force, *Corona Ace Interview*, 161.

> But the interesting distinction which seems to come out when you look at this stuff is that the western commanders seem to be more directly concerned with the battle. In other words, when they apply their idea of deception, guile, or surprise, or the various schemes they want to play, it tends to be within the confines or the context of the battle; very battle oriented."[530]

Boyd's narrative had evolved, for now, in January 1977, Boyd describes the greatest successes of Belisarius, Hannibal, Genghis Khan in terms of *cheng* and *ch'i* combinations, and Saxe, Bouurcet, Guibert, and du Teil are credited for recognizing the importance of mobility, fluidity of force, and cohesiveness. Boyd lauds them for talking of the use of dispersion to achieve a decisive concentration in a way that was "a little more precise in formulation than what Sun Tzu had said."[531] Boyd explains that T.E. Lawrence conformed to Sun Tzu's ideas of fluidity, only behaving more like a gas than water, which brought in the notion of not only fluidity, but also being inconspicuous. The American colonists, and Spanish and Russian Guerillas are likewise described as doing "these kinds of things that were quite similar to the ideas of Sun Tzu."[532] Boyd makes a direct connection with the activities and writing of Mao Tse-Tung, and even argues that Adolf Hitler's use of political, economic, and social leverage to assimilate Austria and Czechoslovakia reflected Sun Tzu's ideas, even if Hitler had never read Sun Tzu.[533]

The deep impact of Sun Tzu on Boyd's thinking begs the question as to why Boyd was influenced so heavily by a text that is, even to this day, often dismissed by academics and military professionals as little more than a collection of maxims. Montross, for example, briefly lauded Sun Tzu as a "sage," and acknowledged that fundamental differences existed between the Western and Chinese approaches to war, but ultimately summarized Sun Tzu's ideas as simply

[530] U.S. Air Force, *Corona Ace Interview*, 161-162.
[531] U.S. Air Force, *Corona Ace Interview*, 163-166.
[532] U.S. Air Force, *Corona Ace Interview*, 169.
[533] U.S. Air Force, *Corona Ace Interview*, 183-184.

"military maxims" in "poetic if somewhat recondite terms."[534] Yuen, a scholar with rare familiarity with both Western and Chinese thought systems, attempts to correct this for the modern reader by explaining Sun Tzu's historical and philosophical context, but Boyd didn't have the benefit of this resource in the 1970s. What Boyd did have was a study of military history and theory, informed by his earlier study of postmodern scientific and philosophical thinking alerting him to the subjective nature of knowledge, most evident in "Destruction and Creation." He was also shaped by works which do not appear on his lists, and later in this chapter it will be shown that Boyd closely studied and was deeply impressed with a book by philosopher Alan Watts in this period, his 1975 *Tao: The Watercourse Way*.

Before turning to Boyd's interpretation of a classic Western theorist, Clausewitz, in order to preserve the chronology of his expanding ideas, two other topics must be considered because they also occurred in the winter and spring of 1977. One is the importance of Inconspicuousness, Quickness, Fluidity, and Cohesion, which he likely highlighted because of his new appreciation of Sun Tzu. The other topic is the integration of Boyd's thinking on air-to-air combat into "Patterns of Conflict." The next section will show that the manner in which he presented these ideas contributed to the misperception that OODA was derived from his insights on air-to-air combat, and was therefore a preexisting concept onto which Boyd grafted a historical exposition.

**ODA: A Proto-concept for OODA**

Though the first extant version of "Patterns of Conflict," Version #3 developed in the early fall of 1976, does highlight fast tempo, it makes no mention of aerial combat or the specific concepts in Boyd's recently-completed "New Conception for Air-to-Air Combat." As preceding

[534] Montross, copy annotated by Boyd, 147.

analysis shows, in Warp IV of October 1976 Boyd inserted an excerpt of slides from his "New Conception for Air-to-Air Combat" introduced the concept of fast transients, but then he removed the aviation material in the next two versions of November and December in favor of a terse statement which bonded the idea of fast transients to the concept of asymmetry: "PATTERNS OF CONFLICT Reveal An Asymmetric Fast Transient Conception of Tactics and Strategy."[535] This is a phrase which also appears in Boyd's April 1977 notation in *Tao: The Watercourse Way*. These quotes show Boyd was searching for words to describe the fundamental connection between his earlier work on metacognition, his concept of fast transients first derived during his new conception of air-to-air combat, and his ongoing historical and theoretical reading in search of patterns in conflict. Warp VII of January 1977 is distinctive because it reintegrates Boyd's work on air-to-air combat into "Patterns of Conflict," and does so to introduce a unifying concept that would clearly evolve into OODA, "Observation-Decision-Action time scales." Observation-Decision-Action (ODA)[536] is clearly a proto-concept for OODA, the concept that so many have unfortunately rendered as a reductive shorthand for Boyd's entire theory.

This is not the first time that ODA appears in Boyd's work because there are two pieces of evidence mentioning ODA which predate the January 1977 version of "Patterns of Conflict." The first cannot be positively dated, a notebook of Boyd's thoughts on simulator testing and pilot tactical decision making which appears to relate to the simulator discrepancy that inspired the "New Conception for Air-to-Air Combat" study. On an undated page titled "Simulator

[535] Boyd, "Patterns of Conflict," Warp V, slide 40; and Boyd, "Patterns of Conflict," Warp VI-2, 42.
[536] This dissertation makes anachronistic use of three acronyms, ODA (Observation-Decision-Action), IQFC (Inconspicuousness, Quickness, Fluidity, and Cohesion), and VRHI (Variety, Rapidity, Harmony, and Initiative). While Boyd did not use acronyms to describe these terms, IQFC and VRHI were repeated in his briefs in a mantra that always kept them closely tied, and representing them as an acronym is not only grammatically efficient, but also stresses their importance as a whole concept of four closely-tied parts. Finally, representing them as acronyms reinforces the argument that they were as central to his theory as OODA was.

comments" is the bullet, "No ~~lag~~ time accountability for ~~decision and~~ observation→decision→action?"[537] There is no other collective mention of the three components that would become ODA (observation, decision, and action) in any of Boyd's notes and briefs prior to Warp VI-2 of "Patterns of Conflict" dated December 8, 1975. There, on the "Fundamental Message" slide, where Boyd had previously followed a statement on rapid concentration and dispersion with "Put another way, Blitz and Guerillas 'get inside adversary's' Mind-Space-Time Continuum," he now wrote, "Put another way, Blitz and Guerillas get inside adversary's Observation-Decision-Action or Mind-Space-Time framework."[538] This suggests that where Boyd had developed the idea of Mind-Space-Time as a way of showing that competition in space, the physical world, was inalienable from the factors of time and mental perception, he now saw that another way of describing that inseparability to be a relationship between three activities: observation and decision (perceptive and mental activities) and action (activity in the physical domain). This was the only place where ODA is mentioned in the December version, suggesting that this was Boyd's initial, tentative exploration of a new concept as part of his theoretical explanation.

January 1977 is the first time that ODA is comprehensively integrated and explained in "Patterns of Conflict." Boyd did this first through an expansion of what had previously been a single-slide section Boyd titled "Background." Placing this discussion in the front of "Patterns of Conflict" is probably the single greatest contributor to the misperception that Boyd's fundamental ideas were drawn from his work on aerial combat, rather than a larger inquiry into the nature of knowledge and warfare. Boyd used this section to explain why he embarked upon

[537] Boyd, notebooks folder, plain brown stenographer's pad with "Dr. Beam" on cover, 2. The only dates in this book relate to travel conducted from November through January of unspecified years, and a meeting on January 6, 1975.
[538] Boyd, "Patterns of Conflict," Warp V, slide 35; and Boyd, "Patterns of Conflict," Warp VI-2, slide 32.

his historical inquiry, and also to provide a sketch of his major ideas up front to clarify what the following brief was really all about. The integration of the Background explanation was part of an ongoing experiment in his exposition, as indicated by its expansion in October and reduction again the following month. As Boyd related to his one-person audience in January 1977, just ten days after he developed the Warp VII version,

> I have received many different reactions. Probably because the listeners have had so many different experiences. …You kind of speculate the areas where you are going to have some difficult points because of the various backgrounds of the listeners, their experiences, et cetera. And I find out that I get surprised many times. Now, I thought the Army would become tense when I went down to the history part of the presentation--but the first and last parts I was sure they would buy off on. Well, the Army loved the history part of it. [General] Hollingsworth said, "That's beautiful." Some of the other guys suggested that the first part actua1ly be taken out; the part you liked. Now, I am not knocking it, I am just saying that I have received many different reactions. Some people like it all, some people say, "Make it shorter," or "Throw out that first part, just talk about the history."[539]

It is clear from this statement that Boyd considered the Background expendable, rather than a critical piece of logic, one that showed "Patterns of Conflict" to be derived from his aerial work. Boyd kept the Background section at the start of the brief throughout his work on the project over the next decade. Its contents evolved along with his evolving synthesis, though he eventually felt it was better to retitle this section his "Point of Departure."

The way Boyd expressed his ideas in his Background contributed to the perception that they were derived from air-to-air combat. To provide the reader with a "background" for how "this whole thing came out," Boyd started with seven slides which appeared to be directly imported from his "New Conception for Air-to-Air Combat" including a myriad of technical aviation details. [540] Where in the October version they had been actual photocopies of those slides, however, now they were neatly retyped and consolidated. For example, where the "New

[539] U.S. Air Force, *Corona Ace Interview*, 223-224.
[540] U.S. Air Force, *Corona Ace Interview*, 128

Conception of Air-to-Air Combat" included a "Current Generalization – 'Warp I'" and "Deeper Generalization – 'Warp II'" slides (only the latter of which appears in the October "Patterns of Conflict"), in January Boyd provided a much more succinct single "Generalization" slide.[541] The next slides move between aviation-specific discussion and more general ideas, before explaining the New Conception of conflict as generating a rapidly changing environment to inhibit an adversary's capacity to react and summarizing, "He who can generate and cope with the quickest rate of change survives."[542] ODA is only mentioned once in this section, near the beginning, and the way it is incorporated is important.

In explaining his concept of fast transients, where the "Idea Expansion" slide in the "New Conception" brief had stated, "in order to gain superiority we should operate at a faster tempo than our adversaries or inside our adversaries [sic] time scales," Boyd now added "—or better yet, get inside adversary's Observation-Decision-Action time scales."[543] While this is the fourth slide in the January 1977 version of "Patterns of Conflict," it also has "18" handwritten at the top. This number corresponds to the number of the original slide in the "New Conception," *the one which did not mention ODA.* No copies of the "New Conception" which have been found which mention ODA. This suggests that Boyd went back and revised his "New Conception for Air-to-Air Combat" by replacing its original slide with the new version mentioning ODA. It is clear that if ODA did ultimately find its way into the brief on aerial combat, it was months after Boyd felt he had finished his "New Conception for Air-to-Air Combat" and began his "Patterns of Conflict" inquiry, and was informed by those efforts. Boyd continued to brief his "New Conception" to audiences more interested in aviation matters for

[541] Boyd, "New Conception for Air-to-Air Combat," slides, 15, 18; Boyd, "Patterns of Conflict," Warp IV, slide 3; and Boyd, "Patterns of Conflict," Warp VII of January 18, 1977, slide 3.
[542] Boyd, "Patterns of Conflict," Warp VII of January 18, 1977, slides 4-9
[543] Boyd, "Patterns of Conflict," Warp VII of January 18, 1977, slide 4.

years afterwards. It is likely he would explain his previous insights in the new terms developed from "Patterns of Conflict," but all indications are that ODA was the result of a synthesis that did not occur until he was months into his historical inquiry, probably in December 1976.

Boyd only mentions ODA once on his Background slides of January 1977, immediately before he offers three historical examples of decisive results from operating with superior tempo: the German invasion of France in 1940, F-86 vs. Mig-15 combat in the Korean War, and the recent Israeli raid on Entebbe in 1976, all of which had been used to illustrate fast transients and tempo in the "New Conception" brief, long before ODA appeared.[544] Many of the subtleties were lost on Boyd's audiences, however, who saw aviation ideas inspiring broad concepts. In time, and as conclusions began to be drawn more from Boyd's slides rather than his rich narrative explanation, the Korean War fighter example was conflated to become the inspiration for OODA rather than an example. Boyd's ambivalence over the need for a Background explanation may have also contributed to misperceptions. In the first two actual transcripts of Boyd's presentation, from January 1977 and May 1978, Boyd jumps right into the discussion of aircraft and air-to-air tactics without explicitly describing his intention for the Background.[545] Finally, it must be remembered that over the next decade Boyd's brief grew to 193 slides and his discussion could last seven hours or longer. It is easy to see that his audiences may have had trouble distinguishing which of the Background's ideas came from aerial combat, and which came from historical analysis, remembering only that Boyd's extended dissertation began with a detailed discussion of aerial combat.

ODA certainly was integrated in a comprehensive way in the January 1977 brief. It also appears at the very end of that brief, after the historical narrative and analysis, on the slides

[544] Boyd, "Patterns of Conflict," Warp VII of January 18, 1977, slide 5.
[545] U.S. Air Force, *Corona Ace Interview*, 123; and Battelle, *Seminar on Air Antitank Warfare (May 25-26, 1978)*, 5.

presenting the "Pattern for Successful Operations." Boyd had also modified these slides to include Sun Tzu's concepts for the first time. Where in the earlier version of "Patterns of Conflict" this slide had recommended action to "Exploit fast tempo and fluidity of action as a basis for either quick concentration or fluid dispersion of effort," now Boyd recommends, "Exploit ability to observe, decide, and act (or move, shift, concentrate, and disperse) more inconspicuously and more quickly, without losing cohesion of overall effort, as basis to repeatedly and unexpectedly hurl strength against weakness."[546] On the last page he provides his concluding "Illumination" where the "Key" is

- The ability to Observe, Decide, and Act more inconspicuously and more quickly
or put another way
- The ability to get inside adversary's Observation-Decision-Action events or Mind-Space-Time framework.[547]

For more insight on how Boyd first integrated ODA, we can turn to an interview of Boyd from just ten days later, during which he essentially presented "Patterns of Conflict" to his interviewer one-on-one. The transcript reveals some of his early thinking behind the new concept mentioned in his slides.

> When you really come down to it, the whole thing is tied into your abilities to observe, decide, and act… It is necessary, you see, to keep the abilities, observe, decide, and act, grouped together, because each one--for instance, your actions are dependent upon your observations and decisions; your decisions are dependent upon your previous action; what you are observing now, et cetera. So, I kind of see them as a trinity or a trio. It is difficult to make a decision independent of the action. You see the problem I have with that. Maybe if I think it through more in the future, I might come up with a better answer. I do not have the tendency to want to separate the three at this point. The idea of doing so gives me an uncomfortable feeling—just knowing that when I observe something, I think about it, and then I take action. I just do not feel right when I go to that separation scheme.[548]

[546] Boyd, "Patterns of Conflict," Warp VII of January 18, 1977, slide 49.
[547] Boyd, "Patterns of Conflict," Warp VII of January 18, 1977, slide 50.
[548] U.S. Air Force, *Corona Ace Interview*, 229.

The real value of this passage it that it reflects some of Boyd's least mature thinking about the proto-concept that would become OODA. He does not describe the three activities as cycle, but instead interdependent processes needed to survive in a changing environment. His thought had already progressed much further than this however, for he could also see them as a cycle functioning in a competitive environment. The explanation Boyd provides would be very familiar to someone with only a superficial understanding of OODA today. In the same interview he explained,

> What, in effect, is happening then is you are operating at one rhythm and I am operating at another rhythm. Your rhythm is inside my rhythm or your observation decision action events are inside my observation decision action events or time scales. The net effect then is pretty soon after that begins to happen, I am going to tend to become a bit uncertain because your actions appear ambiguous to me. I become a little uncertain and pretty soon I am confused, disordered, and going into a panic situation… If you are quicker than I am, then on what basis am I making my decision? Am I making my decisions on your actions? There is no way I can… because you are too quick for me. Every time I go to make a decision, it is because of a previous frame of reference I never get to play with; I am one frame back. In effect then, the only observation decisions I am making are on my own internal dynamics.[549]

To understand why Boyd came up with the ODA concept, we must consider what that conception brought about that his earlier arguments had not. His theory of learning and metacognition stressed the importance of perception and synthesizing information about one's surroundings to as a basic for constantly adapting to a changing environment. His earliest studies of history had led him to emphasize ambiguity, fluidity of action, tempo, cohesion, and pitting strength against weakness to focus effort in places once's adversary would not expect it. All of these aspects were confirmed by Sun Tzu, who placed special emphasis on warfare being a contest of perception. What Boyd lacked, however, was a central explanatory construct to tie all these together, and this is what Observation-Decision-Action accomplished. It highlighted

[549] U.S. Air Force, *Corona Ace Interview*, 134-135.

that actions were dependent on decisions, but decisions were likewise dependent on perceiving one's environment. This model also suggested a relationship between action and observation, since acting "more inconspicuously and more quickly" complicated an adversary's observation.

Further, by describing ODA as a repetitive cycle, Boyd was able to explain how this created moral-mental crisis, where the mismatch between observations and perceived reality grew worse over time for an adversary who was working off a flawed conception of events. This last part was made clear in a modification he made to the Background's "Idea Expansion" slide made a month after he first introduced ODA. Boyd explained that confusion and disorder were created by adversaries being "forced to cope with an apparent (visible) world instead of the real (invisible) world they are competing against."[550] A month later he revised it again, to explain that adversaries "can only perceive an apparent opponent that does not match the real (fast transient) opponent they are competing against."[551] Boyd was elaborating on the ideas before moving on to the historical examples of blitzkrieg, Korean War dogfights, and the Israeli raid, but his illustrations were not of a mechanistic ODA cycle, but instead how it contributed to mismatches of perception and reality, capitalizing on ambiguity to create confusion and disorder. ODA had become part of the explanation for why ambiguity and tempo could have disruptive effects, but it was not Boyd's central argument. The section that follows will show that Boyd's central argument was to promote traits which fostered ambiguity and fast tempo.

After Boyd introduced the ODA time scales in January 1977, his next versions refined this new model and its expression, probably because it appeared to be an effective device,

[550] John R. Boyd, "Patterns of Conflict, Warp VIII," February 16, 1977. John R. Boyd Collection, Collection 2062, Box 4, Folder 13: Patterns of Conflict, 16 February 1977. Marine Corps Archives, slide 5. Hereafter, "Boyd, 'Patterns of Conflict,' Warp VIII of February 16, 1977."
[551] John R. Boyd, "Patterns of Conflict, Warp VIII," March 28, 1977. John R. Boyd Collection, Collection 2062, Box 4, Folder 5: Warp VIII: Patterns of Conflict, 28 March 1977. Marine Corps Archives, slide 5. Hereafter, "Boyd, 'Patterns of Conflict,' Warp VIII of March 28, 1977."

gaining traction with his audiences. ODA also began to receive more frequent mention, and became a central aspect of his explanation, but not his historical discourse. It is only mentioned two times in the 59 pages that make up this portion of the January 1977 transcript, though these same pages are filled with mention of inconspicuousness; rapidity, swiftness, and fast tempo; mobility, concentration and dispersion, and fluidity; cohesion; and surprise. [552] This was consistent throughout the life of "Patterns of Conflict." In 1986, when this portion of the brief had grown to 193 slides, OODA only shows up on two of the 111 slides that made up the historical narrative.[553] This section of the brief is replete with the terms variety, rapidity, harmony, and initiative; inconspicuousness and irregular, swift and quick; mobility, fluidity, and concentration and dispersion; cohesion; and surprise. Boyd did not use his historical narrative to demonstrate that decisive moments in military history were achieved by leaders or forces "doing" ODA or OODA. ODA, and later OODA, were part of his supporting explanation for why inconspicuousness, quickness, fluidity, and cohesion (IQFC), and later variety, rapidity, harmony, and initiative (VRHI), seemed to convey significant advantages in numerous forms of competition.

While ODA was not a feature of Boyd's historical narrative and analysis, it did indeed become a more important part of his explanatory synthesis. Where in December 1976 ODA was first tentatively discussed as an adversary's fundamental conception of ongoing events, another way of saying his "Mind-Space-Time framework," by February 1977 this became "Observe, Decide and Act inside adversary's Mind-Space-Time Framework."[554] In this concluding section of this brief, where he had added ODA to the Pattern of Successful Operations, it was fused into

[552] U.S. Air Force, *Corona Ace Interview*, 149-208.
[553] Boyd, "Patterns of Conflict," December 1986, slides 12, 28.
[554] Boyd, "Patterns of Conflict," Warp VIII of February 16, 1977, slides 51-55. The quotes are drawn from slides 53 and 54, which relate to strategy and tactics respectively.

the central concept of ambiguity and tempo. For example, Boyd explained that part of the pattern was to "Exploit ability to observe, decide and act … more inconspicuously and more quickly…"[555] When Army Lieutenant General James Hollingsworth received the brief from Boyd in January 1976, he was so impressed by this new statement, at that time an explanatory innovation only a week old, he said, "That makes sense. That is right on."[556] After relating some historical events that illustrated the point he said, "That is important. You should put a box around it. Make sure they get the message."[557] Two days later Boyd recounted, "He recognized what I have been talking about—everything else depends upon this right here. This is the driving mechanism!"[558] Boyd gave this statement greater emphasis by drawing a box around it on his next version of "Patterns of Conflict," just as the general advised.[559] ODA was clearly an important and central new concept, and when he saw that it appealed to his audiences and helped them understand his ideas better, it assumed greater importance to him as well. This rise in importance of ODA, however, was paralleled and surpassed by another, more important proto-concept, one that grew from Boyd's emphasis on acting inconspicuously and quickly: the quadpartite concept of Inconspicuousness, Quickness, Fluidity, and Cohesion.

Before moving on to that third and last major conceptual innovation the spring of 1977, a key point bears repeating. Boyd's decision to incorporate slides from the "New Conception of Air-to-Air Combat," now modified to include the new ODA concept, served a purpose, but it also had a cost. The purpose it served was that it allowed him to explain some of the initial thinking that drew him to his historical investigation, and use the relatively simple problem of

[555] This statement first appeared in Boyd, "Patterns of Conflict," Warp VII of January 18, 1977, slide 49.
[556] U.S. Air Force, *Corona Ace Interview*, 210.
[557] U.S. Air Force, *Corona Ace Interview*, 210.
[558] U.S. Air Force, *Corona Ace Interview*, 210.
[559] John R. Boyd, "Patterns of Conflict, Warp VII," February 7, 1977. John R. Boyd Collection, Collection 2062, Box 4, Folder 12: Patterns of Conflict, 7 February 1977. Marine Corps Archives, slide 51. Hereafter, "Boyd, 'Patterns of Conflict,' Warp VII of February 7, 1977."

fighter tactics, among other historical examples, to introduce his ODA (and later OODA) concept. In essence, he was providing his audiences with an introduction to his central explanatory concept before he got into his historical investigation. Boyd rarely mentioned ODA or OODA in the historical investigation itself. Introducing the concept and illustrating it in the Background at the beginning of his brief helped his audiences see why his explanations were placing emphasis on ambiguity, speed, and moral and mental factors in war. All of this was tied back into ODA (later OODA) at the very end of the brief, in Boyd's Pattern for Successful Operations. Many people receiving the brief, especially when it extended to seven or eight hours long, would only remember that Boyd had discussed aerial combat and OODA at the beginning, and then launched into his historical investigation, returning to OODA at the end. Missing the subtleties of his Background explanation, the natural impression for many was that Boyd derived OODA from aerial combat, and then embarked upon a historical explanation with this central concept in mind, and was either consciously or subconsciously using military history to prove his theory correct. Boyd eventually trimmed the Background discussion of insights drawn from the "New Conception" down to just five slides, and renamed this portion of the brief "Point of Departure," but it did little to change this impression. Starting this section with the title slide "POINT OF DEPARTURE: AIR-TO-AIR" may have actually exacerbated the notion that OODA was derived from aerial combat, and preceded Boyd's inquiry into military history.[560]

**Inconspicuousness, Quickness, Fluidity, and Cohesion**

Another key feature of Boyd's theory which has been neglected by scholars is his emphasis on Variety, Rapidity, Harmony, and Initiative (VRHI), the four critical qualities he considered necessary for adaptation, survival, and victory. The prominent, yet generally

[560] Boyd, "Patterns of Conflict," December 1986, slides 3-8.

underappreciated, place of VRHI in the final version of "Patterns of Conflict" will be covered in chapter 6, but the early origins of that concept are discussed here to show that it had long been an essential part of Boyd's theory. Just as OODA can be traced to a proto-concept (ODA) integrated at the start of 1977, so too can VRHI be traced to its own proto-concept developed in the same period: Inconspicuousness, Quickness, Fluidity, and Cohesion (IQFC).

As the narrative has shown, ambiguity and speed of action were key elements of Boyd's "New Conception for Air-to-Air Combat." His early historical studies over the summer and fall of 1975 showed inconspicuousness and quickness to be essential elements of the Pattern for Successful Operations he was searching for, probably because they were stressed by key authors and aligned with his intuition about the importance of ambiguity and speed of action. Boyd directly associated these concepts with ODA from the inception of that concept, when he urged, "Exploit ability to observe, decide, and act (or move, shift, concentrate, and disperse) more inconspicuously and more quickly…"[561] In this passage Boyd stressed that the action that resulted from ODA had to take a specific character: inconspicuous and quick. It is significant that he followed this with another qualifier, "…without losing cohesion of overall effort…"[562] This shows a close relationship of another key concept that had attracted Boyd's attention early on: cohesion. In essence, Boyd saw that inconspicuousness and quickness were vital to action, but the dialectic complement had to be cohesion—being inconspicuous and quick couldn't come about at the expense of an organization's ability to focus its effort. Put another way, if war was a game of concentration and dispersion, the advantages of dispersion would mean little without the complementary ability to concentrate and act in a unified way.

[561] Boyd, "Patterns of Conflict," Warp VII of January 18, 1977, slide 49.
[562] Boyd, "Patterns of Conflict," Warp VII of January 18, 1977, slide 49.

Fluidity was another key feature Boyd had noticed in his earliest historical investigation, originally represented as "Mobility/Fluidity of Force" and "Fluidity-of-Action." It is unlikely that this is an insight he could have gained from his expertise on aerial combat, and it is not mentioned in his "New Conception." It is, on the other hand, a central feature Boyd recognized in his study of Sun Tzu's *The Art of War*. What Boyd, lacked, however, was a central concept that brought these four important qualities together, as ODA did for the vital processes of perceiving, deciding, and acting. In May 1977 Boyd introduced the quadpartite concept of Inconspicuousness, Quickness, Fluidity, and Cohesion (IQFC) as a new element in "Patterns of Conflict" to do just that.

Placing a premium on these four characteristics helped a group act in a way that would allow them to complicate an adversary's ODA process. At the same time, they also maximized that group's own opportunities to act in decisive ways to reshape the competitive situation. In essence, Boyd could not tell his audiences that the way to apply his ideas was to "do" ODA. This was abstract, and even a competitor who lost in a contest would be "doing" ODA. What Boyd could do instead was insist that through history "winners" had consistently demonstrated IQFC, and aspiring winners should strive to act inconspicuously, quickly, fluidly, and cohesively. Unfortunately, as this dissertation will show, far too many people have fundamentally misunderstood Boyd on this point, and reduced his message to be that one should go through OODA cycles faster than one's adversary.[563]

Boyd's source list grows by only four titles between January and May 10, 1977, when he made the key innovation of IQFC. They were a 1968 translation of Carl von Clausewitz's 1832 *On War*, Richard Humble's 1974 *Hitler's Generals*, Robert Wernick's 1976 Time-Life Books

[563] Echevarria, 180; U.S. Marine Corps, MCDP 1, 102n18.

*Blitzkrieg*, and Charles Whiting's 1970 *Patton*. It is not likely that any of these inspired IQFC as a quartet of essential traits. There is, however, another book in Boyd's library which he studied intensely during this period, though Boyd did not add it to his "Patterns of Conflict" source list until 1986, Alan Watts's *Tao: The Watercourse Way* (1975).[564]

Alan Watts was an English philosopher and Zen practitioner with an extensive list of works on Non-western philosophies and religions including Buddhism, Taosim, and Hindu. *Tao: The Watercourse Way* was his last publication, produced posthumously in 1975 through his colleague, Chinese scholar Chung-liang Huang. Watt's work is a close linguistic study interpreting the *Tao Te Ching*, the foundational text of Taoism written by Lao Tzu, a contemporary of Sun Tzu. Chet Richards, a close associate of Boyd, gave Boyd a copy of Watt's book and commended it to him in March 1977, a period when Boyd had recently been deeply impressed by Sun Tzu and began elaborating on the Chinese writer's ideas in "Patterns of Conflict."

Boyd's notes in the margins of his copy of *Tao: The Watercourse Way* show that Watts helped him come to see his own "Destruction and Creation" ideas on metacognition in a new light. Boyd noted, "The idea of <u>fluidity</u> being related to the notion that the Tao cannot be defined or rigidly confined—suggesting the idea we cannot determine the character or nature of a system within itself."[565] A few pages later he wrote, "Aha!—<u>harmony</u> in <u>conflict</u>. Is not <u>analysis</u> and <u>synthesis</u> in <u>dialectic</u> <u>harmony</u> as shown in <u>Destruction</u> and <u>Creation</u>[?]"[566] This continued

[564] Boyd, "Patterns of Conflict," December 1986, slide 192. The analysis which follows will show that Boyd read this book starting in March 1977.
[565] Alan Watts, with Al Chung-liang Huang, *Tao: The Watercourse Way* (New York: Pantheon Books, 1975). Copy annotated by John R. Boyd. John R. Boyd Collection, Collection 2062, Book Box 2, Marine Corps Archives, 47.
[566] Watts, copy annotated by Boyd, 51.

synthesis relating Boyd's old ideas and new concepts is evident in the summary notes Boyd made in the back cover, dated April 1, 1977:

> Fluidity-of-action (Wu-Wei) and Yin-Yang polarity working together suggest Fast transient conception of tactics and strategy—as well as the rhythm and harmony associated with the Tao.
> …Rhythm represents the smooth blending of fluidity with polarity—or the flowing from one polarity to another in dialectic harmony.[567]

Boyd's notes throughout the text indicate that he was fascinated with the Tao's emphasis on polarity and dialectic harmony. He also paid special attention to Watts's explanation of reading Chinese a process of "pattern recognition," with the meaning of characters expressed by a writer through each unique stroke of his calligraphic pen.[568] In this it is evident that Boyd was attuned to the deeper underlying philosophy of Taoism as an alternative to Western modes of thinking. As has been shown, since at least the first extant version of "Patterns of Conflict," Boyd had castigated efforts to define a system of war in principles, as these often became rigid, closed systems of thinking which might be applied without proper regard for context. As indicated by the title of his study and his explanation, Boyd thought it would be more productive to try and identify timeless patterns associated with successful operations. In Taoism, as explained by Watts, he found a way of thinking that comported with this, underlining, starring, and making marginal comments on the passage, "Our overspecialization in conscious attention and linear thinking has led to neglect, or ignore-ance [sic] …"[569] On another page, Boyd wrote, "The idea of fluidity being related to the notion that the Tao cannot be defined or rigidly confined…"[570] In Taoism, Boyd found an approach to knowledge and behavior that comported with his own rejection of principles and self-contained systems of thinking as prescriptive guides to action,

[567] Watts, copy annotated by Boyd, inside back cover.
[568] Watts, copy annotated by Boyd, 12, 15.
[569] Watts, copy annotated by Boyd, 21.
[570] Watts, copy annotated by Boyd, 47.

and his belief that ultimate success was a product of understanding and adaptively exploiting the patterns in an ever-changing environment. Boyd believed that Taoism was, in essence, a pairing of wisdom with fluidity of action, leading him to conclude, "Tao can be thought of as intelligent rhythm."[571] Taoism, therefore, reinforced Boyd's belief that his "Patterns of Conflict" should not be a search for prescriptive principles of war, such as "Do OODA fast," but instead a process of fostering a deeper understanding of conflict and the adaptive qualities which would foster the greatest prospects of success. Rather than prescribe *what to do,* Boyd was promoting a way of thinking about war that focused on *how to know* and *how to be*.

With the reinforcement of his study of Taoism, Boyd embraced Inconspicuousness, Quickness, Fluidity, and Cohesion as the quartet of essential traits that defined his understanding of how to be. To highlight the importance of IQFC as the ultimate point of Boyd's entire brief, in May 1977 he added a final concluding slide that stated,

> Message
>
> Need a force that is superior to any potential adversary in terms of:
>
> - Inconspicuousness
> - Quickness
> - Fluidity
> - Cohesion
>
> Question
>
> Does the present or planned force possess these qualities?[572]

The placement of this slide introducing IQFC as the quartet of vital characteristics is just as important as what Boyd said. In the earliest extant version of his brief he ended with a vague "Implication" slide, suggesting that he was looking for ways to describe what his study meant in

[571] Watts, copy annotated by Boyd, inside front cover and inside back cover.
[572] John R. Boyd, "Patterns of Conflict, Warp IX," May 10, 1977. John R. Boyd Collection, Collection 2062, Box 4, Folder 17: Warp IX: Patterns of Conflict, 10 May 1977. Marine Corps Archives, slide 62. Hereafter, "Boyd, 'Patterns of Conflict,' Warp IX of May 10, 1977."

terms of how a force should operate, equip itself, and support its forces.[573] Later, this slide evolved to describe the need for a "framework for shaping our qualities to cope with threat."[574] Now Boyd explicitly stated the four qualities a force should develop to prepare itself for future conflict. The importance of IQFC was underscored by ending the entire brief with the vital question as to whether the current force was ready to fight and win. This slide emphasizing IQFC, or a set of slides emphasizing the derivative concept of Variety, Rapidity, Harmony, and Initiative (VRHI), would remain at or very near the end of "Patterns of Conflict" in every revision that followed over the next nine years.

The evolution of this proto-concept into VRHI and the importance of VRHI will be returned to in chapter 6. IQFC is significant enough to mention here, however, because it shows that early in his process Boyd was suggesting something actionable, even in his own abstract terms. Boyd was not merely observing a pattern that might be followed, but highlighting specific features a force needed to embrace to obtain and preserve superiority over potential adversaries. IQFC is significant in what it doesn't say—Boyd is not asserting that a force must embrace technological or numerical superiority. These were two key features of defense planning in this era, and as numerical superiority was obviously unachievable against the Warsaw Pact, technological superiority was viewed as the decisive dimension where the U.S. would invest its efforts. Boyd was clear in rejecting both approaches. There is a phrase he repeated often enough in his presentation to deserve the description of "mantra," but which does not appear in any of his slides. This was, "Terrain doesn't wage wars; machines don't wage wars; people do, and they use their minds."[575] Though many believed Boyd's ultimate message

[573] Boyd, "Patterns of Conflict," Version #3, slide 32.
[574] Boyd, "Patterns of Conflict," Warp VIII of February 16, 1977, slide 56.
[575] This phrase, or one very close to it, appears seven times in the 1986 transcript of "Patterns of Conflict" and five times in the 1989 transcript. John R. Boyd, "Patterns of Conflict," presentation, circa 1986, transcript prepared by

for defense policy to be a critique of bureaucracy, or later even advocacy of maneuver warfare, this central message that future success would lay in human decision-making most clearly aligns with the theme of the military reform thinkers, who believed the success of their movement lay in people. This was represented in a prioritization they embraced almost as a credo: people, ideas, and only then hardware.[576]

**The Evolution of ODA into OODA**

OODA is obviously an elaboration of Boyd's ODA concept, adding a second process, Orientation. The timing of this elaboration is critical. Boyd's very first mention of Orientation as a component of what had formerly been known as ODA occurred in two slides toward the end of the Warp XII "Patterns of Conflict" dated February 2, 1978. While the inception of OODA can therefore only be narrowed to the period between his last revision, October 12, 1977 and February 2, 1978, it most likely occurred toward the end of this period. There is no indication that Boyd made another revision to "Patterns of Conflict" in the interim, and most of the changes in the February version relate to Orientation, suggesting that this is the innovation which precipitated the revision at that time. OODA's replacement of ODA in this brief is also incomplete, suggesting that February was his first foray with the idea, one whose value could only be determined through time and the test of discourse.

The Background slides introducing Boyd's February 1978 brief retained ODA, discussing getting inside adversary Observation-Decision-Action time scales. It is the Synthesis

---

Shawn P. Callahan, in the hands of Shawn P. Callahan, slides 9, 34, 63, 64, and 105; and John R. Boyd, "Discourse on Winning and Losing," presentation, 25 April – 3 May 1989, transcript prepared by Ian T. Brown, in the hands of Shawn P. Callahan, preliminary discussion and slides 6, 8, 117, 133. Though Brown titled this transcript "Discourse on Winning and Losing," it only covers the "Patterns of Conflict" portion of Boyd's *Discourse on Winning and Losing* "Green Book" briefing. Hereafter "Boyd, 'Patterns of Conflict,' 1986 transcript" and "Boyd, 'Discourse on Winning and Losing,' 1989 transcript."

[576] Center for Legislative Archives, "Military Reform Caucus Oral History Seminar," 143, 158, 162, and 164.

portion, where Boyd described the Pattern for Successful Operations, where he introduced OODA for the first time. The key statement on action was changed to read, "Observe, orient, decide and act more inconspicuously, more quickly, and with more fluidity, without losing cohesion of overall effort, as basis to repeatedly and unexpectedly focus main effort against weakness, apply other effort to tie-up or drain away adversary strength, and shift these efforts to keep or gain initiative."[577] In the Synthesis slides which follow, the nine places where ODA had been mentioned were now modified to include Orientation (OODA).[578]

The second known transcript of "Patterns of Conflict," given in May 1978, provides some insight into the change, though Boyd ran out of time to complete the brief, and never made it to the slides at the end which introduced OODA. Early in the brief Boyd introduces fast transients in his air-to-air discussion as getting "inside his observations, his decision and action time scale" while going though one's own ODA loop at a faster tempo. As the adversary gets left behind Boyd explains that the enemy "projects his own reality upon the world."[579] This suggests that Boyd had begun to integrate a process which would resemble Orientation into ODA. Though Boyd continues to discuss ODA as a process of observing, deciding, and acting faster, yielding better observation and decision, he comes back to the concept of orientation in his discussion of Sun Tzu. There he discusses the need to "get oriented to your environment" which he explains means "Understand what you are up against so you can adapt to it and also be able to shape that environment and make it difficult for your adversary."[580] It is clear that Boyd had a growing sense that Orientation was a central process of forming mental patterns of

[577] John R. Boyd, "Patterns of Conflict, Warp XII," February 2, 1978, John R. Boyd Collection, Collection 2062, Box 5, Folder 5: Warp XII: Patterns of Conflict, 2 February 1978, Marine Corps Archives, slides 6, 58. Hereafter, "Boyd, 'Patterns of Conflict,' Warp XII of February 2, 1978."
[578] Boyd, "Patterns of Conflict," Warp XII of February 2, 1978, slides 61, 62, and 65.
[579] Battelle, *Seminar on Air Antitank Warfare (May 25-26, 1978),* 6.
[580] Battelle, *Seminar on Air Antitank Warfare (May 25-26, 1978),* 13.

meaning, in order to understand one's environment as a basis for action. This is entirely consistent with the importance Boyd placed on forming and reforming mental patterns of meaning in his foundational "Destruction and Creation" essay of 1976, though Boyd's never uses "orient" in the essay in this way.

By July 1978 Boyd had integrated such ideas in his discussions enough to be comfortable using OODA to replace all remaining mentions of ODA in his brief. There were only two places left at this point. In the Background section, the "Idea Expansion" from fighter tactics was changed to read, "Idea of fast transients suggests that, in order to win, we should operate at a feaster tempo or rhythm than our adversaries – or, better yet, get inside adversary's Observation-Orientation-Decision-Action time scales."[581] Boyd even modified the critical "New Conception" slide, which had previously mentioned "cloud or distort [the adversary's] observations and decisions," to read "Cloud or distort his observations, orientation, and decisions."[582] In the Historical Investigation which followed, ODA had been mentioned in only one place, on the "Fundamental Message" listing the commonalities of blitzkrieg and guerrilla warfare. Now Boyd wrote, "Blitz and Guerillas 'get inside adversary's' Observation-Orientation-Decision-Action or Mind-Time-Space framework."[583]

With such limited explanation of OODA in the slides, the transcripts of "Patterns of Conflict" would be the best place to turn to understand the change, but the first extant transcript after this innovation is not from until 1986, eight years later. As a result, the initial meaning and implications of OODA must be inferred from other evidence. First, it is useful to consider what

[581] Boyd, "Patterns of Conflict," July 18, 1978, slide 6.
[582] Battelle, *Seminar on Air Antitank Warfare (May 25-26, 1978)*, 45; and Boyd, "Patterns of Conflict," July 18, 1978, slide 8.
[583] Battelle, *Seminar on Air Antitank Warfare (May 25-26, 1978)*, 83; and Boyd, "Patterns of Conflict," July 18, 1978, slide 43.

purpose Orientation served in Boyd's theory. The "ODA time cycle" had showed the dependence of actions on decisions, and decisions likewise on perceptions. It also tied actions into a reshaping of the environment, ideally in ambiguous ways that complicated an adversary's perceptions. What ODA, lacked, however, was a tie-in to the central concept of Boyd's foundational work, "Destruction and Creation," which argued that individuals and groups understand the world by forming mental patterns of meaning, and these patterns are formed by a process of destructive deduction and creative construction that must admit information about the changing environment. While the Observation activity in ODA did allow for the importance of seeing what was going on in one's surroundings, it did not clearly account for the subjective process of understanding those observations to form mental patterns of meaning as the basis for decision. Orientation therefore unified two critical portions of Boyd's theories—his ideas on metacognition and adaptation, and his search for advantageous patterns in conflict. Put another way, it annunciated a critical component undergirding "Patterns of Conflict" which had defied explanation prior to that point.

With the theoretical value of Orientation in mind, it is appropriate to turn to the 1986 transcript to see how Boyd came to explain the concept. In the Point of Departure, at the start of the brief, he explains,

> As individuals here, we have to observe what is going on out there in the world. In other words, with our eyeballs, or get somebody else's observation. …You're gathering all that information of all the different sources. You literally then pump that information into your brain. What happens, then, when you pump that information into your brain? You start generating images, views, impressions, et cetera. What I call, "Orientation." That orients you to what's going on. You start putting it all together. You get an orientation. Out of that orientation, possibilities begin to suggest themselves, and you have to pick, choose, or as I say, "Decide," here, upon those possibilities. You can't do them all, you have to say, "OK, I'm going to go for these, or that." You make that decision, then you have to implement that decision, or take the action. Then you have to observe the consequences of that action, and you roll back through that loop again. …We want to get inside his loop. In

> other words, we want to be able to roll through that at a faster tempo or a faster pace than he can.
>
> And why do we want to do that? …Because if we can do that, we will then begin to appear ambiguous or unpredictable to him. Not only that, we can generate confusion and disorder in his system, our adversary's system. Now let's get a deeper sense of that "Why?" I have to double back. Sometimes, if you can do that, he will be unable to generate those appropriate images or pictures that agree with an unfolding phenomena, both menacing and faster. …what I am really saying here, is in some sense what you are really trying to do is generate a mismatch between that which he perceives, and that which he must react or adapt to. So therefore, if I can work my way through the loop faster than he can, or get inside his loop, then we generate those mismatches.[584]

This discussion in the Point of Departure, at the start of Boyd's brief, has two important implications. First, he spent significant time explaining the importance of Orientation, and the opportunity to corrupt an adversary's Orientation to generate confusion and disorder in his system. Second, Boyd is explaining one of his central concepts, OODA, at the start of his brief, before even getting into his historical investigation. With the benefit of a transcript and time for detailed study, it is now clear that Boyd did not say he developed this idea from his experience in fighter aircraft. In fact, the only idea he discusses transferring from his experience in aerial combat to his historical investigation is the idea of fast transients, or a "very sharp turning, hopping, skipping, jumping sort of thing [that]could be useful in other kinds of competitive behavior, where a guy can't get an image or a picture of what is going on."[585] This is the concept that he said applies to the specific realm of fighter combat, but which Boyd suggests might be expanded to more general application. It is not until in the next slide, titled "Idea Expansion," that Boyd introduces OODA, never mentioning aerial combat as an example. Instead, he explains the concept using two abstract examples, one of two individuals in an unspecific competition, and the other of two groups in competition. Only after this does Boyd turn to

[584] Boyd, "Patterns of Conflict," December 1986, 1986 transcript, slide 5.
[585] Boyd, "Patterns of Conflict," December 1986, 1986 transcript, slide 4.

specific examples, in the next slide. There he uses the German invasion of France in 1940, the F-86 versus the Mig 15 in Korea, and the Israeli Raid on Entebbe in 1976 as historical illustrations of the OODA concept. The air-to-air example is sandwiched between one drawn from conventional ground combat and another on irregular operations to suggest that these ideas apply to a wide range of competitive situations. Unfortunately, Boyd's viewers missed some of the subtleties. It is easy to imagine why, and at the end of 192 slides presented over the course of an entire day (or more), many remembered only that Boyd moved from focusing on air-to-air combat to military history writ large, and that he presented OODA in the context of this same discussion. Many concluded OODA was an insight gained from aerial combat and then applied to history.

Another important source to turn to for a clear understanding of what Boyd meant by Orientation is his later work. As Frans Osinga first pointed out, Boyd's work after "Patterns of Conflict" gives Orientation greater emphasis and elaboration.[586] Boyd did ultimately focus on explaining OODA, but did not begin this work until about 1992, and it was not until he produced his "The Essence of Winning and Losing" briefing of July 1995 that Boyd had an OODA diagram he felt comfortable briefing. This is shown in Figure 4.[587] From the sophistication of this diagram alone it is clear that Boyd considered Orientation the key central process where a subtle set of influences were combined with Observation, and subjected to a process of destruction and creation to form new patterns of meaning. This sense-making is connected to every other step of OODA through feed-forward and feedback loops—much more complex than a four-step cycle, loop, or process. In 1978 that explanation attached to Figure 4 was still a long

[586] Osinga, *Science, Strategy, and War*, 192-194, 229-233.
[587] John R. Boyd, "The Essence of Winning and Losing," June 28, 1995, John R. Boyd Collection, Collection 2062, Box 8, Folder 1: The Essence of Winning and Losing, 28 June 1995. Marine Corps Archives, slide 4.

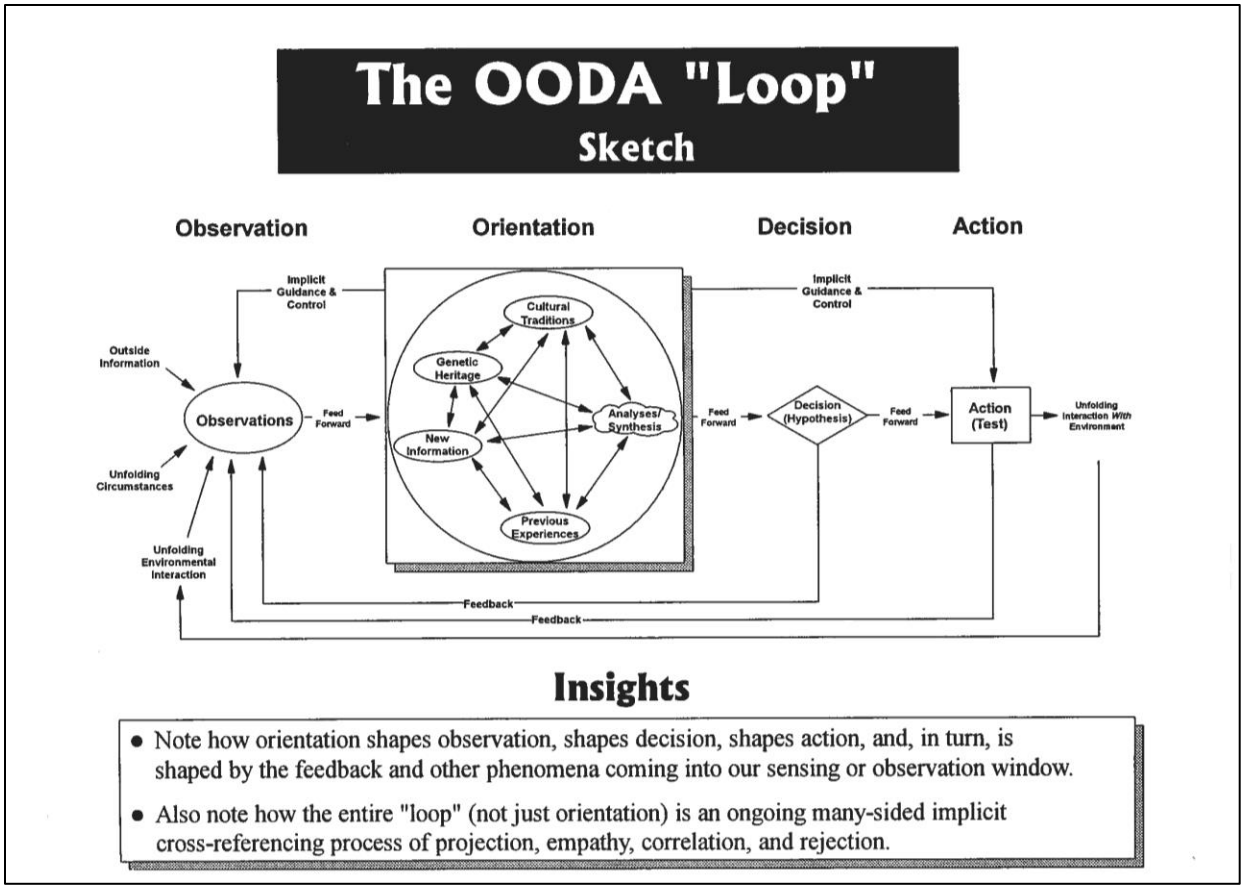



Figure 4. Boyd's first and only published OODA diagram. Taken from slide 4 from his five-slide "The Essence of Winning and Losing" brief dated July 28, 1995.

time in coming. It is very significant, therefore, *there is no evidence of Boyd ever producing a diagram representing OODA as a simple four-step process*, either during that 17-year interval, or any other time. For a man who struggled for meticulous and precise articulation of his ideas, this is significant.

The title of Boyd's slide suggests that by 1995 he recognized the idea of an OODA "Loop" to be problematic. For a very brief period, when Boyd first introduced OODA in February 1978, he occasionally wrote "observation-orientation-decision-action loops."[588] The

[588] Boyd, "Patterns of Conflict," Warp XII of February 2, 1978, slides 58, 61.

term was eradicated from his slides a month later, in March 1978.[589] Then, eight months later, in November 1978, Boyd reinserted OODA "time cycle or loop" into two places in his brief, the Background and the "Fundamental Message" of blitz and guerillas, where it remained for all of his remaining revisions through 1986.[590] Though the OODA "loop" only appeared on two slides, Boyd did continue to use the phrase OODA "loop" in various points of his spoken presentation.[591] Collectively, this indicates that though Boyd never understood OODA to be a simple four-step cycle, he sent conflicting signals. Though Boyd warned his audiences against being fooled by elegant definitive solutions, articulating Orientation as part of OODA, or an OODA loop, provided them with a concept elegant in its simplicity, and dangerously easy to misunderstand in that same elegant simplicity.[592]

By integrating Orientation into ODA in 1978, Boyd was simultaneously elaborating on and subverting his own theory. OODA made it clear orientation was an indivisible part of the process, permanently bound to Observation, Decision, and Action. At the same time, by making Observation an apparently co-equal part of this four step-process, Boyd was de-emphasizing that it was the most foundational activity. This also obscured that Orientation could become a dangerous vulnerability, prone to corruption through adversary deception and even self-deception. These are exactly the points Boyd made when he developed his short, but profound, OODA-centric brief in 1995, "The Essence of Winning and Losing." Indeed, the tendency for people to reduce Boyd's entire theory to a simplistic interpretation, the OODA loop, may have

[589] John R. Boyd, "Patterns of Conflict, Warp XII," March 20, 1978, John R. Boyd Collection, Collection 2062, Box 5, Folder 6: Warp XII: Patterns of Conflict, 20 March 1978, Marine Corps Archives, slides 58 and 61. Hereafter, "Boyd, 'Patterns of Conflict,' Warp XII of March 20, 1978."
[590] John R. Boyd, "Patterns of Conflict," November 1, 1978. John R. Boyd Collection, Collection 2062, Box 5, Folder 9: Patterns of Conflict, 18 October and 1 November 1978. Marine Corps Archives, slides 6 and 52; and Boyd, "Patterns of Conflict," December 1986, slides 5 and 101.
[591] Boyd, "Patterns of Conflict," 1986 transcript, slides 5, 6, 12, 25, 28, 34, 51, 59, 64, 68, 72, 101, 108, and 184.
[592] Boyd, "Patterns of Conflict," 1986 transcript, preliminary discussion and slides 2, 11, 12, and 118.

prompted Boyd to develop his elaborate explanation in 1995, just two years before he succumbed to cancer.

In the interim, including the years when Boyd's "Patterns of Conflict" was most influential on audiences interested in maneuver warfare, Boyd's own discussion in his briefs helped promote oversimplified understandings of OODA. After explaining OODA at the start of those briefs, he often reverted to the shorthand, simplified phrase "oodah" or "oodah loop" to make connections within his analysis. This meme made it easy for listeners to think of Orientation as simply the step that came after Observation and before Action, in a cycle which had to be repeated at high tempo to achieve an advantage. Thought of in this way, however, OODA really has little more to offer than ODA. The oft-repeated mantra "oodah" in Boyd's briefs helped eclipse his sophisticated message about Orientation.

It is not clear what inspired Boyd to first add Orientation to ODA in the winter of 1978, and complete that transformation of every mention of ODA into OODA in July. As mentioned above, in the transcript of his brief from May 1978 he ran out of time before he briefed the slides at the end which now included Orientation. Boyd uses the word "orientation" only once, in a discussion of blitzkrieg, but it does not appear to have the same connotation as it did within OODA.[593] Examining Boyd's source list for this era yields few suggestions. The volume of Boyd's reading in this era appears to have slowed. Between October 1977 and February 1978, when OODA first appears, only eight new titles appear on Boyd's source list, most relating to guerilla warfare, with a few titles on German operations in World War II. Over the next five months, at the end of which Boyd replaced all mention of ODA with OODA, Boyd added only

[593] Battelle, *Seminar on Air Antitank Warfare (May 25-26, 1978)*, 29 quotes Boyd, "Here you see an orientation phase first" as he completes a lengthy discussion of a detailed slide ("World War II Blitzkrieg" on page 69) on the phases of blitzkrieg, describing each phase in terse terms. The bullet Boyd is apparently referring to is on intelligence and reconnaissance functions.

five more titles, five relating to German military history and one relating to the Yom Kippur War. As chapter 6 will show, Boyd had started to read Carl von Clausewitz's *On War*, and those studies may vey well have been ongoing, slowing his engagement with other books. There is nothing in Boyd's copiously annotated copy of *On War*, however, that suggests Boyd was beginning to think about Orientation as he read it. Chapter 6 will show that Boyd was much more interested in Clausewitz's thoughts on friction, centers of gravity, and destruction.

The only other event that stands out in Boyd's experiences in the first half of 1978 occurred in May, when Hans Rudel returned to the U.S. for a second conference on anti-tank warfare. The July 1978 version of "Patterns of Conflict," the one in which Boyd completed replacement of ODA with OODA, was the first version of the brief completed after that conference. It is also the first version in which Boyd mentioned maneuver warfare, in a new slide called "Essence of Maneuver Conflict."[594] It is very probable that this conference, where Boyd did present his "Patterns of Conflict" briefing, provided another man his first opportunity to hear Boyd's presentation—the same man who originated the concept of maneuver warfare more than two years earlier, in 1976. The man, William S. Lind, and the origination of the concept of maneuver warfare, is the subject of the next chapter.

**Conclusion**

This chapter may be read as a defense of John Boyd's process in developing a general theory of conflict from a serious investigation into military history, and in many respects it is. As a process history, however, it also serves this study of the development of concepts that would become closely associated with maneuver warfare, many of which are misunderstood. There are several major implications which bear summary.

[594] Boyd, "Patterns of Conflict," July 18, 1978, unnumbered slide inserted between slides 57 and 58.

First, while Boyd has been accused of misapplying a narrow concept from his aviation experience, OODA, and applying it to warfare writ large, this is not the case. What Boyd developed from his ongoing investigation of aerial combat was an awareness that the human dimensions of perception and decision-making had been a neglected aspect of tactical theory, and these elements could indeed be decisive, especially when a pilot could exploit fast transients to appear ambiguous to his adversary, and inhibit his adversary's ability to understand the quickly changing situation and adapt to it. This was Boyd's New Conception, a general notion about the importance of ambiguity and rapid action in aerial combat, which he felt compelled to test against a much wider domain of human conflict. After an initial inquiry into military history in the summer of 1976, Boyd saw enough evidence to be persuaded that the subject required much closer study. He began this project as the focus of his intellectual efforts in August 1976, and was surprised to find that effort continually revealing important new ideas that required close analysis and repeated synthesis, a journey that took him more than a decade. It was only through this process of broad and deep inquiry into military history and theory that Boyd began to evolve the concept of ODA, and, two years into the project, fully committed to the notion of OODA. Retroactively introducing OODA into the Background section at the start of his brief, where he explained his aviation insights, however, probably misled many audiences as to the origin of that idea. These audiences were less attuned to more important ideas that Boyd had begun to glimpse even before ODA and OODA, such as the importance of Inconspicuousness, Quickness, Fluidity, and Cohesion (IQFC). These were the key traits, elaborated and enlarged from the New Conception on the importance of ambiguity and quickness, that explained successful patterns in conflict. More a product of Boyd's inductive approach, appreciation of Eastern philosophy, and avoidance of prescriptive solutions, Boyd's Western-thinking audiences

were not attuned to the importance of IQFC in Boyd's explanation, and were much more inclined to embrace mechanistic ideas such as an OODA cycle or loop.

Finally, though Boyd has been portrayed as the father of maneuver warfare, and "Patterns of Conflict" to be his vehicle for persuading audiences of the merits of this approach to combat, Boyd showed no particular awareness or interest in this concept for the first two years of his work on "Patterns of Conflict." Boyd's ongoing work on "Patterns of Conflict" from 1978 to 1986, his integration of the concept of maneuver warfare, and the place of maneuver warfare within his message, is the subject of chapter 6. Before that analysis, this dissertation now turns to the inception and development of the concept of maneuver warfare more than two years before Boyd began integrating it, in the spring of 1976, by William S. Lind.

## Chapter 5: William S. Lind and the German Inspiration for Military Reform

In the spring of 1976, many in the United States were preparing for the nation's bicentennial celebration. Even in the turbulent political and social aftermath of the Vietnam War and Civil Rights Movement, the general mood was one of patriotic sentimentalism, with the Spirit of '76 reflected in nostalgic imagery that hearkened back to the thirteen American Colonies, the Revolutionary War, and the Early Republic. Not everyone was looking backwards, however. In December 1975, the U.S. Army had published a new draft of its operational doctrine, Field Manual (FM) 100-5, designed to refocus the post-Vietnam Army on potential conflict with the Soviet Union in Eastern Europe. The primary challenge explained by this new doctrine was finding a way to "fight outnumbered, and to win."[595] In the spring that followed, a Congressional staffer named William S. Lind, a somewhat overweight, middle-aged man with no military experience, was rereading a draft of an article he was writing to point out the shortcomings of the U.S. Army's newest doctrine. Lind had been considering the challenges of fighting a war against the numerically-superior Warsaw Pact in Europe and believed the Army was too bound to the wrong style of warfare. Army doctrine emphasized firepower and the physical destruction of enemy forces, which Lind was convinced was a recipe for catastrophic defeat if the enemy could afford to sustain higher losses than NATO. The German army, Lind believed, had developed a more effective way of fighting between the World Wars that used movement to create dynamic situations. This enabled it to seize and hold the initiative and strike enemies in unexpected places, and by so doing broke the morale and cohesion of German opponents. In World War II the Germans demonstrated they could win, even when

[595] U.S. Army, Field Manual 100-5 (FM 100-5), *Operations* (Washington DC: Headquarters Department of the Army, 1976), 1-2.

outnumbered. Lind needed to describe the German approach to warfare in terms that would make sense to an American audience. Looking down at the words "mobility doctrine" in his type-written draft of the article, Lind took a pencil, crossed out the word "mobility," and replaced it with "maneuver."[596] This is the moment when a basic concept was coined that would come to define an entire movement in U.S. military reform: maneuver warfare. One of the greatest achievements of this movement was the U.S. Marine Corps' adoption of maneuver warfare as its foundational doctrine when it published FMFM 1, *Warfighting*, in 1989. Lind, however, is barely mentioned in existing accounts of how this came about.

William S. Lind was by far the most polarizing personality in the Military Reform Movement, and in the Marine Corps' maneuver warfare movement, but most studies that mention him focus on his political and institutional activism, rather than his intellectual contributions. John Boyd is generally hailed as the intellectual father of maneuver warfare, and Linn is consigned to a minor role. For example, Grant Hammond's 2001 *The Mind of War: John Boyd and American Security* barely mentions Lind, although at one point he states that the maneuver movement in the Marine Corps "Started out as Friday-night discussions at Bill Lind's townhouse in Alexandria."[597] Coram's 2002 popular biography of Boyd barely mentions Lind, and then generally only as a networker who brought other reformers into Boyd's orbit, and often alienated people with his abrasive personality.[598] Frans Osinga's 2008 *Science, Strategy, and War* is the best extant work on Boyd's ideas, but it mentions Lind even less frequently than

[596] William S. Lind, "DRAFT, Some Questions for TRADOC," unpublished draft, William S. Lind Papers, Collection 4939, Box 32, Unnumbered and unlabeled brown folder, Marine Corps Archives, Quantico, Virginia, 13.
[597] Grant T. Hammond, *The Mind of War: John Boyd and American Security* (Washington, D.C.: Smithsonian Books, 2001), 154.
[598] Robert Coram, Boyd: The Fighter Pilot Who Changed the Art of War (New York: Little Brown and Company, 2002), 330-331, 351, 378, 383.

Hammond and Coram. When it does, Lind is summarized as a "like minded policy adviser[]…who authored a book titled *Maneuver Warfare*, which was based on Boyd's ideas."[599]

There are only four accounts which discuss Lind's contributions in any detail: Terry C. Pierce's 2004 *Warfighting and Disruptive Technologies: Disguising Innovation*, Terry Terriff's 2006 "'Innovate or Die': Organizational Culture and the Origins of Maneuver Warfare in the United States Marine Corps," Fideleon Damian's 2008, "The Road to FMFM 1: The United States Marine Corps and Maneuver Warfare Doctrine, 1979-1989," and Ian Brown's 2018 *A New Conception of War: John Boyd, Maneuver Warfare, and the U.S. Marines.* Pierce is the only author who assigns Lind the primary role. Pierce's 2004 *Warfighting and Disruptive Technologies* is an adaption of his Harvard dissertation in political science under the direction of Stephen Peter Rosen, whose own work on military innovation first established civilian intervention as a vital factor. Pierce's analysis of military innovation highlights the role of civilian intervention through a series of case studies, and his chapter on the Marine Corps' maneuver warfare movement as a case study features Lind as the "civilian product champion."[600] Pierce does not focus on Lind's intellectual contributions, and when he does describe them he is inconsistent, probably due to careless chronology and a limited source base. Pierce relies on published articles and telephone conversations and correspondence with numerous participants in the maneuver warfare movement, but only a small number of archival documents, selectively provided by Lind.[601] In places Pierce places Lind as a key agent in the inception and definition of maneuver warfare, but in others he presents conflicting information and analysis. For

[599] Frans P.B. Osinga, *Science, Strategy, and War: The Strategic Theory of John Boyd* (New York: Routledge, 2007), 48.
[600] Terry C. Pierce, *Warfighting and Disruptive Technologies: Disguising Innovation* (New York: Frank Cass, 2004), 85.
[601] Pierce, 217-221.

example, he writes, Lind "believes he initiated the debate over maneuver warfare" with his critique of Army doctrine in 1976, but on the same page he also places Lind writing about maneuver warfare in the pages of the *Marine Corps Gazette* in 1975.[602] In describing the "Intellectual process" behind the development of maneuver warfare, Pierce describes Lind as among those "impressed with Lieutenant Colonel Boyd, who was in the midst of developing his theory of maneuver warfare," and does not date this interaction.[603] Pierce sees Lind's 1985 *Maneuver Warfare Handbook* as an important "intellectual step," but he also states, "Although Lind is credited as its author, two Marines, Colonel Mike Wyly and Captain Scott Moore, translated his maneuver warfare concepts into tactics and procedures."[604] Pierce does little to clarify the situation when he writes, "These 'Young Turks' considered Boyd, Wyly, and Gray as the product champions and Lind as the intellectual, political, and academic component. Lind was why the product champions were able to galvanize the 'Young Turks' into translating theory into practical application and war fighting."[605] This statement clouds the roles of several participants, but captures the essence of Pierce's thesis, which is that young Marines were the ones who made the concept of maneuver warfare actionable, wherever it came from. Lind, meanwhile, fits neatly into the vague role of the civilian product champion in Pierce's model of innovation.

In a 2006 *Journal of Strategic Studies* article, Terry Terriff, another political scientist, disputed Pierce's overemphasis on Boyd's role in developing the concept of maneuver warfare by examining the origin of the concept in its earliest years, before 1980. As chapter 4 has shown, Boyd was not developing his own ideas on conflict writ large until later 1976, and did

[602] Pierce, 92.
[603] Pierce, 88.
[604] Pierce, 90, 93, 111. Quotes drawn from 90.
[605] Pierce, 90.

not even being to include the notion of maneuver conflict until 1978. It is thus not surprising that Terriff turned up little evidence of Boyd's involvement in this period. This increased the apparent significance of Lind's "first interjection into debates amongst Marines" arguments for mechanizing and improving the mobility of U.S. ground forces.[606] In tracing the debate that followed over the next five years, however, Terriff credits a Marine, Captain Stephen Miller, with first defining the concept of maneuver warfare in the pages of the Marine Corps Gazette, and simultaneously making a connection for his readers to Boyd. [607] As a result, while Terriff sees Lind as providing the "initial public germ of the idea" in 1975, "it was Miller who, acknowledging the influence of Colonel John Boyd, ultimately first provided the public description showing how the concepts of maneuver warfare could furnish the Marine Corps with the means to defeat a putative superior enemy."[608] Terriff fails to account for Lind's relationship with, and influence on Miller, or nail down the relative importance of Lind and Boyd in the inception of the idea.

In 2008 Fideleon Damian examined the development of maneuver warfare within the Marine Corps for his master's thesis at Kansas Statue University, "The Road to FMFM 1." As with Pierce, Damian's analysis of Lind is dependent on direct correspondence with Lind and his fellows in the maneuver warfare movement, though he does incorporate much more thorough analysis of the dialog captured in the *Marine Corps Gazette*. Damian sees Lind as a participant in the debates and a promoter of Boyd's ideas, and documents his early writing about a model that contrasted attrition and firepower with maneuver, a dichotomy Damian argues "would

[606] Terriff, 491.
[607] Terriff, 496-497.
[608] Terriff, 498.

remain at the heart of the debate in the Marine Corps."[609] In Damian's account, though Lind is among several people who were "key intellectual contributors" it is Boyd who "introduced a substantial amount of new terminology in his work such as *schwerpunkt, auftstragtaktik,* and commander's intent." Lind, meanwhile, led a study group that embarked on a deeper examination of the historical cases Boyd presented in "Patterns of Conflict."[610] Damian traces some of the dialog in the *Marine Corps Gazette,* but here he presents Lind as one of the voices arguing for reforming the Marine Corps, not as a source of new fighting concepts. The *Maneuver Warfare Handbook* is mentioned briefly, but only as a vehicle for sharing Wyly's ideas that allow Marines to act on Boyd's concepts.[611]

A decade later Ian Brown set out to identify the intellectual origins of the maneuver warfare movement in *A New Conception of War*, in part because "more vocal proponents of maneuver warfare—William Lind, for example—sometimes received this credit."[612] In Brown's analysis, it is Boyd, the genius behind the New Conception, who gave maneuver warfare "historical grounding and intellectual heft" while Lind is only an advocate who accelerated the movement.[613] Brown describes Lind as part of a group within which Boyd's ideas "gained hold", who then pushed the debate and spread the word.[614] He later elaborates that Lind helped proliferate Boyd's ideas by introducing them to Marines, assigning him the passive role of "vector" exposing them to Boyd's insights.[615] In Brown's analysis, Lind is "The Promoter," "Boyd's Loudest Promoter," and "Boyd's Best and Worst Promoter," for he "enjoyed a higher

[609] Fideleon Damian, "The Road to FMFM1: The United States Marine Corps and Maneuver Warfare Doctrine, 1979-1989" (Master's Thesis, Kansas State University, 2008), 28-30.
[610] Damian, 34.
[611] Damian, 79.
[612] Ian T. Brown, *A New Conception of War: John Boyd, the U.S. Marines, and Maneuver Warfare* (Quantico, VA: Marne Corps University Press, 2018), xxxiv.
[613] Brown, 167.
[614] Brown, xxxiii.
[615] Brown, 81, 83.

level of public visibility than Boyd and…often acted as the public conduit for Boyd's ideas."[616] The notion that Lind's promotion was not entirely beneficial is a theme for Brown, for while he sees Lind as foremost among Boyd's "civilian fellow travelers" on an "enthusiastic campaign for an institutional adoption of maneuver warfare," at the same time, Lind's "well-meaning but acerbic admonitions" alienated many from its concepts.[617] In focusing on Lind's personality, Brown minimizes Lind's intellectual contribution. For example, when analyzing that debate in the *Gazette*, he narrates the debate, without analyzing Lind's original conceptual contributions. He barely mentions Lind's *Maneuver Warfare Handbook*, offering it only as an example of how Lind was an "interpreter" of Boyd's ideas, and a case in which Lind "missed or omitted Boyd's main points entirely."[618]

Brown's interpretation is heavily influenced by two sources. The first is Lieutenant General Paul K. Van Riper, an important agent of maneuverist reforms in the Marine Corps. Van Riper credited Lind with being a brilliant debater, but sees him as little more than a "salesman" for John Boyd's genius.[619] The second is Lind's 1980 *Marine Corps Gazette* article, which, "unequivocally said that 'the Boyd Theory is the theory of maneuver warfare.'"[620] Lind did, indeed, write this, but Brown takes it at face value, without consideration of the context. Brown's most important contribution, at least when it comes to Lind, is identifying that while Lind helped bring Boyd's work to the attention of the Marine Corps, he was guilty of "watering down" Boyd's ideas, and "left the nuances of Boyd's briefings behind."[621] Despite this charge

[616] Brown 124, 145-147, 151.
[617] Brown, 121.
[618] Brown, 118n80, 153.
[619] Brown, 147-148. Brown's source is Paul K. Van Riper, interview by Shawn Callahan, 21 February 2013. Tape recording. Quantico, Virginia. Oral and Video History Section, History Division, Marine Corps University, Quantico, VA.
[620] Brown, 83.
[621] Brown, 145.

Brown summarizes, "Regardless, Lind's influence on the maneuver warfare debate cannot be understated."[622] This study will demonstrate the validity of both of those claims.

In summary, the existing literature generally only mentions Lind as an ancillary figure, with three major dimensions: as a politically-connected promoter of Boyd's ideas, as a connector who brought the leading Marine reformers into contact with Boyd, and as an abrasive personality who alienated many Marines from the ideas about maneuver warfare ideas he was trying promote, and therefore undermined the movement's goals. Over time it appears the narrative, increasingly told from the Marine Corps perspective, has been captured by memories of Lind's abrasive personality, eliding his intellectual contributions.[623]

This chapter reconsiders Lind's contributions, and adds the perspective of Marine and Army reformers who worked closely with him, but whose voices have yet been relatively unheard. This analysis incorporates Lind's own memories, but benefits from being the first study to exploit the 29 boxes of personal papers Lind deposited in the Marine Corps Archives in 2010. With the benefit of documentary evidence, this chapter shows that the very concept of maneuver warfare was not Boyd's, but Lind's, developed not as part of a comprehensive theory of war, but instead as a persuasive device designed to help the U.S. Army and Marine Corps reform themselves on the German model. Significantly, Lind's contact with Boyd during this period of time was rare, and Lind drew only a very small set of ideas from Boyd, who is often misidentified as the originator of the concept of maneuver warfare. Of the ideas Lind drew from

[622] Brown 118.

[623] Martin Van Creveld, a prominent military historian and colleague who shares many of Lind's historical interests and highly conservative politics, holds Lind in high enough regard to use him as one bookend to frame his 2015 book, *A History of Strategy: From Sun Tzu to William S. Lind*. Though Lind does not figure prominently in the analysis (see Martin Van Creveld, *A History of Strategy: From Sun Tzu to William S. Lind* (Castalia House: Kouvola, Finland, 2015), 121-122) the fact that an authority without an attachment to the Marine Corps would place Lind so highly further suggests that the involvement of Marines in retelling the story of the maneuver warfare movement may be resulting in more focus on Lind's abrasive personality, at the expense of his intellectual contributions.

Boyd, one concept was highlighted more than any other: the OODA cycle. The way Lind incorporated that idea dramatically shaped how people understood maneuver warfare and its origins.

**Lind's Background**

William S. Lind was born in 1937 and grew up in Middleburg Heights, Ohio on the outskirts of Cleveland. He was the son of a minister in what he describes as an "intellectually oriented household."[624] It was unremarkable at this time, during and after World War II and the Korean War, that a boy would take an interest in military subjects, and Lind describes himself as a voracious reader in childhood. He was particularly impressed by C.S. Forester's *Horatio Hornblower* series, fiction that he later realized cultivated military judgement. What is more unusual is that he took a special interest in Prussian history, and claims to have read Clausewitz's *On War* by age 12.[625] Guided by a strong Christian work ethic, Lind sought to embrace his unique interests and turn them towards fulfilling his unique place in society. From 1965 to 1969 he studied history and international relations at Dartmouth, which included the tutelage of Louis Morton, a leading military historian most well known for serving as the editor of Macmillan's 21-volume *Wars and Military Institutions of the United States* series. Graduating with a Bachelor of Arts degree in 1969, he went on to study diplomatic history at Princeton, focusing on the prelude to World War I. There, he relates, his refusal to accept a Marxist interpretation of history put him at odds with the liberal professors overseeing the diplomatic history field of Princeton's History Department. While Lind earned a Masters of Arts in History in 1971 and reached All But Dissertation status towards a doctorate, he concluded that he would never be

[624] William S. Lind, interview by Shawn P. Callahan, 28 October 2019, digital recording. Oral Histories Collection, Marine Corps Archives. Hereafter "Lind, interview, 28 October 2019."
[625] Lind, interview, 28 October 2019.

able to gain approval of a dissertation in diplomatic history. Lind spent a year studying in Austria and Germany, and decided he did not have the background necessary to switch topics for a dissertation in European intellectual history, so in 1973 he formally abandoned his studies at Princeton and returned to Cleveland.

Lind wrote a letter to one of his senators, Robert Taft Jr. with a detailed proposal for reconfiguring railway services to Ohio. This earned Lind an interview with Taft's staff to serve as the senator's Legislative Assistant on Economics, Foreign Affairs, and Transportation. Upon being offered the job, Lind asked who was covering the senator's military matters. Taft had no staffer assigned to cover military affairs, so at Lind's request that was added to his portfolio. Initially, this was an inconsequential decision. Though Taft had served in the House of Representatives for two terms, in October 1973 he had been a senator for less than two years, and was therefore a junior legislator in that house. Further, though Taft had served in the U.S. Navy from 1942 to 1946, military service was not uncommon in the U.S. Congress at the time, and Taft had little involvement in military affairs. When Taft was invited to become a member of the Senate Armed Services Committee (SASC) three months later, however, Lind was suddenly catapulted into a position of great influence and access.

As a minority member in the Democratically-controlled Senate, Taft did not get to chair any of the SASC subcommittees, but he had a formal role in several of them: Arms Control, National Stockpile and Naval Petroleum Reserves, Preparedness Investigating, and Research and Development. Lind, now a legislative aide to a member of the SASC, was suddenly empowered to get involved in military affairs, and he immediately helped Taft begin challenging the status quo. Lind even dates the birth of the entire Military Reform Movement to the first months of Taft's service on the SASC. Taft, with Lind's help, took a stand questioning the viability of a

program that was becoming a sacred cow in the Navy, Admiral Hyman Rickover's nuclear-powered Strike Cruiser. In Lind's view, this act represented an important change in legislative oversight of military affairs, replacing Congressional rubber-stamping of navy procurement requests with legitimate and necessary scrutiny of the rationale behind defense spending.[626] This became the central thread of Lind's reform advocacy: replacing bureaucratized organizational behavior with a more rationale decision-making process by a more professionalized military officer corps and civilian policymakers in the Executive Department and Legislature.

Since Taft had no involvement in military matters prior to his incidental hiring of Lind for that empty portfolio, it is unlikely that he provided Lind with a specific defense policy agenda. This left Lind enormous latitude to inquire about the matters he considered of greatest interest. These tended to focus on two areas: naval strategy and force structure, and readiness for armored warfare against the Soviet Union. The common thread was the need to deal with the growing Soviet numerical superiority at sea and on land in Europe. The example Lind turned to most frequently for answers, it will be shown, was the Prussian and German military tradition, particularly its professional military culture and the combat capability it engendered.

Within about a year Lind crafted a program that would enhance Taft's leadership in military affairs, a wider vision of defense reform annunciated by his "White Paper on Dense: A Seapower Strategy for the United States." In this paper Lind articulated a more assertive role for Congress, engaging in debate "on the fundamental questions pertaining to both our foreign policy and our defense posture" rather than merely focusing on the details of weapons systems

[626] William S. Lind, "The Battle for Rickover Strait." Unpublished paper. William S. Lind Papers, Collection 4939, Box 32, no folder. Marine Corps Archives, Quantico, Virginia.

and costs.[627] That older mode of considering defense appropriations, according to Lind, put the nation "in the false dilemma of choosing between holding down defense expenditures or providing an adequate defense—a dilemma which ignores the question of whether a fundamental restructuring of our strategy and our military forces would not give us a better defense without greater expenditure."[628] The "White Paper on Defense" called for a fundamental revision in U.S. Cold War military strategy, seeing plans to conduct a large conventional war to defend central Europe from the Warsaw Pact as dangerous when the growing, submarine-centric Soviet navy could disrupt NATO sea lines of communication. Lind advocated reduction of the large conventional land forces pre-committed to Europe in favor of a maritime strategy. He called for a re-enlargement of the U.S. Navy so that it could directly confront the Soviet navy, and assure use of sea lines of communication to support NATO in Europe. This, Lind argued, would preserve strategic options for projecting power into the continent. The White Paper appealed to defense reformers not because of this strategic rationale, but because it called for balancing the existing force, built around expensive but vulnerable high-tech weapons platforms, with a mix of lower-capability systems that cost less and would therefore be more affordable in higher numbers.

Taft lost his bid for reelection in 1976, but Lind had established such a strong reputation among policymakers for his defense expertise that he was soon hired onto the staff of Colorado Senator Gary Hart. Hart was a rising political star in the majority party and had been given a seat on the SASC in his freshman year in Congress in 1974. There he made defense reform one of his priorities. The SASC is almost certainly where Hart became familiar with Lind. It is great

[627] Lind, William S. "White Paper on Defense: A Seapower Strategy of the United States." Unpublished draft paper, 1976. William S. Lind Papers, Collection 4939, Box 16, Folder 2. Marine Corps Archives, Quantico, Virginia, 1. Hereafter "Lind, draft 'White Paper on Defense,' 1976."
[628] Lind, draft "White Paper on Defense," 1976, 1.

endorsement of Lind's credibility and influence that, despite his staunch conservatism, he was chosen to hold the military portfolio on the staff of the man who had managed the 1972 Democratic presidential campaign of liberal George McGovern. Lind later remarked that he felt he could never vote for his own Democratic boss, but believed that his work on defense reform was so important that he continued to work for Hart for more than a decade.

Hart did indeed embrace the opportunity to establish himself as a leading defense reformer, contributing to his political success in the decade after the Vietnam War. In 1978, Hart republished Taft's white paper on military reform, revised and updated by Lind. In 1981, Hart established the bipartisan Military Reform Caucus (MRC) along with Republican Congressman Newt Gingerich as co-chair. Its key analytic and strategy-making organ was a think-tank known as the Military Reform Institute (MRI) established the same year. The MRI was composed of six unpaid defense experts including John Boyd, and was presided over by William Lind. In many respects the MRC was a reaction to the exorbitant defense spending of Ronald Reagan's first term as President starting in 1981, which rewarded inefficient and ineffective bureaucratized decision-making in the military establishment. As the MRC gained wider Congressional and public support, so did Hart, and in 1986 he co-authored a book with Lind, *America Can Win: The Case for Military Reform*. This book was very likely as much about increasing Hart's visibility for the 1988 Democratic nomination for the presidency as it was about convincing the public of the necessity for military reform. Lind's formal role in Congress ended in 1987 when Hart did not seek a third term in the Senate, allowing him to focus on his Presidential campaign, but for 13 critical years, from 1974 to 1987, Lind had extraordinary access to, and even influence over, the U.S. military. The military services understood he was a key agent in Congress that could help them obtain funding for their programs. Conversely, failing to engage Lind risked losing

his support through misunderstanding or disagreement. Lind's political influence meant his inquires and opinions received serious attention. Lind later explained, "as Senate staff my rank was three star… so I could pretty much go anywhere I wanted to and see anybody I wanted to. If I wanted to give a talk, I quickly had an audience…." [629]

**Conceptualizing Maneuver Warfare and Attrition/Firepower Warfare**

While the focus of Lind's initial policymaking work for Taft was naval strategy, he also took an interest in the land services and their readiness for war against the Soviet Union in Europe. While many believed Lind simply wanted to defund the Army in favor of a maritime strategy, his thinking was more complex, seeing the Navy's and Army's wartime missions as interrelated. Though he called for a reduction in U.S. Army forces permanently stationed in Europe, rather than simply abandon that continent to Soviet land power, Lind wanted to reconfigure the land forces into a smaller, more capable, mobile force that could help hold off the Soviets despite their superior numbers. The Marine Corps' role as an amphibious force could contribute to this aspect of the war because the strategic mobility of sealift provided even more options to counter Soviet offensives—if it was equipped to fight a mobile war once ashore. In combination, more agile Army and Marine forces, Lind believed, could both buy time and leave more resources available for the war at sea, where U.S. advantages could be strategically decisive.[630] Lind's visions for employing the Army and Marine Corps differently in the future led him to criticize their existing force structures, a matter intertwined with each service's vision for conducting war against the Soviets, and therefore its doctrine.

[629] Lind, interview, 28 October 2019.
[630] William S. Lind, "White Paper on Defense, 1978 Edition: A Modern Military Strategy for the United States," May 15, 1978. William S. Lind Papers, Collection 4939, unnumbered box at shelf location C/7/L/5/3, no folder. Marine Corps Archives. Quantico, Virginia, iii. Hereafter "Lind, 'White Paper on Defense,' 1978."

Lind's first encounter with the Marine Corps was the result of an invitation to observe the culminating exercise at The Basic School in Quantico, the initial training program for all newly-minted lieutenants. This was at the end of 1973, shortly after Lind began working for Taft. Lind immediately observed, "This looks a whole lot more like 1917 than it does 1940. We got to the objective, which was an enemy machine gun nest and the …tank halted. The infantry formed a line two deep and walked into the machine gun. It was obvious to me these tactics were grotesquely outdated."[631] Lind began asking questions about what tactics meant to the Army and Marine Corps, and found their thinking on the subject to be shallow. He later attributed this to the "de-professionalization" of the U.S. military after World War II. Lind explained that the advent of nuclear weapons and strategic deterrence had created a new situation in which traditional military expertise was viewed as less relevant, and civilian academics took a leading role in policymaking and the conceptual thinking about future war that it required. Lind believed military leaders had resigned themselves to a secondary role in military policy, abrogating their professional responsibility to society. They also accepted the academics' argument that the nuclear age was exceptional, promoting an ahistorical view of war. As a result, interest in military history and theory atrophied within the officer corps of the military services. Lind believed the military had "reverted to its 17th century state as a craft" in which tactics became little more than traditions, handed down from one generation of leaders to another in military schools without thought about their theoretical basis or context.[632] Lind was anticipating the agenda of the Military Reform Movement he would later help lead, arguing that ineffective ways of fighting were part of much larger, systemic problems within the U.S. military.

[631] Lind, interview, 28 October 2019.
[632] Lind, interview, 28 October 2019.

The Military Reform Movement would not begin to coalesce for several more years, and at this earlier stage Lind attempted to directly address the most immediate deficiencies. He understood he needed to define a tangible problem for the Army and Marine Corps if they were to revise their approach to warfare, one conducive to a coherent rationale for specific corrective actions. After Lind had been working on military issues for Taft for about two years he began to build an argument for increased mechanization of the land forces, which meant greater integration of tanks, armored vehicles, and other vehicles to give troops and their logistics improved mobility. Lind pointed out that the Marine Corps was too focused on foot-mobile infantry forces, and lacked the equipment and organization to fight the kind of war that had recently occurred between Egypt and Israel in 1973 which, Lind claimed, the U.S. would probably encounter if it fought the Soviets. As Lind saw it "In terms of both firepower and maneuver capability, a mechanized force is inherently superior."[633] He therefore argued that the Corps should be strengthened so that it might task organize for mobile warfare, including "the addition of a new capability to field a major mechanized force capable of mobile warfare…"[634] This "would also involve developing the organization, doctrine, training, and mental outlook necessary for mobile, mechanized warfare."[635] What Lind meant by "mobile warfare" was left undefined, despite repeated references to the need to prepare for mobile warfare, including the requirement for new conceptions. In December 1975, Lind was still searching for words to describe the change he felt was needed.

During this same period Lind heard that the Army was preparing a new capstone manual for combat operations, FM 100-5, *Operations*, and requested a brief on the draft version that had

[633] Lind, William S. "A proposal for the Corps: Mission and force structure," *Marine Corps Gazette* 59, no. 12 (December 1975), 14.
[634] Lind, "A proposal for the Corps: Mission and force structure," 15.
[635] Lind, "A proposal for the Corps: Mission and force structure," 15.

been published that same month, in December 1975. He was invited to Fort Monroe, Virginia, home of the U.S. Army Training and Doctrine Command (TRADOC), on February 11, 1976, where he was personally briefed by General William Dupuy, TRADOC's commander and the manual's primary author.[636] Lind immediately decided the Army "completely misunderstood what the *Blitzkrieg* was about. It essentially reduced the whole of war into a withdrawal by ranks called the Active Defense. We would get in front of the Soviet spearheads and then gradually withdraw, attriting them as we did so… It violated everything the Germans had learned in World War II."[637] Lind returned to Washington with a copy of the draft publication and started to capture his specific objections to the draft manual on February 27th, observing, "An interesting statistic: firepower discussed on 20 pages, of which 11 devoted entirely to firepower; mobility discussed on 12 pages, of which 4 exclusive; yet revolutionizing factor on post-World War I battlefield has been mobility, not firepower."[638] This, he felt, reflected older French thinking about warfare harkening back to World War I, while during the period between the World Wars the Germans and Soviets had advanced by appreciating the value of mechanization. In further discussing the relationship between fire and mobility, Lind observed the new Army manual "Implies you maneuver to apply firepower; ultimately should you not apply firepower to create opportunities for maneuver?"[639]

The same day Lind began outlining a talk he could give on the problems in the Army's new doctrine, and he began further conceptualizing the terms he would use to clarify what the Army was doing wrong, and how it needed to change. His outline argued the new manual was

---

[636] Lind, interview, October 28, 2019; John Patrick, "Banned At Fort Monroe, Or the Article The Army Doesn't Want You To Read." *Armed Forces Journal International* 114, no. 2 (October 1976), 26; Anonymous, "TRADOC's Reply." *Armed Forces Journal International* 114, no. 2 (October 1976), 28.
[637] Lind, interview, October 28, 2019.
[638] William S. Lind, "Reflections on 100-5," 27 February 1976, William S. Lind Papers, Collection 4939, Box 18, Folder 1: Land Forces Writings. Marine Corps Archives, Quantico, Virginia, 1.
[639] Lind, "Reflections on 100-5", 2.

based on a "Firepower doctrine, not maneuver," for "of the two elements, fire and movement, fire is predominant."[640] One alternative, Lind prepared to argue, was to "move to the mobility instead of the firepower approach to modern warfare."[641] These documents are important because they show Lind on the verge of originating the concept of maneuver warfare, but he was using the related terms "mobility," "movement," and "maneuver" somewhat interchangeably. The critique of FM 100-5 was an event Lind himself describes as "the genesis of the maneuver warfare movement," and the archives show the progressive development of this critique to be the moment when the concept of maneuver warfare was first conceived.[642]

At some point Lind decided that the best forum for communicating his objections to the new doctrine would be to publish his critique as an article in *Military Review*, the professional journal of the U.S. Army. Lind's personal papers contain two undated drafts of this article, one handwritten "Draft #1" and one type-written draft titled "Some Questions for TRADOC."[643] Based on the dating of Lind's other papers regrading this critique, it is clear these drafts were written sometime between the end of February 1976 and the beginning of June 1976, probably closer to the beginning of this period.[644] Regardless of the exact date the article was written, it is the contents of these drafts that are most crucial to this chapter.

---

[640] William S. Lind, "Outline for Talk on TRADOC," 27 February 1976, William S. Lind Papers, Collection 4939, Box 18, Folder 1: Land Forces Writings. Marine Corps Archives, Quantico, Virginia, 1.
[641] Lind, "Outline for Talk on TRADOC," 2.
[642] Lind, interview, October 28, 2019.
[643] William S. Lind, "Draft #1, Some Questions for TRADOC," unpublished draft, William S. Lind Papers, Collection 4939, unnumbered box at shelf location C/7/L/5/3, unnumbered and unlabeled manila folder. Marine Corps Archives. Quantico, Virginia; and William S. Lind, "DRAFT, Some Questions for TRADOC," unpublished draft, William S. Lind Papers, Collection 4939, Box 32, Unnumbered and unlabeled brown folder. Marine Corps Archives, Quantico, Virginia. Hereafter referred to as "Lind, handwritten first draft of 'Some Questions for TRADOC'," and "Lind, typewritten draft of 'Some Questions for TRADOC'."
[644] William S. Lind, "Outline for Talk on TRADOC," February 27, 1976, William S. Lind Papers, Collection 4939, Box 18, Folder 1: Land Forces Writings. Marine Corps Archives, Quantico, Virginia, 1, places the start of the writing as no earlier than the end of February. Much of Lind's attention in March and April of 1976 was devoted to the release and publicity surrounding the "White Paper on Defense" he wrote for Senator Taft. William S. Lind, Letter to Major General F.E. Haynes, Jr., June 9, 1976, William S. Lind Papers, Collection 4939, box 6, no folder. Marine Corps Archives. Quantico, Virginia, 1, indicates that by the beginning of June Lind already had a smooth

The draft, "Some Questions for TRADOC", like the final version, praised the Army for seeking to prepare itself better for war with the Warsaw Pact in its latest version of FM 100-5, but warned that not all change is progress. Lind ratified the Army's decision to focus on the problem of "fighting outnumbered and win," but disagreed with the doctrine's emphasis on the principle of "win the first battle." Placing too much emphasis on the first battle, Lind believed, might not result in strategic victory, especially when Soviet forces were designed to absorb losses, or, as Lind put it, "suffer heavy attrition" and commit "follow-on echelons, to compel a second and subsequent battles."[645] To help his readers appreciate the alternative, Lind explained

> Doctrine for mechanized and armored forces may be divided into two basic types, which could be characterized as the attrition/firepower and the maneuver doctrines. Which doctrine has TRADOC adopted?
>
> Both types of doctrine employ both fire and maneuver. However, in the attrition/firepower doctrine, maneuver is primarily for the purpose of bringing firepower to bear on the opponent, causing attrition. The purpose of the action is the physical destruction of the opposing force. In the maneuver doctrine maneuver is the tactical and even operational goal, and firepower is used to create opportunities for maneuver. The purpose of action is to break the mind and will of the opposing command by creating unexpected operational or strategic situations, not to kill the enemy troops or destroy the equipment.[646]

Lind went on to assert "American doctrine has traditionally been an attrition/firepower doctrine," then provided several pages of discussion showing how specific passages of the 1968 version of FM 100-5 and the new draft version of the concepts emphasized attrition over maneuver.[647]

Lind's arrival at these two terms, attrition/firepower doctrine and maneuver doctrine, had not been a simple process, even if he later asserted, "…I simply drew them from history, where

---

enough draft to submit it to the Army for comment, and was preparing a final draft for submission to the *Marine Corps Gazette*.

[645] Quotes drawn from Lind, typewritten draft of "Some Questions for TRADOC", 6, but the content is consistent with Lind, handwritten first draft of "Some Questions for TRADOC", 9.

[646] Quote drawn from Lind, typewritten draft of "Some Questions for TRADOC", 8, but the content is generally consistent with Lind, handwritten first draft of "Some Questions for TRADOC", 13. The handwritten first draft differs in that it refers to "attrition doctrine" rather than "attrition/firepower doctrine" and makes immediate association of attrition to the French model and maneuver with the "German-Soviet" model.

[647] Lind, typewritten draft of "Some Questions for TRADOC," 8, 11-21.

the terms 'war of maneuver' and 'attrition warfare' were common terms."[648] This was true, at least, when it came to Lind's first definitional task, coming up with a name for the traditional American approach to warfare: attrition. While the drafts of the article show some waffling on the terms for each of Lind's opposing concepts, they are largely consistent in the use of attrition. In only one place does Lind experiment with an alternative. In an earlier outline drafted on February 27th Lind refers to the new manual as "Firepower doctrine, not maneuvre" and the "firepower approach to modern warfare."[649] By the time Lind moved on to his first, full, handwritten draft, he was using simply "attrition doctrine."[650] Though in the final draft, printed article, and most of what he wrote in the next few years Lind came to refer to the traditional American approach as "attrition/firepower doctrine," eventually this would be shortened to "attrition warfare."[651] The reason "attrition" figured so prominently throughout the development of Lind's concepts is that it was certainly a well-established term in the American military lexicon by the time Lind was wrestling with his critique.

The term might be traced back to an argument put forward by German historian Hans Delbrück in 1890, asserting that there were two basic forms of strategy: *Niederwerfungsstrategie* and *Ermattungsstrategie*. The first meant pursuing the annihilation of an enemy force through decisive battle, and the second meant avoiding battle or fighting battle only under opportune circumstances, with the aim of frustrating an opponent and wearing down his will to continue

[648] William S. Lind, untitled memorandum, 22 March 2010, William S. Lind Papers, Collection 4939, unnumbered box at shelf location C/7/L/5/3, unnumbered and unlabeled manila folder. Marine Corps Archives. Quantico, Virginia, 2.
[649] Lind, "Outline for Talk on TRADOC", 1-2.
[650] Lind, handwritten first draft of "Some Questions for TRADOC", 13.
[651] Lind, typewritten draft of "Some Questions for TRADOC," 8; William S. Lind, "Some Doctrinal Questions for the United States Army," *Military Review* 77, no. 1 (January-February 1997), 57-61, 65; William S. Lind, *Maneuver Warfare Handbook* (Boulder, Colorado: Westview Press, Inc., 1985), xi, 24, 69.

fighting.[652] The concept of attrition was also reflected in the scholarship of Lind's era. Lynn Montross's 1960 *War Through the Ages*, employed "attrition" to describe a wide span of historical events as both a mode of fighting and the result of combat. Montross's use of the term is generally negative. Of Jean d'Arc's campaign in 1485 he wrote, "Attrition was the only result of the seven-month gunnery duel at Orleans, as compared to a decision brought off within ten days by moral actors," and in Iberia, Napoleon's forces were "drained by the slow poison of attrition."[653] Montross characterized World War I as "years of attrition" with "human lives being 'traded' like the pawns of a chess game played by inept opponents."[654] The 1946 edition of his book described decisive campaigns of World War, such as the German campaign for Moscow, as situations where

> the capture of cities was secondary as compared to the destruction which the two mincing machines could inflict on each other. In this furious maelstrom, where the fighting sometimes reached a depth of a hundred miles, the value of human life was measured only by its ability to destroy another human life. All the skill, imagination and technology of the twentieth century had at last been brought to a stark and dreadful contest in attrition.[655]

The notion that "attrition" was a particularly brutal mode of fighting wars was therefore well-established in both the U.S. professional military and academic lexicon by the 1970s. Some had also come to see it as Lind would, as one element in a conceptual polarity.

The idea that a strategy of attrition was one of two basic forms of fighting evident in American military history had been recently been re-energized in academic discourse by the publication of Russell Weigley's 1973 *The American Way of War: A History of United States*

---

[652] Hans Delbrück, *The Dawn of Modern Warfare: History of the Art of War*, vol. IV, trans. Walter J. Renfroe, Jr. (Lincoln, Nebraska: University of Nebraska Press, 1985), 293-294, 379. Gordon A Craig, "Delbrück: The Military Historian," in *Makers of Modern Strategy from Machiavelli to the Nuclear Age*, ed. Peter Paret (Princeton, New Jersey: Princeton University Press, 1986), 896-897, documents that these ideas were introduced in Delbrück's earlier works, including in 1890 and 1892.
[653] Lynn Montross, *War Through the Ages*, 3rd ed. (New York: Harper & Row, Publishers, 1960), 185, 526.
[654] Montross, 3rd ed., 729.
[655] Lynn Montross, *War Through the Ages*, 2nd ed. (New York: Harper & Brothers Publishers, 1946), 833.

*Military Strategy and Policy*. Weigley referenced Delbruck's concepts of annihilation and attrition and argued that in their early wars Americans, tending to be weaker than their opponents, had necessarily started with a strategic tendency towards attrition, seeking to wear down their adversaries' resources and will. The American way of war since the U.S. Civil War, however, had become one of annihilating enemy combat power.[656] Despite the fact that Weigley argued that annihilation had displaced attrition in the American strategic tradition, and though Lind does not remember reading or being influenced by Weigley's book, the idea of attrition was a familiar term to students and even popular audiences reading military history at the time. It carried the connotation of progressive and costly wearing down of enemy resources and will.

This conception of the term attrition had become familiar to military men, Lind's primary target audience, long before 1976, making it an especially useful descriptive term for Lind. For example, as James Kelly Morningstar's *Patton's Way: A Radical Theory of War* (2017) persuasively argues, no later than 1933 Patton himself had begun to refer to the prevailing U.S. Army doctrine of the twentieth century as "war of attrition" in his professional writing.[657] This body of established recommended operational practice, which resembled the post-World War I French concept of "Methodical Battle," focused on tightly controlled operations synchronizing infantry and artillery, and sought to inflict maximum destruction on enemy forces.[658] It often incurred high costs in the process.

This common conception of attrition within the military and academic lexicon made it a particularly effective name for the approach to fighting that Lind saw as dangerously outmoded

---

[656] Russell F. Weigley, *The American Way of War: A History of United States Military Strategy and Policy* (Bloomington, Indiana: Indiana University Press, 1973), xxii; and Brian M. Linn, "The American Way of War Revisited" *Journal of Military History* 66, no. 2 (April 2002), 502.
[657] James Kelly Morningstar, *Patton's Way: A Radical Theory of War* (Annapolis, Naval Institute Press, 2017), 3-5, 24-27, 34-5, 246-247.
[658] Eugenia C. Kiesling, *Arming Against Hitler: France and the Limits of Military Planning* (Lawrence, KS: University Press of |Kansas, 1996), 139-143.

in the 1970's. As one of Lind's military reform associates, Edward N. Luttwak, wrote, "We all know what attrition is."[659] If true, as Lind and Luttwak believed, and as the scholarship of the time suggests, Lind knew his readers would instantly recognize any doctrine he could label "attritional" to be unsuitable for fighting outnumbered in a future war against the Warsaw Pact in Europe.

The more difficult definitional task for Lind was coming up with a term to describe his preferred alternative to attrition/firepower, that which he ultimately coined "maneuver warfare." As mentioned above, the idea that there were two fundamentally different modes of war was not new. Several prominent historians even seemed to recognize that the skillful use of movement, mobility, or maneuver to avoid battle could win wars. There was an alternative to seeking decisive battle, especially if that battle would have to be fought under disadvantageous terms. For example, Delbrück described his erosive *Ermattungsstrategie*, as having two poles, battle and maneuver, with a skillful general constantly varying from one pole to the other to exhaust and wear down an adversary.[660] Delbruck was not writing of maneuver as a strategy, but rather as an element of operational art (though the concept did not exist at the time), designed to avoid decisive battle and postpone strategic decision.

Montross's *War Through the Ages,* first published in 1944 and most recently revised in 1960, also suggested maneuver and mobility offered an alternative to battle. Chapter 3 has already shown how important this book was to John Boyd, attuning him to these aspects of ground warfare. Though the archive does not provide a clear linkage to the book in Lind's case, the widespread use of Montross's work as a military history textbook again suggests the state of

[659] Edward N. Luttwak, "The American Style of Warfare and the Military Balance," *Air Force Magazine* 62, no. 8 (August 1979): 86.
[660] Delbrück, 108, 294-296, 307.

the field of military history Lind was intimately familiar with. In *War Through the Ages*, Montross tended to use "manoeuvre" and "mobility" in slightly different ways. "Mobility" generally referred to speed for moving about a battlefield, and was usually only achieved by the tradeoff of reducing the combat power in a given unit, but this conveyed significant advantages. Mobility decreased vulnerability, such as in the statement, "mobility [was considered] a better protection than body armor," and could increase tactical shock, as in "an unheard-of velocity which multiplied the striking power of the French…"[661] Mobility, in Montross's account, seemed to be a tactical concept, literally "the tactics of mobility," that conveyed largely physical advantages in battle.[662] To Montross, "manoeuvre" generally related to operational art, describing the spatial movement of forces to outwit and frustrate an adversary's attempts to fight battle on his own preferred terms. In some cases, it could win a campaign without battle, such as when, "Without a single action being fought, the imperial general had gained all objectives sought by the school of manoeuvre. He had repeatedly cut his opponent off from supplies; he had worn him down by deceptive marches and countermarches; and he had thrice managed to leave Turenne in the dark as to imperial intentions."[663] Montross explained that manoeuvre was often employed by talented generals to make up for a relative deficiency in combat power.[664] Indicative of the general lack of precision on these terms in the field of military history, however, Montross sometimes describes manoeuvre in a tactical sense, and mobility in an operational sense.[665] The larger point is that Montross's historical treatment only episodically discussed manoeuvre and mobility as an alternative to battle or direct engagement. This cannot be

[661] Montross, 3rd ed., 19, 73, 174, 190, 271, 305-306, 411, 470-471, 532 Quotes drawn from 190 and 470.
[662] Montross, 3rd ed., 532.
[663] Montross, 3rd ed., 79-80, 291-292, 341-342, 367, 403, 463-464. Quote drawn from 341.
[664] Montross, 3rd ed., 203, 243, 305, 463, 508.
[665] Montross, 3rd ed., 203, 448-449.

considered a theme in his work, nor did he provide a clear sense of how they could lead to victory in the absence of destructive battle.

It is clear that Lind was influenced by J.F.C. Fuller and Liddell Hart, and their analyses of the German Army in particular, when originating the concept of maneuver warfare. In the draft of his article, Lind described J.F.C. Fuller's emphasis on mobility, especially that of tanks, as a means of striking at the will of an enemy commander to paralyze his forces, then related "The Germans picked up on this theory from Fuller via Guderian and embodied it in the Panzer concept of warfare…"[666] Lind then quoted Liddell Hart as crediting Hans von Seeckt, Chief of the German Army Command from 1920 to 1926, with giving "'the Reichswehr a gospel of mobility," and highlighted, "in the exaltation of maneuver, the post-war (WWI) German manual offered a striking contrast with those of the French Army.'"[667] Like Montross, Liddell Hart and Fuller saw that mobility and maneuver offered alternatives to costly battle. Liddell Hart, most widely known for his emphasis on "the indirect approach," described mobility as offering new possibilities for rapid dispersion and concentration, especially in open terrain. In this respect it offered new opportunities to apply the indirect approach spatially, rather than the direct approach of seeking battle or launching an attack on strong enemy positions.[668] In Liddell-Hart's conception "Manœuvre" seemed to consist of stratagem, cunningly applying mobility to move in space for the purpose of avoiding battle under unfavorable terms and to create new opportunities.[669] This was consistent with Delbruck's two poles within *Ermattungsstrategie*, battle and maneuver, though Liddell Hart used the metaphor of a monstrous bipolar personality.

---

[666] Lind, typewritten draft of "Some Questions for TRADOC," 11.
[667] Lind, typewritten draft of "Some Questions for TRADOC," 11. Lind would later revise this narrative to place the origins of maneuver warfare in the German tactical revisions of 1916-1918.
[668] B.H. Liddell Hart, Strategy, 2nd ed. (New York: Frederick A. Praeger, Inc., Publishers, 1967), 112, 121, 237, 277, 281, 305, and 364.
[669] Liddell Hart, 38-39, 40, 45-46, 48, 55-57, 68-69, and 82.

He described the "Jekyll of blood-saving manoeuvre" as the civilized alter ego of the savage Hyde, which was focusing on the most apparent objective, engaging the enemy force in battle.[670] What Liddell Hart's didn't offer was insight into how manoeuvre functioned. He lacked Lind's clear association with disrupting enemy command and control, though he was clearly beginning to think along those lines in his concept of moral dislocation. Liddell Hart explained that on some occasions, when manoeuvre was done narrowly, as in a shallow flanking tactical movement, it might offer a chance to apply the indirect approach in a spatial sense, but it could often be observed and countered by the enemy. When done widely, however, in other words more distant from the enemy in a deeper movement beyond enemy observation, its effects could be more significant. "Wide" manoeuvre, ostensibly concealing one's movement so the enemy would be unaware until the moment when battle became imminent under unexpected terms, could certainly refuse disadvantageous battle and force the enemy into battle under disadvantageous conditions. In such situations Liddell Hart saw that it could also create moral and mental effects. Repetitive manoeuvre, confusing an enemy as to one's intentions, could unbalance him, and be a psychological application of Liddell Hart's indirect approach, a "means of liquefying their morale" to cause "moral dislocation."[671]

Fuller's most influential works of this time were not written with the kind of focus Liddell Hart devoted to concepts like the indirect approach, or with the intent of communicating a conceptual framework for understanding war. Instead, Fuller's *Armament and History: The Influence Of Armament On History From The Dawn Of Classical Warfare To The End Of The Second World War* (1945) and *The Conduct of War, 1789-1961* (1961) presented narratives that generally emphasized the importance of mobility. Lind cited *Armament and History* in his draft

[670] Liddell Hart, 57.
[671] Liddell Hart, 68-69, and 126. Quote drawn from 126.

article, explaining that Fuller recognized the importance of tanks and aircraft for restoring mobility to warfare, and credited Fuller with seeing the "ultimate connection between will and action; that action without will lost coordination; that without a directing brain, one army is reduced to a mob."[672] The connection, in Lind's analysis, was that Fuller believed the tank enabled a return to the tactics of ancient battles like Arbela. There, "while Alexander's Phalanx held the Persian battle-body in a clinch, he and his companion cavalry struck at the army's will, concentrated as it was in the person of Darius. Once this will was paralyzed, the body became inarticulate."[673] Lind's interpretation of Fuller, therefore, made a direct connection between dynamic maneuver and disrupting enemy command and control. Even more indicative of a parallel between Fuller's and Lind's thinking is a passage in *The Conduct of War,* where Fuller wrote one of Lind's most frequently-invoked examples, the German invasion of France in 1940,

> It was to employ mobility as a psychological weapon: not to kill but to move; not to move to kill but to move to terrify, to bewilder, to perplex, to cause consternation, doubt and confusion in the rear of the enemy, which rumor would magnify until panic became monstrous. In short, its aim was to paralyse not only the enemy's command, but also his government, and paralysation would be in direct proportion to velocity.[674]

Lind's draft article did make specific note of Fuller's use of the phrase "mobile warfare," perhaps because Fuller used it broadly, describing not just German armored warfare, but also aspects of naval warfare. It is clear, though, that even if the idea of dynamic maneuver to disrupt adversary command and control was not a primary line of argument or theme in Fuller's most well-known works of the time, Fuller offered several suggestions as to its significance, and these insights closely aligned with the concept Lind was beginning to describe in 1976.

---

[672] Lind, typewritten draft of "Some Questions for TRADOC,"10.
[673] Lind, typewritten draft of "Some Questions for TRADOC,"10.
[674] J.F.C. Fuller, *The Conduct of War, 1789-1961* (New Brunswick, New Jersey: Da Capo Press, 1961), 256-257. There is no proof that Lind was familiar with this book at the time he wrote the draft article in 1976, but it does show a strong parallel between Lind's thinking in 1976 and Fuller's thoughts as widely published in 1961.

Ultimately, then, while Lind was looking to name and describe a concept of dynamic maneuver to attack the enemy's mind and will, he suffered for lack of an appropriate term. Delbrück saw "maneuver" as a means to vex an adversary seeking battle. Montross used "manoeuvre" and "mobility" sometimes interchangeably, and without a clear sense of how they functioned except that they achieved positional advantage, and were therefore means of affecting the conditions under which battles would be fought. Liddell Hart and Fuller had suggested that dynamic movement could be used to confuse, vex, and cause the moral dislocation of an adversary, but they were imprecise in relating this to "mobility" and "manoeuvre." As mentioned earlier in this discussion, movement, mobility, and maneuver are terms which still retain overlapping meanings and connotations, and the most insightful military history of the time was helpful in its suggestions, but not its precision. Military doctrine, the lexicon of the audience Lind was appealing to, was even less helpful. This is clear when consulting the 1968 version of FM 100-5 as a reflection of the general U.S. military understanding of the terms at the time Lind was writing. In that publication, movement generally referred to relocating from one position to another, with or without tactical purpose. "Mobility" referred to a unit's capacity to move and obtain relative advantages. "Maneuver" was movement for the purpose of "disposing a force in a manner that places the enemy at a relative disadvantage."[675] None of these things came close to describing Lind's concept of dynamic maneuver intended to disrupt an adversary's faculties of command and control.

Lind was clearly influenced by German military history, and the closest thing he could find to name for his concept, one based on the German style of armored warfare, was the term the Germans used for it in their own accounts *Bewegungskrieg*, or "movement war," which at the

[675] U.S. Army, Field Manual 100-5 (FM 100-5), *Operations of Army Forces in the Field* (Washington, D.C.: Headquarters, Department of the Army, 1968), 5-2.

time was being translated into English: "mobile warfare."[676] This translation also correlated to the term that Americans came to use to describe the style of Generals George S. Patton and John S. Wood. Lind knew from German accounts that while these men commanded the 3rd U.S. Army and 4th Armored Division in France in 1944, both of them earned the respect of German commanders for their high-tempo, fluid operations. American accounts referred to Patton as "an exponent of mobile warfare" and Wood as "the proudest exemplar[] of Mobile Warfare."[677] In summary, while Lind had numerous terms he could draw from while struggling to define the concept that would later be called maneuver warfare, he was frustrated by linguistics, in this case the lack of precision in vital terms available in historical literature and doctrine.

Lind's grasping for the best term for his concept is evident in the drafting of the article. In his first outline, he refers to the flawed Army manual as "Firepower doctrine, not maneuvre" and suggests that a "preferable antithesis" would be moving "to the mobility instead of the firepower approach to modern warfare."[678] In his first, handwritten, draft, he replaces "firepower" with "attrition" and presents "maneuver doctrine" as the alternative.[679] In the next, typed, draft he variously refers to "maneuver doctrine" and "mobility doctrine," vacillating between the term that Liddell Hart seemed to associate most closely with his concept, and the Germans' own term, at least as translated by the Americans. Lind even experimented with the spellings "maneuvre doctrine" and "manuevre," perhaps indicating that he understood he needed to impart a unique nuance that was not yet available in the American lexicon.[680] It is clear from

[676] Heinz Guderian, *Panzer Leader* (New York: Da Capo Press, 1952), 20-22, 96, 168, 323, 334, 373.
[677] Morningstar, 207 shows that U.S. newspapers were quoting German news reports describing Patton this way in August 1944. Hanson W. Baldwin, Tiger Jack (Fort Collins, Colorado: The Old Army Press, 1979), 168 offers this assessment of Wood and the 4th Armored Division as the very last line in the book. Though this account was not published until 1979, it clearly impressed Lind, who endorsed it as part of his cannon on maneuver warfare. Collectively these show an association between Patton's and Wood's style and the phrase "mobile warfare."
[678] Lind, "Outline for Talk on TRADOC," 1-2.
[679] Lind, handwritten first draft of "Some Questions for TRADOC," 13.
[680] Lind, typewritten draft of "Some Questions for TRADOC," 8, 9, 11-14.

this draft that at some point Lind crossed out each occurrence of "mobility doctrine" and replaced it with "maneuver doctrine," the only term that would appear in the final version of the article.[681] No later than June 9, 1976, he had set upon "maneuver doctrine" this as the best label for his conceptual alternative to attrition/firepower doctrine, for in correspondence with a reviewer he referred to his central concept as "maneuver doctrine."[682] It is unclear why Lind ultimately selected "maneuver" to name his concept, but the implications of Lind's linguistic struggle are significant: Lind was synthesizing a set of related ideas into a new concept. Later chapters will show the same ambiguity which made it so difficult to name this concept, ultimately also presented one of the most significant obstacles to an accurate dissemination of the concept.

Lind's draft articles in 1976 are the first place the term "maneuver doctrine" appears in printed sources or the archive. The claim that Lind invented the concept of maneuver warfare in 1976 rests upon more than this chronological fact. This is also the article in which he first described firepower/attrition doctrine and maneuver doctrine as a dichotomy, and it is clearly the root for the maneuver warfare movement's contrast of attrition/firepower warfare and maneuver warfare. In these drafts Lind also began to explain "maneuver doctrine" in another distinctive ways. He painted a contrast between the two modes by describing that in attrition/firepower doctrine, maneuver serves to being firepower to bear, while in maneuver doctrine, firepower enabled decisive maneuver. This was an original conceptual theme that this study will show remained central to the idea of maneuver warfare throughout its evolution and the maneuver warfare movement. Finally, and even more critically, Lind articulated a defeat mechanism that offered an alternative to the destructive application of firepower in the attritional approach. In

[681] Lind, typewritten draft of "Some Questions for TRADOC," 13.
[682] Lind, letter to Haynes, 1.

the draft article he wrote of maneuver doctrine, "The purpose of action is to break the mind and will of the opposing command by creating unexpected operational or strategic situations, not to kill enemy troops or destroy enemy equipment."[683] By the time the article was printed in *Military Review* a year later, in March 1977, this had changed only slightly, to "The primary objective is to break the spirit and will of the opposing high command by creating unexpected and unfavorable operational or strategic situations, not to kill enemy troops or destroy enemy equipment."[684]

This final element of Lind's explanation, the dynamic use of maneuver to mentally destabilize and demoralize an adversary, is the key element which existing scholarship like that of Montross, Liddell Hart, and Fuller had failed to develop as a coherent concept when they discussed the merits of manoeuvre, maneuver, and mobility. This is a central element which remained at the core of the concept the maneuver warfare movement would fight for, and ultimately implement in Marine Corps *Warfighting* doctrine, thirteen years later. In 1989, Fleet Marine Force Manual 1 would state, "Maneuver warfare is a warfighting philosophy that seeks to shatter the enemy's cohesion through a series of rapid, violent, and unexpected actions which create a turbulent and rapidly deteriorating situation with which he cannot cope."[685] This study will trace the further development of the concept and refinement of the definition between Lind's initial description in 1976 and its enactment in doctrine in 1989. It is clear that in 1976 Lind invented a new, unique, and useful conceptual description for the essence of a historical phenomenon which had defied explanation up until that time, and which would be at the heart of Marine Corps doctrinal reform.

---

[683] Lind, typewritten draft of "Some Questions for TRADOC," 8.
[684] Lind, "Some Doctrinal Questions for the United States Army," 58.
[685] U.S. Marine Corps, Fleet Marine Force Manual 1 (FMFM 1), *Warfighting* (Washington DC: Headquarters, United States Marine Corps, 1989), 59.

Lind, nor anyone else, had not conceptualized the idea of firepower/attrition doctrine and maneuver doctrine (later simply attrition warfare and maneuver warfare) as a dichotomy of two styles prior to writing his critique of FM 100-5 in the spring of 1976. They emerged, in his words, as part of "the creative process of responding. That is specifically what the maneuver warfare debate traces its origins to, is my sitting down to describe these two different ways of warfare. I knew they were two different ways of war, but that's why I gave them their names."[686] Before turning to analyze Lind's efforts to promote maneuver doctrine within the U.S. Army and Marine Corps, Lind's familiarity with and privileging of the German model bears closer examination.

**Lind's Germanocentric Historical Interest**

The German army was clearly the historical inspiration for the alternative Lind was introducing in his critique of FM 100-5 to the American tradition of attrition and firepower. In addition to the explicit references mentioned above, Lind's typewritten draft of "Some Questions for TRADOC" mentions Hans von Seeckt twice more, whose "Seektian principle" of using a reserve force to exploit success, rather than reinforcing failure, would become an important concept of maneuver warfare. Lind's article also introduces another device he would invoke frequently in the coming years: contrasting the *Wehrmacht* and French army during the invasion of France in 1940.[687] In this article Lind summarized, "The history of the clash on the battlefield between the German maneuver doctrine and the French attrition/firepower doctrine requires no recapitulation here," and he proceeded under the assumption that readers would universally

[686] Lind, interview, 28 October 2019.
[687] Lind, typewritten draft of "Some Questions for TRADOC,"10, 13.

recognize the merits of the German approach over that of the French.[688] This was a safe assumption in the 1970s, when there was a proliferation of first-hand German accounts.

The popular and academic English-language memory of the *Wehrmacht* was heavily influenced from the start by Cold War politics. As the Cold War intensified in its early years, British and American military leaders sought to learn from their former enemies, the Germans, how to best deal with their new enemies, the Soviets. One of the most influential accounts was Liddell Hart's 1948 *The German Generals Talk*. Liddell Hart had the opportunity to interview many of the German generals in captivity in 1945. While the resulting book was a genuine attempt to learn from the experiences of World War II by considering the adversary's perspective, Liddell Hart has been criticized as being too willing to accept the accounts of leading German generals at face value.[689] This began a long tradition of touting the *Wehrmacht's* tactical and operational prowess, placing the blame for Germany's defeat on Hitler's strategic ineptitude, and altogether avoiding the question of German military complicity in war crimes. This was repeated in Liddell Hart's 1954 classic, *Strategy*, which featured the Germans as the champions of his indirect approach. In time, the German generals began producing their own accounts, beginning with Heinz Guderian's *Panzer Leader*, published in Germany in 1950, and with a first English translation in 1952. *Panzer Leader* was the first postwar account which also told of the development of the *Wehrmacht's* Panzer force, and the wartime destruction of much of Germany's military records left such autobiographical narratives uncontested. Erich von Manstein, released early from an 18-year sentence for war crimes in 1953, published his memoir,

[688] Lind, typewritten draft of "Some Questions for TRADOC," 11.
[689] John J. Mearsheimer, *Liddell Hart and the Weight of History* (Ithaca, New York: Cornell University Press, 1988) makes the most direct case, detailing how Liddell Hart prompted the captive Guderian to say that he used Liddell Hart's ideas in the interwar development of Germany's Panzer force. At the very least, Liddell Hart entered into a mutually-beneficial relationship with several of the Germans, whereby they praised his ideas, and he endorsed their books.

*Lost Victories,* in West Germany just two years later. This was available in English starting in 1958. The most decorated of all German servicemen, Colonel Hans-Ulrich Rudel, wrote his memoir, *Stuka Pilot,* after fleeing to South America and assuming a leading role in fascist politics there. He was also one of the least apologetic about the Nazi agenda, yet that book was published in English in 1958. Lind later recalled this as a "real outpouring, at this point, of German officers, in effect, writing their memoirs," "And I was reading all that stuff, of course."[690] As he explained,

> There was growing interest in how the *Wehrmacht* fought, because it had actually, though overwhelmingly outnumbered, had actually fought the Russians very effectively. And we were facing that same situation in Europe, facing the Warsaw Pact. We expected to be heavily outnumbered. How could we fight and win? Well, naturally, people were getting more and more interested in how the Germans had done it.[691]

At a time when Americans were considering their own potential war against the Soviets in Europe, the German experience on the Eastern Front seemed relevant, and the former *Wehrmacht* officers were filling a void left by the muffling effects of the Iron Curtain on Soviet accounts.

In time, academics produced their own analyses that upheld many of the themes in the growing narrative of German operational excellence. In 1967 Liddell Hart, for example, published a second, revised edition of *Strategy,* with significant revision of the portions covering World War II, and the Wehrmacht in particular. Strategic realities created a demand for more scholarship, especially in the mid-1970s, as it became clear that the Soviets had devoted considerable effort to enlarging their army while the U.S. was preoccupied in Vietnam. The performance of Arab states armed with Soviet antitank weapons in the 1973 Arab Israeli War

[690] William S. Lind, interview by Shawn P. Callahan, 29 January 2020, digital recording. Oral Histories Collection, Marine Corps Archives, History Division, Marine Corps University, Quantico, Virginia. Hereafter "Lind, interview, 29 January 2020."
[691] Lind, interview, 29 January 2020.

also made it clear that a technological edge was also being lost. The renewed interest in finding a way to fight outnumbered and win precipitated further academic inquiry, most notably Trevor Dupuy's 1977, *A Genius For War: The German Army And General Staff, 1807–1945*. Dupuy was one of the most highly credentialled American military historians of the time, and his account of Prussian and German military history from the era of Frederick the Great ascribed German success to "*institutionalizing* military excellence," particularly though the institution of the German General Staff.[692] This book was accessible to the popular reading audience, and remained the leading account of the subject for decades, with reprints on both sides of the Atlantic in 1984, 1989, 1993, and 2002, not to mention Kindle versions in 2015 and 2018.

Lind was actively engaged with prominent scholars in the field of German and military history who were investigating such issues. He corresponded with Professor I.B. Holley Jr. of Duke University, on specific questions regarding the development of German military thinking in the interwar period and World War II, with Holley pointing the most credible and recent work in the field to him.[693] One of the historians Lind continues to refer to as a source for validating his interpretations of *Blitzkrieg* is Robert A. Doughty, who at the time was a mid-career army officer serving in the Combat Studies Institute in Fort Leavenworth, Kansas, and studying for a PhD in history at the nearby University of Kansas. There was certainly some interchange of ideas between the two of them in the 1970s. At the time Lind was promoting his early ideas on maneuver doctrine, Doughty was, in Eugenia Kiesling's words, "still far away from the critical analysis of the *Wehrmacht*'s doctrine that would characterize his mature thought," but he was

[692] Trevor N. Dupuy, *A Genius for War: The German Army and General Staff, 1807-1945* (Englewood Cliffs, NJ: Prentice-Hall, 1977), 5.
[693] I.B. Holley, Jr., letter to W.S. Lind, 1 October 1979. William S. Lind Papers, Collection 4939, Box 16, Folder "Maneuver AAAD," Marine Corps Archives, Quantico, Virginia; and I.B. Holley, Jr., letter to W.S. Lind, 12 October 1979. William S. Lind Papers, Collection 4939, Box 16, Folder "Maneuver AAAD," Marine Corps Archives. Quantico, Virginia.

simultaneously working on two projects related to military doctrine.[694] One was the first manuscript in the U.S. Army's Combat Studies Institute's *Leavenworth Papers* series, *The Evolution of U.S. Army Tactical Doctrine, 1946-1976*. The other was Doughty's 1979 University of Kansas dissertation on "The Evolution of French Tactical Doctrine, 1919-1939." Both works bear the marks of Lind's thinking.[695]

Of direct relevance to this study, several of the most prominent scholars in German history during the 1970s and 1980s, most notably Dupuy and Doughty, were combat-experienced career military officers who had made second careers in education. They were bringing their professional military experience to bear not only in their analyses they were producing, but also in their teaching activities within the military education system, at schools such as the U.S. Military Academy at West Point, the U.S. Army Command and General Staff College in Fort Leavenworth, Kansas, and the U.S. Army War College at Carlisle Barracks, Pennsylvania. Holley was not a combat veteran, but did serve in World War II, and remained in the reserves during this period, ultimately attaining the rank of major general. Holley taught at the Industrial College of the Armed Forces, and lectured at the National Defense University. While most of his distinguished career was at Duke University, he was a key agent in a pipeline providing graduate education in military history to Army officers so they could teach history at West Point. Lind was both tapping into and shaping the latest thinking about the German experience in the military education network. There, in Kiesling's words, "helped by contemporary fads like 'operational art' and 'maneuver warfare,' studying the *Wehrmacht* became a growth industry."[696]

---

[694] Eugenia C. Kiesling, "Illuminating Strange Defeat and Pyrrhic Victory: The Historian Robert A. Doughty," *Journal of Military History* 71, no. 3 (July 2007), 880.
[695] Robert A. Doughty, *Leavenworth Paper No. 1: The Evolution of US Army Tactical Doctrine, 1946-76* (Fort Leavenworth: Combat Studies Institute, 1979), 44, 46, makes reference to Lind's critique of the 1976 version of FM 100-5, and adopts the attrition versus maneuver dichotomy to argue that over three decades the U.S. Army had come to emphasize attrition over maneuver (12, 49).
[696] Kiesling, "Illuminating Strange Defeat and Pyrrhic Victory: The Historian Robert A. Doughty," 884.

Lind, then, like Boyd, had the opportunity to draw from a wealth of primary and secondary accounts on the Eastern Front in World War II, and the prevailing historiographic narrative clearly privileged the Germans. It is harder to trace the exact inspiration for specific ideas with Lind than it is for Boyd. In Boyd's case, the 21 different versions of his "Patterns of Conflict" briefing developed over 10 years, each with its own source list, allows a direct correlation between the titles Boyd was reading and the emergence of key ideas. Boyd's papers also include his personal copies of the books that most impressed him, and his marginal notes in those books provide a good sense of his reactions to what he read. In Lind's case, the correlation between source and idea is much harder to establish. Lind produced dozens of published articles on maneuver warfare over roughly the same decade, but the military journals they were published in, such as the *Marine Corps Gazette* and *Military Review*, did not follow academic standards of citation, and their audiences were not interested in historiographic context. Lind did deposit 29 boxes of his papers in the Marine Corps Archives in 2010, and they are some help. The most valuable source of information there to supplement what he wrote for publication are the lecture notes he composed for the many audiences he addressed in this period. Again, unfortunately, these ideas were seldom tied to specific sources. The best reconstruction of key sources possible in Lind's case is the episodic and evolving list of titles he would recommend to his readers and audiences, something he would eventually refer to as "the canon" of maneuver warfare. Table 1 presents Lind's recommended reading list as it evolved over seven of the years covered in this chapter, with titles focused on or featuring the Germans in boldface. It is clear German military thinking and history, and the *Wehrmacht's* in particular, was always the predominant topic. This is because Lind saw the German military as the best model for the U.S. Army and Marine Corps. In his own words, "…here was a military that could institutionalized

Table 1. William S. Lind's evolving list of recommended readings on maneuver warfare, what he would later refer to as "the canon."[697] Boldfaced titles focus on or feature German military history.

| 1978 | 1980 | 1981 | 1985 |
|---|---|---|---|
| **Clausewitz, *On War*** | **Battelle, *Armored Warfare in World War II*** | **Guderian, *Panzer Leader*** | **Battelle, *Armored Warfare in World War II*** |
| **Kesselring, *Small Unit Tactics Manual*** | **Battelle, *Interview with General Hermann Balck*** (2) | **Horne, *To Lose a Battle*** | **Battelle, *Interview with General Hermann Balck*** (2) |
| **Liddell-Hart, *Strategy*** | **Battelle, *Interview with General Heinze Gaedke*** | Infantry Journal, *Infantry in Battle* | **Battelle, *Interview with General Heinze Gaedke*** |
| **Rommel, *Attacks*** | Canby, "A Comparative Assessment of the NATO Corps Battle" | **Liddell-Hart, *Strategy*** | **Battelle, *Proceedings of Seminar on Air Antitank Warfare*** |
| Savkin, *Operational Art and Tactics* | Canby and Luttwak, "The Defense of South Korea: New Approaches" | **Manstein, *Lost Victories*** | Clark, et al.,*The Defense Reform Debate* |
| | **Dupuy, *A Genius for War*** | **Mellenthin, *Panzer Battles*** | **Clausewitz*, On War*** |
| | **Guderian, *Panzer Leader*** | **Miksche, *Attacks*** | **Dupuy, *A Genius for War*** |
| | **Liddell-Hart, *Strategy*** | **Rommel, *Attacks*** | English, A Perspective on Infantry |
| | **Manstein, *Lost Victories*** | Sun Tzu, *The Art of War* | **Guderian, *Panzer Leader*** |
| | **Rommel, *Attacks*** | **Wynne, *If Germany Attacks*** | **Horne, *To Lose a Battle*** |
| | **Wynne, *If Germany Attacks*** | | Isely and Crowl, *The U.S. Marines and Amphibious War* |
| | | | **Liddell-Hart, *Strategy*** |
| | | | **Lupfer, *The Dynamics of Doctrine*** |
| | | | Luttwack and Horowitz, *The Israeli Army* |
| | | | **Manstein, *Lost Victories*** |
| | | | McWhiney and Jamieson, *Attack and Die* |
| | | | **Mellenthin, *Panzer Battles*** |
| | | | Patton, *War as I Knew It* |
| | | | Sun Tzu, *The Art of War* |
| | | | **Van Creveld, *Fighting Power*** |
| | | | **Von Schell, *Battle Leadership*** |
| | | | U.S. Army Historical Publications series |
| | | | **Wynne, *If Germany Attacks*** |

[697] William S. Lind, "Marines don't write about warfare," *Marine Corps Gazette* 62, no. 2 (February 1978), 14; William S. Lind, "Maneuver Warfare Course, October 24, 1980 Meeting: Items for Discussion," unpublished outline, William S. Lind Papers, Collection 4939, Box 26, no folder, Marine Corps Archives, Quantico, Virginia, 1-2; 2d Marine Division Maneuver Warfare Board, "Maneuver Warfare," newsletter, undated circa 1981, William S. Lind Papers, Collection 4939, box 15, sixth unnumbered folder labeled "USMC Sources." Marine Corps Archives, Quantico, Virginia, 1-2; and Lind, *Maneuver Warfare Handbook*, 58-66.

[sic] this way of war. That's what stands out with the Prussians. Other countries had generals and units that could do it, but the only country that successfully institutionalized it was Prussia, and later, of course, the united Germany."[698]

Collectively, this discussion shows that the predominant historical inspiration for Lind's concept of maneuver warfare was the German military experience, in particular the *Wehrmacht* in World War II. Lind was drawn to this subject out of a long-standing personal interest he traces back to childhood, but also because in the 1970s he, like many others, was looking to recent history as the U.S. defense community was struggling to find a way to fight the Soviets while outnumbered, yet still win. Lind's dichotomous model contrasting attrition/firepower warfare with maneuver warfare would become a key explanatory tool in the reform agenda, including incorporation by John Boyd within his "Patterns of Conflict" briefing, though Boyd adopted it in a more abstract manner as part of a more synthetic view of conflict. How Lind's invention, and Boyd's ideas, came to shape the doctrine of the U.S. Marine Corps, and define the American conception of maneuver warfare, is the central topic of this study. To understand that process, this analysis must return to consider the impact of Lind's dichotomy as it was first introduced. The story of how Lind's draft critique of the 1976 version of FM 100-5 ultimately made it to print in 1977 reveals much. Among other things, it helps explain why the U.S. Marine Corps became the focal point of Lind's efforts to implement maneuver warfare in the U.S. military.

[698] Lind, interview, 29 January 2020. In this segment of the interview, Lind makes this statement in the context of John Boyd's interest in the German military, but it shows Lind's own estimate of the German model.

**The Initial Military Reception of Lind's Attrition versus Maneuver Warfare Dichotomy**

Lind's final, print-ready version of the article where he would publicly introduce the dichotomy of firepower/attrition warfare and maneuver warfare was titled, "Some Doctrinal Questions for the U.S. Army." He submitted the paper to the Army through the Army's Office of Legislative Liaison, perhaps also with a copy directly to TRADOC, with a request for official comment.[699] He received no response. The Army later publicly rationalized its silence in the pages of *Armed Forces Journal International*, "TRADOC chose not to comment since FM 100-5 had not been approved, printed, or distributed at that time. It was felt that comment premature to the normal approval/distribution process would be confusing to the Army and not serve any constructive purpose."[700] This response can be interpreted in several ways, and they are not mutually exclusive. It may have been a close-minded effort to suppress Lind's critical comments about the new doctrine within the Army. The lack of initial response may also have been an attempt to slow-roll an official inquiry from the Senate Armed Service Committee. Lind did not finish his article until June 1976, a period when the publication of FM 100-5 on July 1, 1976 would have been considered imminent at TRADOC. It is even possible TRADOC did not become aware of the article until days before, or even after, the new doctrine was signed.

Lind had been sharing drafts of his article, including with at least one prominent Marine general, and he submitted a copy for publication in the *Marine Corps Gazette*, demonstrating a keen sense of how interservice rivalries could be used to leverage the military services.[701] He was apparently correct in his assessment, for on July 16th Lind received a call from the editorial

---

[699] William S. Lind, Untitled memorandum, 22 March 2010, 1; and John Patrick, "Banned At Fort Monroe, Or The Article The Army Doesn't Want You To Read," *Armed Forces Journal International* 114, no. 2 (October 1976), 26. Hereafter, "Patrick, 'Banned At Fort Monroe, Or The Article The Army Doesn't Want You To Read,' *Armed Forces Journal International*."

[700] Anonymous, "TRADOC's Reply," *Armed Forces Journal International* 114, no. 2 (October 1976), 28.

[701] Lind, letter to Haynes, 1; and Patrick, "Banned At Fort Monroe, Or The Article The Army Doesn't Want You To Read," *Armed Forces Journal International*, 26.

staff of the Army's *Military Review*. The *Review* requesting that he withdraw the article from the *Marine Corps Gazette* so it could publish Lind's work in its own November 1976 issue, where it would get wider circulation with the most appropriate audience, Army officers. Lind withdrew the article from the *Gazette* and submitted it to the *Review*. Several weeks later Lind was told that his article would not be published by the *Review* after all, but that the *Review* was retaining publishing rights to the article, for which Lind had been sent a $50 check, the standard renumeration for an article. This was a more overt attempt at suppressing Lind's critique. Rather than simply ignoring his request for comment in private correspondence, the Army was essentially buying the rights to his article, then refusing to print it. Lind returned the uncashed check and took the matter public.[702]

Lind ghost-wrote an exposé in *Armed Forces Journal International* under the name of a close friend, John Patrick.[703] Titled, "Banned At Fort Monroe, Or The Article The Army Doesn't Want You To Read," the article directly accused General DuPuy, the Commanding General of TRADOC (and FM 100-5's lead author, who had first briefed him on the new draft back in February), of suppressing the critique,

> It was reported that DePuy hit the ceiling when he heard of this unexpected criticism, and that he ordered the Army to take no notice of the article whatsoever…. Why did the *Military Review* change its mind? Two reports credit a high-level phone call from TRADOC at Ft. Monroe to the *Military Review* staff at Ft. Leavenworth…It does seem clear that TRADOC is afraid of the piece and has tried to suppress it, first by ignoring it then reportedly by blocking its publication in *Military Review*.[704]

[702] William S. Lind, Untitled memorandum, 22 March 2010, 1-2; and Patrick, "Banned At Fort Monroe, Or The Article The Army Doesn't Want You To Read," *Armed Forces Journal International*, 26.
[703] John Patrick, "Banned at Fort Monroe, or the Article the Army Doesn't Want You to Read." Unpublished draft. William S. Lind Papers, Collection 4939. Box 18, Folder 1. Marine Corps Archives. Quantico, Virginia.
[704] Patrick, "Banned At Fort Monroe, Or The Article The Army Doesn't Want You To Read," *Armed Forces Journal International*, 26.

When the *Armed Forces Journal's* editor provided TRADOC with an opportunity to respond to "Patrick's" allegations, a source there denied that "a high-level phone call from TRADOC" stopped the publication of the article, but then admitted that on July 19th General DuPuy was told about the imminent publication of Lind's article and, "General DuPuy's guidance was that it would not serve any useful purpose to have the article published in the *Military Review* in advance of the FM's distribution to the Army in the field."[705] "Patrick's" exposé and the TRADOC response were part of a four article "book review" of FM 100-5 in the October 1976 *Armed Forces Journal* which made the sordid situation public in Washington D.C. Though this issue did not include a copy of Lind's original article, his critique was refuted in absentia as criticizing the new doctrine "ineptly," and was characterized as "misplaced and generally irrelevant" and "wide of the mark in fundamentals (as in reading Soviet doctrine, U.S. tactics, and in use of historical examples to buttress his arguments)."[706]

The dialog in the *Armed Forces Journal* accomplished Lind's major purpose, getting word out about his critique, and inspiring critical discussion about FM 100-5. Some of Lind's counter-critics in the October *Journal* called for open dialog so that the new doctrine could be thoroughly "examined and challenged."[707] Word did, indeed, get around. Copies of the article Lind had circulated were being brought to the attention of well-placed persons within the Army. Later that month, none other than Major General George S. Patton, son of the famous World War II general who was then serving as the commander of the 2nd Armored Division, wrote to

[705] Lind interview, 28 October 2019; John Patrick, "Banned At Fort Monroe, Or The Article The Army Doesn't Want You To Read." *Armed Forces Journal International* 114, no. 2 (October 1976), 26; Anonymous, "TRADOC's Reply." *Armed Forces Journal International* 114, no. 2 (October 1976), 28.
[706] Philip A. Karber, "Dynamic Doctrine For Dynamic Defense: In Praise of Of [sic] FM 100-5, and With Comments on the Lind Critique," *Armed Forces Journal International* 114, no. 2 (October 1976), 28-29; and F. Clifton Berry, Jr., "Field Manual 100-5, 'Operations'" *Armed Forces Journal International* 114, no 2. (October 1976), 23.
[707]Berry, 26; and Karber, 29. Quote drawn from Berry, 26.

highlight the unpublished article to General Donn Starry, who had just given up command of the United States Army Armor Center and School to take command of V Corps in Germany. Patton wrote,

> I have just come across this paper by one W.S. Lind, who is a kind of staff officer in the Senate. He is really quite pro-Navy, as I understand it, (I have never met him) but he does raise some interesting points on 100-5 which I thought you might be interested in. I have no idea what will become of this paper but it is a good leveler and makes you think. Knowing you, I think you will enjoy reading it.[708]

Starry, who would succeed Dupuy as commander of TRADOC as it made its next major revision of FM 100-5, responded,

> Many thanks for the Lind article. I have read it before and commented for some people who were trying to deal with him. No one seems to know what he is really trying to prove. He is one of those instant field marshals so often found in the ranks of the Enthoven's, Valtz's, Odeen's and the ilk…
> [ ] I guess the best thing to do is ignore Mr. Lind.[709]

Indeed, Starry's papers at the U.S. Army Heritage and Education Center show that he was in possession not just of the print-ready "Some Doctrinal Questions for the U.S. Army" sent by Patton, but had also obtained an earlier copy of the article under its working title "Some Questions for TRADOC" three months earlier.[710] The exchange between the two generals shows that Lind's critique had made its way around the upper ranks of the Army by word of mouth, but the reaction was mixed, and could be close-minded.

The controversy in the pages of the *Armed Forces Journal* made the existence of Lind's critique public knowledge in Washington, and with discussion of it out in the open, *Military*

---

[708] George S. Patton, letter to Lieutenant General Donn A. Starry, 29 October 1976, Donn A. Starry Collection, Box 6, Folder 7: Correspondence Files—November-December 1976. U.S. Army Heritage and Education Center, Carlisle, Pennsylvania.
[709] Donn A. Starry, letter to Major General George S. Patton. 11 November 1976, Donn A. Starry Collection, Box 6, Folder 7: Correspondence Files—November-December 1976. U.S. Army Heritage and Education Center, Carlisle, Pennsylvania.
[710] William S. Lind, "Some Questions for TRADOC," Unpublished draft paper, undated, Donn A. Starry Collection, Box 5A, Folder 7: Correspondence Files July 1976. U.S. Army Heritage and Education Center, Carlisle, Pennsylvania.

*Review* was essentially forced to publish Lind's critique. It finally did so in March 1977, allowing nine months for the Army to disseminate the new edition of FM 100-5 to its field units, absent the criticism Dupuy argued would confuse soldiers. Once Lind's critique was actually in print, challenging FM 100-5 as an example of firepower/attrition doctrine rather than a needed maneuver doctrine, a new frame of refence had been established. Lind observed, "at that point…the horse was out of the barn, and now it was published, the terms were out there. It was a matter of me, now, trying to promote it within the Army and Marine Corps."[711]

By the 1990s, Lind's ideas would have some impact on Army doctrine, as evidenced in the 1982 and 1986 revisions of FM 100-5. The importance of "Some Doctrinal Questions for the U.S. Army," moreover, was recognized in the 75th Anniversary issue of *Military Review,* in 1997. This edition highlighted articles which had been important for reshaping Army doctrine throughout its history, and included a reprint of Lind's article, along with his story of its suppression in Lind's own words.[712] By 1997, then, the Army had become comfortable enough to admit Lind's influence, but this had not been the case in 1977. The hostility directed toward Lind by the Army at this time indicated that a much tougher battle lay ahead in both services. Though he had come to see the Marine Corps as the prime target for his reform, that was an easy battle either. To understand why he ultimately chose to focus on the Marine Corps, and how he attempted to influence Marine Corps doctrine, this study now turns to Lind's involvement with the Marine Corps between 1973 and 1979.

[711] Lind, interview, October 28, 2019.
[712] William S. Lind, "Some Doctrinal Questions for the United States Army," *Military Review* 59, no. 3 (March 1977): 54-65; and William S. Lind, "Some Doctrinal Questions for the United States Army," *Military Review* 77, no. 1 (January-February 1997): 54-65.

**Lind's Interest in the Marine Corps**

William Lind's initial interest in the Marine Corps was as part of a more comprehensive strategic assessment, and preceded his invention of the idea of maneuver warfare by at least a year. Indeed, Lind's observations of the Marine Corps certainly shaped his thinking on the need to present attrition/firepower and maneuver as two fundamentally opposed doctrinal forms in his critique of the Army's FM 100-5. Lind states that his first contact with the Marine Corps came in 1973 when he was first hired by Taft, and witnessed the outmoded training exercise at The Basic School, but the first archival evidence is in statements entered into the Congressional Record by Taft in July and November 1975. Lind was almost certainly the author of these statements. The first, on July 8, 1975, reacted to press coverage of discussions occurring within the Pentagon discounting the value of the Marine Corps. Defense policymakers apparently believed the Corps' amphibious orientation left it too light to serve as an adequate reserve to fight with the Army against the Soviets in Western Europe. Taft's response foreshadowed what Lind would write in the "White Paper on Defense" a year later, arguing that the Marine Corps was critical exactly because it wasn't suited for Army missions, which were dependent on extensive prepositioning of forces. Instead, the Marine Corps was structured to do something the Army could not, using naval shipping to insert significant combat force in places where the Army was not expected to fight, and therefore would be unable to preposition itself.[713]

Taft returned to the issue a few months later, when questioning of the relevance of a Marine Corps focused on an amphibious mission continued, as covered in the *Washington Post* article "'A Few Good Men' in Search of a Beach" by Martin Binkin and Jefferey Record. In his

[713] Congress, Senate, Senator Taft of Ohio statement, 94th Cong., 1st sess., *Congressional Record* 121, pt. 17: 21495-21496 (8 July 1975), William S. Lind Papers, Collection 4939, Box 22, Binder "Defense, Foreign Policy, Transportation, and Veterans," Marine Corps Archives, Quantico, Virginia.

next speech on the Senate floor, Taft extended his former argument by pointing out that the Marine Corps was actually critical as rapid insertion force on the modern battlefield because, unlike Army airborne forces, Marine forces, moving by sea, could deploy heavier equipment. His conclusion was that Marine forces would be even more relevant if they mechanized. It will be shown that this idea, expressed by Taft, was central to Lind's agenda for the Marine Corps.[714] All of this must be considered in the context of Lind's larger agenda for defense reform while serving as Taft's primary aide on military matters, a program Lind would later refer to as a "true Maritime Strategy." As early as August 1975 Lind had begun questioning the Navy's continued emphasis on a force built around large-deck nuclear aircraft carriers. Lind argued that task forces built around such expensive platforms were prohibitively vulnerable to the large fleet the Soviets were building, one capable of launching saturation attacks by anti-ship cruise missiles. Of note, Lind argued that the greatest threat was the "hidebound thinking of our naval authorities," and invoked historical examples, most drawn from the German military and naval experience, to make his case. Ultimately, Lind was appealing for more "imaginative thinking" on the structure and employment of the navy. [715]

Taft's and Lind's advocacy was part of what Lind believed was a more appropriately active role for the Senate in defense policy making, one that shifted the focus from debating the cost and details of weapons programs to instead study "basic defense concepts – grand strategy and force structure and the relation between them." To inform this effort, he had begun drafting Taft's "White Paper on Defense: A Seapower Strategy for the United States."[716] This white

[714] Congress, Senate, Senator Taft of Ohio statement, 94th Cong., 1st sess., *Congressional Record* 121, pt. 28: 35871-35873 (11 November 1975), William S. Lind Papers, Box 22, Binder "Defense, Foreign Policy, Transportation, and Veterans," Marine Corps Archives, Quantico, Virginia.
[715] William S. Lind, "Old Thinking Will Not Keep Sea Lanes Open," *Washington Star*, 3 August 1975, 2-F. William S. Lind Papers, Collection 4939, Box 16, Unlabeled black binder. Marine Corps Archives. Quantico, Virginia.
[716] Lind, draft 'White Paper on Defense," 1976.

paper was circulated among the Senate, accompanied by extensive coverage in the press, on March 16, 1976. The white paper, which news articles clearly attributed to Lind, advocated a fundamental reform of U.S. strategy. It criticized the existing strategic approach because deploying of army forces to Western Europe and Korea left them dangerously exposed and invited adversary aggression, ceding the strategic initiative in military and foreign policy to the adversary. Worse, in Lind's estimation, this focus had also neglected U.S. seapower, so that if a European war broke out American sea lines of communication might be interdicted by the Soviet Navy, leaving U.S. land forces isolated and ripe for defeat. Lind called for a fundamental reorientation of U.S. strategy, one that recognized the U.S. was, at is heart, a maritime power, rather than a continental one. The appropriate posture, in Lind's opinion, was to downsize the Army and withdraw army forces from most overseas commitments, investing instead in the U.S. Navy. Appropriate investments in the Navy would secure the U.S. from invasion, and provide assured use of the sea for projecting power in the times and places where U.S. policymakers chose, thereby increasing foreign policy options for policymakers. In this conception, the U.S. Marine Corps obviously had an important and vital role, as the amphibious spearhead for any significant deployment of U.S. combat forces. Accordingly, Lind called for the reconfiguration of two of the three Marine divisions as mechanized forces.[717] The importance of the "White Paper" to this study is that it provides a clear understanding that part of Lind's defense agenda was to reconfigure the Marine Corps as a mechanized amphibious force. This important context

[717] Frank Kane, "Taft Asks Realignment of U.S. Defense Forces," *Toledo Blade*, 16 March 1976, 2; Paul Turk, "Hike sea power, Taft paper asks," *Dayton Journal Herald*, 16 March 1976, 2; L. Edgar Prina, "Taft Urges Massive Naval Buildup, Financed by Land Forces Overhaul," *Columbus Dispatch*, 16 March 1976, 23; David Hess, "Taft urges bigger role for Navy," *Akron Beacon Journal*, 17 March 1976, B2. Benjamin F. Schemmer, "Sen. Taft Urges Massive Naval Buildup, Paid for by Land Force Overhaul, Cuts," *Armed Forces Journal International* 113, no. 8 (April 1976), 21 in William S. Lind Papers, Collection 4939, Box 22, Binder "White Paper, other Defense, Transportation," Marine Corps Archives. Quantico, Virginia, also acknowledged Norman Polmar as another key strategist behind the white paper.

has been absent from other analyses of Lind's promotion of maneuver warfare within the Marine Corps. It helps provide a sense of how Lind's choice of the Marine Corps as his primary target for reform was the result of more than just finding a receptive audience.

Lind was successful in getting the Marine Corps to consider mechanization and even experiment with it. In 1975 the Corps was conducting a Manpower Quality and Force Structure Study to consider how it needed to recondition itself after the Vietnam War, and in December 1975 it added a "parallel" Marine Corps Mission and Force Structure Study. The latter was commonly referred to simply as the Haynes Board for its leader, Major General Fred E. Haynes, Jr., the Deputy Chief of Staff for Research, Development and Studies at Headquarters Marine Corps.[718] Ascribing a cause and effect relationship to Lind and the Haynes Board is not a merely a matter of chronology. A 1977 staff study by Headquarters Marine Corps specifically identified Senator Taft's comments on Marine mechanization in the *Senate Congressional Record* as the event which initiated all subsequent action on that matter.[719] Taft and Lind were also apparently kept informed of the Corps' plans for the Haynes Board, for even though the board was not officially established until December 31, 1975, Lind had prepared a proposal for its consideration, and submitted it for timely publication in the December issue of the *Marine Corps Gazette*. This article, "A proposal for the Corps: Mission and force structure." was Lind's first effort to engage the wider corps of Marine officers in conversation. In it, Lind publicly urged the Haynes committee to develop a solid understanding of the differing missions of the Army and Marine Corps, and make a dispassionate analysis of Marine roles, missions, and force structure.

[718] U.S. Marine Corps, "Sequence of Events Regarding Concept/Evaluation of Mobile-Mechanized Operations" in "Mobile/Mechanized Force Operations," Alfred M. Gray Papers, Collection 2580, Box Set II, Box 12, Folder: "Mobile/Mechanized Force Operations, December 1977," Marine Corps Archives, Quantico, Virginia, 2. Hereafter "'Sequence of Events' in 'Mobile/Mechanized Force Operations.'"
[719] "Sequence of Events" in "Mobile/Mechanized Force Operations," 2.

He also showed a good understanding of Marine culture by leading with a dire warning: failure to objectively examine these questions could "produce a discontinuity between the mission and force structure of the Marine Corps and the real defense needs of the Nation," potentially creating "a legitimate argument for reassigning the Corps' functions to the other services." Lind ultimately advocated greater use of heliborne and mechanized mobility on the modern battlefield. Most central to this study of maneuver warfare and reform, in this article Lind did not directly criticize the leadership of the Marine Corps, and made no mention of maneuver warfare or ideas that would later be specifically associated with that concept. Before Lind had conceptualized the dichotomy of maneuver versus attrition/firepower, he was thinking more along the lines of reshaping the force than redefining how it thought about war.

The initial reception of Lind's ideas in the *Gazette* was mixed, in large part because of who he was. Lind's public dialog with the Haynes Board was underpinned by a deeper, more private, exchange of ideas with General Haynes. Indeed, when Lind was working on his final drafts of "Some Questions for TRADOC" in May and June of 1976, the very article where he first began to define maneuver warfare, he shared the draft article with Haynes and they corresponded about it.[720] The readers of the *Gazette*, lacking this appreciation, considered Lind's ideas on force structure to be another example of "those superficial cost effective analyses performed by McNamara's Whiz Kids in the sixties."[721] Questioning Lind's familiarity with the subject, the *Gazette's* respondents challenged his authority to write an article on this topic. Lind's editorial response in August 1976, coming several months after he invented the attrition/maneuver dichotomy in his draft article for the Army, are where he first began to

[720] Lind, letter to Haynes, 1.
[721] E.V. Badolato, "Head in the sand," *Marine Corps Gazette* 60, no. 4 (April 1976): 11-12; and J.T. Bowlin, "Something is missing," *Marine Corps Gazette* 60, no. 4 (April 1976): 12-13.

publicly annunciate maneuverist themes to the Marine Corps. Using language that anticipated Boyd's explanation of maneuver warfare in "Patterns of Conflict" by about two years, Lind pointed out that his first article was actually meant to argue for improving tactical mobility. He reminded his Marine critics,

> …We must also remember one of the fundamental lessons of World War II: mobility can be used not only as a means of bringing firepower to bear, but as a weapon in itself. The basis of the *Blitzkrieg* concept is the use of rapid and unexpected maneuver to paralyze the mind and will of the opposing command, not to kill large numbers of enemy troops. The French Campaign of 1940 was decided by maneuver, not attrition.[722]

Lind had opened a dialog about mission and organization, but he was now using it to annunciate some of his ideas about the "maneuver concept" he had invented just three months earlier in his responses to the Army's revision of FM 100-5, and its merits compared to attrition. Lind understood that the Marines needed to hear these ideas as much as the Army did, for the more he saw and read, the more he became aware of some fundamental deficiencies within the Corps.

It has already been shown that his first direct contact with the Marine Corps, in late 1973, told him that the service was training its new lieutenants in dangerously outdated tactics. Later, an October 1974 article in the *Armed Forces Journal* by First Lieutenant David E. Kelly attracted his attention and confirmed his suspicions. Kelly portrayed a Marine Corps that would have difficulty fielding one combat-ready division despite having 186,000 Marines on its rolls, and, like the rest of the defense establishment, the Corps' problem was a top -heavy bureaucracy headed by an excessive number of generals which "seems to have a way of entrenching itself so that even when it is no longer needed, it continues to stumble along and grow."[723] Further, when visiting the 2d Marine Division in Camp Lejeune, North Carolina in August 1975 and May 1976,

---

[722] William S. Lind, "Mechanization is needed." *Marine Corps Gazette* 60, no. 8 (August 1976), 13.
[723] David E. Kelly, "Must the Marine Corps Shrink or Die?" *Armed Forces Journal International* 111, no. 2 (October 1974), 18, in William S. Lind Papers, Collection 4939, box 15, first unnumbered folder labeled "USMC Sources." Marine Corps Archives, Quantico, Virginia.

Lind observed that officers' time was completely consumed with administrative tasks, leaving no time for personal professional development such as studying Soviet tactics, equipment, and military thought.[724] All of this indicates that Lind's interest in the Marine Corps was turning from purely structural matters to the wider issues of the Corps' culture.

Lind's critique of the Corps was driven, at least in part, by his perception that it was not taking advantage of the opportunity created by the Haynes Board. The Haynes Board had convened for approximately two months, and had recommended that at a portion of the Fleet Marine Force be reconfigured to form a mechanized Mobile Assault Regiment A letter summarizing the board's findings was sent to the Senate Armed Services Committee on March 15, 1976.[725] After that, the report, from Lind's perspective, was languishing in "staffing," the process by which a document is circulated within a military bureaucracy for further study, comment, and ultimately recommendation to the officer who would make the decision, in this case the commandant. In a talk to reserve officers at the Marine Corps Command and Staff College in July 1977, Lind spoke of outdated Marine Corps missions and force structure, and then traced these back to the underlying problems. A key fault was "intra-institutional domination of the decision-making process," which left regular officers, lacking the broader background and freedom from institutional constraints that reservists enjoyed, unable to address these problems.[726]

Lind's earliest *Gazette* article on Marine organizations and missions did not criticize the Corps or its leaders directly, but it had nonetheless provoked some indignant responses. As he

---

[724] Congress, Senate, Senator Taft of Ohio statement, 94th Cong., 2nd sess., *Congressional Record* 122, pt. 13:15596-15597 (26 May 1976), William S. Lind Papers, Box 22, Binder "Defense, Foreign Policy, Transportation, and Veterans," Marine Corps Archives, Quantico, Virginia.
[725] "Sequence of Events" in "Mobile/Mechanized Force Operations," 2.
[726] William S. Lind, "Talk to Marine Corps Command and Staff College Seminar," lecture notes, 22 July 1977, William S. Lind Papers, Collection 4939, Box 26, no folder, Marine Corps Archives, Quantico, Virginia, 2.

continued to write expressing new ideas about maneuver doctrine, he was met with a similar reception. In January 1978, Sergeant K. W. Vanderslice wrote "I am happy to see that our politicians are interested in the Marine Corps anti-mechanized capability," but characterized Lind's criticism as "inaccurate and premature."[727] In this same editorial section, a Marine officer decried that the *Gazette* had become "an excessively esoteric magazine" because of its "analysis of the Arab-Israeli conflicts and Vietnam rehashes." The author continued, "the art and science of warfare moves on, and so must we. We are, I sometimes fear, in danger of sophisticating ourselves out of existence, as reflected in some recent articles." Showing a strong faith in doctrine he argued, "…we need to return to the basics supposedly taught to our young Marines in R[ecruit] T[raining] R[egiment]."[728] To Lind, the historian who believed the *Wehrmacht* had found the answers, such an ahistorical and dogmatic faith in doctrine must have been alarming, and a further indictment on the intellectual capacity and openness of the Corps' leaders.

When Lind initiated a new conversation in the *Gazette* the following month, it was with a direct attack on the Corps as a professional institution. This article, titled "Marines don't write about warfare," pointed out that Marine officers, as those in the other services, were uninterested in the theoretical aspects of their profession, and focused too much on management and leadership at the expense of tactical and operational concepts. Lind saw the problem to be an institutional one, for Marine corps schools were not providing the necessary background in military history, officers' time was consumed by managerial and administrative matters, and the Marine Corps had not incentivized development of "theoretical capability" by incorporating it in performance evaluations and promotions. Lind recommended that military history and theory be included as mandatory courses in Marine Corps schools, that administrative requirements be

[727] K.W. Vanderslice, "TOW for today," *Marine Corps Gazette* 62, no. 1 (January 1978), 12-13.
[728] L.N. Schwankl, "Thanks Gazette," *Marine Corps Gazette* 62, no. 1 (January 1978), 11.

reduced, that battalion-level "officers' schools" be established, and that theoretical capability be considered in promotion boards either by making this 30% of an officer's fitness report or by instituting exams on "military theory and the art of warfare as expressed in tactical and operational concepts."[729] Lind also suggested that Marine officers be given a required reading list, and specifically commended works by V.Y. Savkin, Clausewitz, Liddell-Hart, Kesselring, and Rommel.[730] In making his appeal, Lind stressed that many of the proposed measures had already been aggressively embraced by the Soviet military. He further appealed to Marine Corps culture by contrasting the golden age of Marine Corps amphibious doctrine development in the Interwar Period with the Corps' post-Vietnam situation, concluding, "It is time for Marines to rediscover their own intellectual heritage and begin to do the kind of innovative thinking about tactics and operations that once characterized the Corps."[731] In many ways, this article can be viewed as an important milestone in the maneuver warfare movement in the Marine Corps. In this article, Lind laid out a specific agenda for personnel reforms meant to promote cultural change, the kind of cultural change necessary to be able to adopt a new style of fighting. Many of the changes he proposed would become important elements of the maneuver warfare movement, and some would even be implemented after General Alfred Gray's rise to the commandancy in 1987.

As with Lind's other articles, the reactions to "Marines don't write about warfare" were mixed. Four new articles or editorials made direct reference to it over the next year. While one described Lind as a modern "Quixote," others generally agreed with his observations about the need for deeper thinking about military concepts, and decried the lack of any positive response

[729] Lind, "Marines don't write about warfare," 14.
[730] Lind, "Marines don't write about warfare," 14.
[731] Lind, "Marines don't write about warfare," 15.

from the Corps' senior leaders at least endorsing the importance of studying military theory.[732] These four published responses, however, do not reflect the depth of the reaction to Lind's critique of the Corps, for in November 1979, as part of the Gazette's annual history-centric issue commemorating the Marine Corps' birthday, the editor observed, "Lind's article provided the largest response in the *Gazette* in more than three years."[733] This was an introduction to two final articles on the utility of history for military professionals. Neither of them was a positive reflection on the way Marines thought about the relevance of history to their profession. Captain Kenneth W. Estes rejected Lind's assertion that a more thorough study of theory had value for Marine officers. Estes decried the influence of "think tanks and 'defense intellectuals' like Mr. Lind," and while he admitted that the study of history had some value, he argued that amateur study of history could lead to the wrong conclusions. As a result, Estes felt history should be left to historians, who would "provide our officers with explicit, concise compilations of experience gained from recent exercises and vicarious experiences from the last decades of wars."[734] Estes was followed by a piece written by a retired colonel, who remarked that the suggestion that officers be exposed to more military history "forces me to wonder if there is really anything of consequence to be learned, and does the teaching of military history represent the prudent use of the people's money?" His answer was that a study of military history, and its many disasters, would actually discourage people from continuing to serve. He further concluded that "one

[732] Donald J. Bittner, "On the utility of military history," *Marine Corps Gazette* 62, no. 5 (May 1978), 18-20; John W. Mohr and T.K. Griffin, "Writing on warfare," *Marine Corps Gazette* 62, no. 6 (June 1978), 12; and Hugh K. O'Donnell Jr. "Is Marine Corps officer education an institution for ignorance?" *Marine Corps Gazette* 63, no. 3 (March 1979), 39-43.
[733] Anonymous, "Ideas and Issues," *Marine Corps Gazette* 63, no. 11 (November 1979), 28.
[734] Kenneth W. Estes, "Leave history to the historians," *Marine Corps Gazette* 63, no. 11 (November 1979): 28-30. Ironically, within a decade Estes would hold a PhD in history, and then become the author of *The Marine Officers' Guide*, a long-standing unofficial resource for Marine Officers on the expectations of their profession.

discovers from a detailed survey of the field that war is not all that complicated a discipline" and military history was "characterized by a minimum intellectual content."[735]

Lind's critiques, and the responses to them in the pages of the *Gazette*, show that he was contending with an anti-academic cultural current within the Marine Corps. This wasn't pure anti-intellectualism, for the diversity of responses show that there were individual officers receptive to some of his ideas, and some very different conceptions about the value of history and how it might be used by military professionals. The interservice context for these observations is important, for Lind appreciated that Marines were at least somewhat open to new ideas, a quality he found wanting in other services. The most direct comparison was the U.S. Army, which by this this time had proven quite resistant to his ideas. His first attempt to overtly influence Army doctrine was his critique of FM 100-5 in 1976. Lind shared the draft of the article he had prepared with both General William E. Depuy, the commander of the Army Training and Doctrine Command, and Major General F.E. Haynes, Jr., the Deputy Chief of Staff for Research, Development, and Studies at Headquarters, Marine Corps. While Dupuy refused to comment, Haynes did, and sent additional materials to help in its refinement.[736] When Lind submitted the article for publication, it was accepted by the *Marine Corps Gazette*, but ultimately only published by the *Military Review* after an exposé in the *Armed Forces Journal* forced the issue. Lind later remarked that he was impressed with the open-mindedness of many Marine officers relative to the other services, who responded to him by saying, "We don't know anything about this, but it sounds like the kind of thing we should know about."[737] Lind felt, "There was still some element of sort of residual professional interest there, even though, as I

[735] W.L. Traynor, "Teach our officers how to fight," *Marine Corps Gazette* 63, no. 11 (November 1979): 30-31.
[736] Lind, letter to Haynes, 1-2.
[737] Lind, interview, 28 October 2019.

have said, the military de-professionalized after World War II. …I quickly got to know some [Marines] who were quite bright and very well read, historically."[738]

Lind saw that the difference between the services went beyond the values and characteristics of their individual officers, to institutional factors. When he did encounter curious and forward-thinking Army officers willing to explore new ideas, he found their efforts to promote new ideas futile in the face of the Army's doctrinal bureaucracy. As Lind related of one brief period of interest in maneuver warfare by some officers in the 82nd Airborne Division,

> …there would be these short attempts and flowering, flowerings you know of what, a hundred flowers bloom in the Army, but then it would all die because of the dead hand of the Dupuy faction and synchronization. So, what happened over time, naturally, is I put more and more effort into the service where this was moving, the Marine Corps, and less and less in the Army where it wasn't. I mean that's maneuver warfare in itself—you don't throw your strength against their combined [?] strength. …and so more and more my attention shifted to the Marine Corps.[739]

As the dialog in the *Gazette* showed, Lind's critiques did alienate many Marines, but he saw some open-mindedness and curiosity in individual officers. His experiences told him the Corps was less beholden to its own bureaucracy than the Army. Lind also believed some senior Marine leaders understood the value of his ideas, and especially appreciated his advocacy and political support of the Marine Corps. Speaking of the material he wrote with Jefferey Record, Lind related, "while we were critical of the Marine Corps in many respects, we were also very supportive of it," helping solve problems the Marines were encountering, including keeping critical programs funded.[740] Finally, Lind understood the Marine Corps' organizational culture, and believed it was the service where he had the greatest chance of creating genuine change

[738] Lind, interview, 28 October 2019.
[739] Lind, interview, 29 January 2020.
[740] Lind, interview, 28 October 2019.

because "The Marine Corps is particularly sensitive to Capitol Hill because that is its political base."[741] He expanded,

> …I very quickly realized the Marine Corps was more receptive. The Army was extremely hostile. The Marine Corps was much more receptive. Whereas the other services were all very hostile towards me, toward Taft, toward Hart, toward … military reform, toward all of us, the Marine Corps was not. Now, part of the reason, in fact, probably the major part of the reason, was this was happening on Capitol Hill--That's the Marine Corps' political base. Over and over the Hill has saved the Marine Corps from extinction when the Executive Branch has tried to kill it. So if something is happening on Capitol Hill about war, the Marines want to be on the right side of that.[742]

What Lind was seeing, then, was that while some cultural obstacles within the Marine Corps militated against reform, there were opportunities to promote change. If this wasn't entirely obvious to him based on the discourse in the *Gazette*, it was becoming clear through his simultaneous efforts pressuring the Marine Corps to experiment with mechanization. Between 1977 and 1979 these were bearing some fruit, both institutionally and by affecting the thinking of individual officers.

**Lind's Promotion of Mechanization in the Marine Corps**

The dialog in the pages of the *Marine Corps Gazette*, which has been addressed by several other authors, is only one of the modes through which Lind was engaging the Corps. In many respects, that might be considered his engagement of individual Marines and the collective corps of officers, which is a different path of influence than engaging the Corps' leaders and the institution itself. Lind was constantly exerting pressure on the Marine Corps to move forward with mechanization. It was not until November 1976, however, that the Marine Corps finally made the decision to experiment with the Mobile Assault Regiment concept.[743] This was 16

[741] Lind, interview, 28 October 2019.
[742] Lind, interview, 28 October 2019.
[743] "Sequence of Events" in "Mobile/Mechanized Force Operations," 2.

months after Lind, through Taft's congressional voice, first prompted the Corps to act. It was 11 months after the Corps formed the Haynes Board, and 8 months after the Haynes Board recommended the formation of Mobile Assault Regiments. To Lind's disappointment, if not surprise, the project would continue to languish as Marine Corps staffing turned from the question of "If?" to the question of "How?" as 1976 turned to 1977. Impatient for action as the months went by, Lind began to exercise more overt efforts. In a congressional inquiry written under the name of his new boss, Senator Gary Hart, on August 2, 1977, he called for the Commandant of the Marine Corps to report on its progress in adopting the recommendations of the Haynes Board.[744] Lind considered it a positive sign that the Corps had recently established an experimental mechanized force by combining some amphibious tractor, tank, and infantry units at its only desert base, Twentynine Palms, California. He considered this a far cry from a Mobile Assault Regiment, however, indicating that the Commandant had no real interest in a fundamental reorganization of Marine units for mechanized warfare. Lind argued that it would be essential to monitor experimentation with the new, smaller force, both to make sure it was a fair evaluation of the potential for mechanization, and to ensure the findings were not over-ruled by "the infantry 'union' within the Corps."[745]

Lind understood that he faced powerful organizational and cultural currents that militated against mechanization. In the Marine Corps tanks and other mechanized vehicles were often viewed as assets meant only to support the infantry. This hamstrung the mobility that was the real disruptive potential of mechanized forces. The same month that the congressional inquiry

[744] U.S. Congress, Senate, Committee on Armed Services, letter to Commandant of the Marine Corps, 2 August 1977, William S. Lind Papers, Collection 4939, Box 25, no folder, Marine Corps Archives, Quantico, Virginia, 1-2.
[745] Jefferey Record and W. Lind, "Commandant's response to your letter on the Haynes Board Recommendations," memorandum, undated, William S. Lind Papers, Collection 4939, Box 26, no folder, Marine Corps Archives, Quantico, Virginia, 1-2.

was initiated, August 1977, the Marine Corps published its first doctrinal manual on mechanized operations, Education Center Publication (ECP) 9-1, *Marine Corps Mechanized Operations*. In Lind's opinion, though "ECP 9-1 is substantially superior to Army doctrinal manuals dealing with mechanized operations," and was a needed deviation from the standard American practice of "emphasizing the firepower of mechanized units over their mobility," it continued to err in portraying mechanized operations as merely combinations of tanks and mobile infantry focused on the infantry mission of "close with and destroy the enemy."[746] Lind argued that instead of the tank battalion supporting the infantry, in a mechanized operation the infantry unit should support the tank battalion, and the combined force should focus on bypassing the enemy in high-speed operations to "rupture," "disrupt," and "destroy his will to resist."[747] Lind's observations about the primacy of the infantry showed a recognition that he was confronting not just a doctrinal, or intellectual, obstacle, but also a cultural obstacle, one based on organizational values. The Marine Corps took a Spartan pride in holding the infantryman to be the decisive element in its way of fighting, an attitude reflected in the long-held notion, "Every Marine is a rifleman."

Lind's observations about the "infantry 'union'" were informed by a growing network of Marines. He was planning an official visit to Twentynine Palms to observe an exercise there at the end of October, but before he departed he received a letter from a company-grade officer. This forewarned him that the exercise control group was not qualified to teach mechanized tactics, and regarded these as a secondary to improving coordination between infantry units and their supporting arms.[748] Before leaving for Twentynine Palms, Lind wrote another letter from

[746] William S. Lind, "Observations on ECP 9-1, 'Marine Corps Mechanized Operations," unpublished paper, undated, William S. Lind Papers, Collection 4939, Box 25, no folder, Marine Corps Archives, Quantico, Virginia, 1-3, 7. Hereafter, "Lind, 'Observations on ECP 9-1.'"
[747] Lind, "Observations on ECP 9-1," 3-6.
[748] "Greg," letter to William S. Lind, undated, William S. Lind Papers, Collection 4939, Box 26, unlabeled folder, Marine Corps Archives, Quantico, Virginia. This handwritten letter by a company grade officer who had recently participated in training at Twentynine Palms makes reference to an upcoming trip Lind would take to visit the

the Senate Armed Service Committee to the Marine Corps, and a *Marine Corps Gazette* editorial stating, "It is time the Corps overcame its allergy to anything suggestive of mechanization…"[749]

Part of the problem was that formal experimentation with mechanization had not yet begun. The exercise Lind was preparing to visit in October 1977 was almost certainly Palm Tree 1-78, a forum for practicing the integration of supporting arms such as artillery, mortars, and aircraft with infantry units, later to be renamed the Combined Arms Exercises (CAX). It was not until April of 1978 that formal experimentation with mechanization began at Twentynine Palms, using company-sized elements. This was almost three years after Taft initially spurred the Marine Corps into some action, and more than two years after the Corps' own Haynes Board called for organizing mechanized forces. The experiment moved very quickly. A month later, in May of 1978, a second stage increased the force to battalion-sized elements. Lind did not attend either of these exercises, but kept the pressure on the Corps, writing a *Gazette* article in September 1978 explaining the rationale for mechanization, and arguing that the Marine Corps needed to be careful not to assign mechanized forces the limited role of infantry support, rather than allowing for them to exploit the mobility and firepower of the tank in more flexible roles.[750]

Lind's next visit to Twentynine Palms, in October 1978, left him with a very positive impression. He observed, "In the year's interval since I was previously in 29 Palms, progress has been rapid and in the right direction."[751] The Marine Corps finally seemed to be taking real action on the Haynes Board, completing two of three phases in the testing of a Mechanized Task

---

facility. The letter is enclosed with the itinerary of a trip that took Lind to Twentynine Palms from October 31 to November 2, 1977. "Sequence of Events" in "Mobile/Mechanized Force Operations," 3-4.

[749] William S. Lind, "TOW isn't the answer," *Marine Corps Gazette* 61, no. 11 (November 1977), 16.

[750] William S. Lind, "Proposing some new models for Marine mechanized units," *Marine Corps Gazette* 62, no. 9 (September 1978), 34-38.

[751] William S. Lind, "Report on Trip to Marine Corps Base 29 Palms, October 23-27, 1978," memorandum to Senator Hart, undated, William S. Lind Papers, Collection 4939, Box 25, no folder, Marine Corps Archives. Quantico, Virginia, 1.

Force (MTF). Lind felt that while the doctrine developed at Quantico had improved somewhat, in Twentynine Palms, "Excellent progress is being made on the 'how to do it' aspects of mechanized operations."[752] This he attributed to "a clear attempt to put current problems into historical perspective, and a strong desire for new ideas."[753] He saw hopeful cultural changes in commanders who "encourage initiative on the part of their juniors. Within the context of the Marine Corps' socialized structure, this is not the sine qua non for progress and a sign of a positive situation."[754] Lind's report to Hart on the visit concluded,

> 29 Palms is well on the road to becoming the Panzer Lehr of the Marine Corps, and indeed of the United States military. The atmosphere is an exciting one, and progress is rapid. …It appears that after 40 years of stagnation in the area of mechanized warfare, the United States is on the move toward fielding an effective mechanized force operating within the concepts of maneuver war.[755]

Lind's report is significant, for though he continued to remain involved in the other military services in various ways, when it came to maneuver warfare he was devoting more time and attention to the Marines. This is because, as he saw it, "If the United States develops a maneuver concept of mechanized warfare, it will do so through the Marine Corps, not the Army."[756]

Lind's hyperbolic observations of the Mechanized Task Force in Twentynine Palms in October 1978 were bound to result in disappointment. Though in the same report he did express some reservations about the way the third phase of the MTF test was being planned, he remained hopeful. A few months later, on Valentine's Day in 1979, Lind was invited to speak to Major Sean Leach's "Officer's School" at Headquarters, Marine Corps, which was a relatively

---

[752] Lind, "Report on Trip to Marine Corps Base 29 Palms, October 23-27, 1978," 2.
[753] Lind, "Report on Trip to Marine Corps Base 29 Palms, October 23-27, 1978," 2.
[754] Lind, "Report on Trip to Marine Corps Base 29 Palms, October 23-27, 1978," 2.
[755] Lind, "Report on Trip to Marine Corps Base 29 Palms, October 23-27, 1978," 8. The Panzer Lehr division, or "Armor Teaching Division" was the Wehrmacht's only fully-mechanized armored division. It was formed in 1943 with specially-selected troops ostensibly for training and demonstration, what today would be called a center of excellence to increase the combat capability of other Panzer units. The Panzer Lehr was considered an elite unit and committed to combat in France, where both the Germans and the Allies considered it an elite unit.
[756] Lind, "Report on Trip to Marine Corps Base 29 Palms, October 23-27, 1978," 1.

informal, unit-level initiative set up to promote the professional awareness and thinking of the officers assigned there, much on the order of what he had suggested in the pages of the *Gazette* a year earlier. The outline for Lind's talk indicates that his focus was an overall commentary on the Marine Corps' processes and issues going into the Fiscal Year 1980 budget, but one bullet point in his "Larger Context" at the end of the talk is particularly significant to this study: "MANEUVER DOCTRINE – MARINE CORPS AS A LAB".[757] As described above, by this time Lind had come to see the Marine Corps as most receptive to his ideas among the U.S. military services. This statement shows that he wasn't just promoting mechanization, or even professionalization, but felt he had found a place where his earlier concept of maneuver doctrine, very soon to be called "maneuver warfare," could be made real for the U.S. military. That Lind would describe the Marine Corps as a lab indicates that he understood there was much work to be done to translate his ideas into practicable doctrine, and that these ideas could only be worked out by a process of trial and error, or experimentation in the field. To some degree this had already begun in the MTF, which was preparing for its third stage of experimentation as Lind spoke to Leach and his colleagues.

At the end of February 1979, the Mechanized Task Force at Twentynine Palms conducted a five-day exercise involving more than 70 tanks and 100 amphibious tractors, the Corps' lightly-armored personnel carriers. Lind was not present while the exercise was in progress, but had a well-developed network of contacts by this point, and he did visit at the end of May to follow up. After this visit he wrote a thorough, 11-page critical report. Lind observed that several important innovations had been made. These included the development of a mobile

[757] William S. Lind, "Talk to Major Leach's Officers' School, Headquarters, Marine Corps, Feb. 14, 1979," lecture notes, 14 February 1979, William S. Lind Papers, Collection 4939. Box 26, no folder. Marine Corps Archives, Quantico, Virginia, 2.

command post capable of effectively providing command and control for a large force engaged in maneuver, tactical use of radio deception, and "movement towards recon-pull tactics."[758] The mention of recon-pull tactics is particularly important because this report is the first time that two important supporting concepts were introduced that helped make the idea of maneuver warfare actionable: recon-pull tactics and mission orders.

Lind offered the first definition of recon-pull tactics as being "where the route of advance is shifted continually in response to the results of reconnaissance. The alternative is command-push tactics, where the route of advance is pre-determined."[759] Lind was arguing that instead of pushing forces towards a place where higher command thinks they would be of greatest use, units should instead be pulled forward by reconnaissance units as they detected opportunities. This, it will be shown, became a central tenet of maneuver warfare. Adjusting the thrust of an offensive based upon the observations gained from reconnaissance imparts flexibility to a force, allowing it to capitalize on situations as they emerge. Command-push tactics essentially means that critical decisions are made before contact with the enemy, and can be adjusted only as higher levels of command gain an awareness of changing situations and order a change in the main line of operations. This leads to slower decision-making as information is transmitted upward, integrated into a more comprehensive analysis, decisions are made, and orders are passed back down to subordinate units. The very nature of the fundamentally different command and control involved is connoted by the description of this as a pull-push dichotomy. On the one hand subordinate units see opportunities and are motivated to ruthlessly exploit them, drawing exploitation forces and supporting forces along behind them to turn opportunity into decision.

[758] William S. Lind, "Report on Trip to Marine Corps Base 29 Palms, May 30 – June 1, 1979," memorandum to Senator Hart, undated, William S. Lind Papers, Collection 4939, Box 25, no folder. Marine Corps Archives, Quantico, Virginia, 1.
[759] Lind, "Report on Trip to Marine Corps Base 29 Palms, May 30 – June 1, 1979," 1.

On the other, subordinates see an opportunity, but are compelled to wait for a distant commander to validate that the opportunity exists and order a change in the direction of attack, all while the situation might be changing. The motive force for such an attack is the "push" of orders from the rear, not the actualization of self-perceived opportunity. The accompanying concept is that of mission orders. Chapter 3 showed that in 1977 and 1978 Boyd deepened his interest in German military history and discussed concepts such as *Schwerpunkt*. This was informed by contact with scholars, and perhaps also by recommendations from Lind. Albert Kesselring's 1952 "Manual for Command and Combat Employment of Smaller Units," for example, had explained the importance of decentralized control underneath a unifying central concept. In Lind's visit to observe the MTF in its second phase of experimentation six months earlier, he had observed commanders encouraging the initiative of their subordinates, which he considered a critical sign of needed cultural change. Now he was introducing a term, "mission-type orders" to identify a style of command where seniors specify what their subordinates need to accomplish, but left it to their subordinates to identify the best way of accomplishing the mission. Mission orders describe what subordinates need to get done, but not how it is to be done. In May Lind observed that the use of mission-type orders in Phase III "may have been the single most important element of the test, even though it was not foreseen as a specific test objective."[760] Lind was continuing to emphasize that making changes in the way Marines practiced command and control was a critical element for advancing the capability to conduct a maneuver-based approach to war. Developing terms like "recon-pull" and "mission type orders" was providing Marines with a lexicon to capture the critical concepts of maneuver doctrine, engendering a new mode of corresponding practice soon to be called "maneuver warfare." The report of June 1979

[760] Lind, "Report on Trip to Marine Corps Base 29 Palms, May 30 – June 1, 1979," 4.

was also important in this respect: it was the first time the phrase "maneuver warfare" appeared in any document written by Lind or a Marine.

Prior to May 1979 Lind had generally referred to "maneuver doctrine." His trip report of October 1978 had spoken of "mechanized doctrine," "maneuver doctrine," and "a maneuver concept of mechanized warfare."[761] These linguistic variations which suggested he either consciously or subconsciously no longer satisfied with the old term he had created. That he was on the verge of forming a new term is suggested by his optimistic conclusion, "It appears that after 40 years of stagnation in the area of mechanized warfare, the United States is on the move toward fielding an effective mechanized force operating within the concepts of maneuver war."[762] In Boyd's terms, Lind was destroying the two domains of mechanization and maneuver doctrine and beginning the creation of a new synthesis, maneuver warfare. The relationship between mechanization and maneuver concepts was still unclear, and Chapter 6 will show it would remain a point of confusion within the Marine Corps for some time. Eight months later, in the June 1979 trip report, Lind began showing an overt awareness that maneuver warfare was something distinct from mechanized operations. He concluded that report with a list of "macro issues" that were limiting further progress. The first was,

> The basic concept of maneuver warfare is still not fully understood. In Phase III, the focus remained, as is traditional with U.S. forces, on tactical success; operational success was presumably achieved by accumulating tactical successes. In contrast, maneuver warfare attempts to achieve operational success directly, shattering the enemy high command by maintaining an increasing tempo of operations deep into his rear area.[763]

This is important for two reasons. First, as mentioned above, this is the first time "maneuver warfare," the name that would ultimately brand this movement within Lind's subsequent writing

[761] Lind, "Report on Trip to Marine Corps Base 29 Palms, October 23-27, 1978," 1.
[762] Lind, "Report on Trip to Marine Corps Base 29 Palms, October 23-27, 1978," 8.
[763] Lind, "Report on Trip to Marine Corps Base 29 Palms, May 30 – June 1, 1979," 8-9.

and within the Marine Corps, appears in any document written by Lind or a Marine. Second, and more important, the new term was connected to the need for further development of the concept. More than five years earlier Lind had identified that the Marine Corps was using an outdated approach to warfare. About three years earlier Lind had developed the dichotomy of attrition/firepower doctrine and maneuver doctrine as a way of stressing what was wrong with Army and Marine Corps doctrine and practice, and how fundamental change on the German model was needed. Over the next three years leading up to this point, Lind had been successful in prompting the Marine Corps to experiment with mechanized operations, and had validated some of the historical German practices in the process. Efforts to effect fundamental change by going right to practice and doctrine, however, were limited by a conceptual missing link. Marines did not fundamentally understand the reason for the changes, and how these new practices fit together in a conceptual way.

What Lind needed was an overarching explanation, and this is the role of theory. The key thing that enabled Lind to turn from trying to promote poorly-understood maneuver doctrine to providing explanatory development of maneuver warfare, was a grafting in John Boyd's thinking on decision cycles. By November 1979, Lind had turned from trying to promote mechanization and maneuver doctrine to stating that "Maneuver Warfare" represented the doctrinal answer the Marine Corps needed, and explaining the "Applied Theory" that made it work, summarizing, "The Boyd Theory is the theory of maneuver warfare."[764] This study must therefore turn to Lind's relationship with Boyd, and the interchange of ideas between them.

[764] William S. Lind, "Outline of Talk to Marine Command & Staff," lecture notes, 15 November 1979, William S. Lind Papers, Collection 4939, box 26, no folder, Marine Corps Archives, Quantico, Virginia, 1, 5. Lind's lecture notes consist of a one-page outline, stapled to which are pages 4-6 of a draft for his "A Maneuver-Based Airborne Antiarmor Defense." The first of these quotes is drawn from the outline, and the last two are drawn from the draft article's fifth page.

Before doing so, a contextual and historiographic detour is appropriate, for there were other sources affecting this critical change in Lind's thinking, and they have been left out of accounts which attribute maneuver warfare to John Boyd and the Marines.

**Other Sources of Early Thinking on Maneuver Warfare**

This analysis is centered on Lind's relationship with the Marine Corps and its individual Marines, both because it is ultimately about the development of the ideas behind FMFM 1, and because Lind chose the Marine Corps to be the main target of his reforms. As explained in Chapter 2, all of this occurred within a larger milieu of post-Vietnam military reform, some occurring within other military services, some within the larger defense establishment and policy community. Lind, by virtue of his passion for the subject and his congressional influence, was a leading figure in this community. Some of the concepts he invented, most notably the dichotomy of firepower/attrition doctrine versus maneuver doctrine, reverberated. How they did, and when they did, speaks to the complexity of the relationships that led to the creation of new ideas about maneuver warfare.

Lind worked closely with a number of analysts who were intimately interested and very knowledgeable on topics related to the nascent concept of maneuver warfare. Most notable in this period were Jefferey Record, Edward N. Luttwak, Steven L. Canby, and, later, John Boyd. In time, several of these men would become the intellectual core behind the Military Reform Movement. As Chapter 2 showed, Record, Luttwak, and Canby were extremely active in their writing and advocacy during this time. Luttwak and Canby, who had teamed to form the consulting firm C&L Associates, were most active in writing about land warfare in the context of a central European conflict with the Warsaw Pact. Lind interacted with these men regularly, and benefitted from their expertise in military history and in the current military capabilities and

doctrines of U.S. allies and adversaries. In turn, some of them incorporated Lind's ideas in their analyses. Most closely related to the development of the concept of maneuver warfare was an article by Luttwak that appeared in *Air Force* magazine in August 1979. "The American Style of Warfare and the Military Balance" was a reprint of an article originally appearing in the March/April 1979 issue of *Survival*, a publication of the International Institute of Strategic Studies in London. Luttwak acknowledged that Steven Canby made critical contributions to the article, which had originally been presented to the National Security Seminar of the Lehrman Institute in New York City.[765] In the *Air Force* piece, Luttwak argued, "National styles of warfare, embedded as they are in culture and society, may retain their domestic authority even while being overtaken by changes in the external environment."[766] In Luttwak's estimation, the U.S. was wedded to a style of warfare that still assumed a material superiority over American adversaries, even while the Soviet Union was steadily gaining an advantage in its numbers, and improving the quality of its weapons. Luttwak said of this outdated American approach, "it is a style based on the methods of attrition rather than maneuver."[767] He went on to explain,

> Maneuver, by contrast, is not a familiar practice in recent American military or operational form. In fact, in the language of the US Army, maneuver is frequently confused with mere movement, or at least offensive movement. Maneuver may well call for movement, but it is very much more than that. It can be applied not only in ground combat, but in all warfare, and indeed in all things military, even research and development. Maneuver describes "relational" action—that is, action guided by a close study of the enemy and *his* way of doing things—where the purpose is to muster some localized or specialized strength against the identified points of weakness of an enemy that may have superiority overall.[768]

[765] Edward N. Luttwak, "The American Style of Warfare and the Military Balance," *Air Force Magazine* 62, no. 8 (August 1979), 88. The Lehrman Institute has no archival records relating to this seminar or Luttwack's presentation.
[766] Luttwak, 86
[767] Luttwak, 86.
[768] Luttwak, 86.

In essence, Luttwak was arguing that maneuver was akin to Liddell Hart's indirect approach, something that could be applied spatially to achieve a local superiority against an enemy's weak point, or conceptually, such as by focusing one's force development efforts against a relative weakness in the adversary's force. The article went on to explain the importance of adopting a maneuver approach if the U.S. and its NATO allies were to face the Soviets in Europe. In the process, Luttwak reiterated several of the themes that were appearing in Lind's work about the same time. The article is also significant because in three places it referred to the preferred style of fighting as "maneuver warfare," making this the first time the phrase appeared in print, in March 1979 in the United Kingdom, and August 1979 in the United States.[769] Luttwak began using this label, "maneuver warfare" to expand Lind's concept of maneuver doctrine in the same time period that Lind began doing the same thing, in his trip report of June 1979. It is impossible to say which of the two men invented the term "maneuver warfare," or if it even was one of these two. More significant, from this point forward Lind would use the term exclusively, and ultimately it branded the grassroots reform effort in the Marine Corps, the maneuver warfare movement.

During this period Lind also found at least a small audience within the U.S. Army that was receptive to his ideas, several officers within the 82nd Airborne Division. The 1973 Arab-Israeli War suggested that high-technology anti-tank weapons offered new potential for light units to actually "fight tanks and win."[770] After the publication of the 1976 version of FM 100-5, the Army document that started Lind's contrasting of maneuver doctrine with firepower/attrition doctrine, the 82nd Airborne Division began to reinvestigate its role in a future war with the

[769] Luttwak, 86, 88.
[770] U.S. Army, "Airborne Antiarmor Defense," paper, 16 February 1977, Fort Bragg, North Carolina: 82nd Airborne Division. William S. Lind Papers, Collection 4939, Box 16, Folder: "Maneuver AAAD," Marine Corps Archives, 1. Quantico, Virginia.

Soviet Union. The lightness and unique mobility of this parachute unit suggested that its greatest utility would not be to block major armored thrusts of the Warsaw Pact into Germany, but instead to be dropped forward of the main battle line and gain control of key terrain that would channelize enemy advances. There, airborne battalions would set up Armor Annihilation Zones, areas where their anti-tank missiles could be used in concert with tactical aircraft "to begin the attrition of the enemy force forward of the main battle area and between brigades and battalions."[771] Though the parachute division's mission of starting attrition early was fit neatly into the fundamentally attritional doctrine of FM 100-5, there are signs that the airborne tradition of mobility gave its officers a better appreciation of the potential of maneuver than existed in traditional infantry units. Even in 1977, their Airborne Antiarmor concept discussed the dynamic potential of armor in insightful ways. It stated, "Guderian, an avid reader of Liddel [sic] Hart and Fuller, materialized the expanding torrent concept into the Blitzkrieg," and it appreciated the potential for maneuver by airborne units to degrade the effectiveness of the heavy enemy fire they could expect to be directed at them.[772] As time went on, in 1978 elements of the division continued to explore anti-armor concepts, such as in a multi-day conference focused on discussion seminars for company-grade officers.[773] Some fruits of such efforts were manifest in academic research. One example is Major Theodore T. Sendak's Command and General Staff College thesis, "Employment of Airborne Air Cavalry in the Airborne Anti Armor Defense," and his subsequent *Military Review* article of September 1979, "The Airborne

[771] U.S. Army, "Airborne Antiarmor Defense," 3.
[772] U.S. Army, "Airborne Antiarmor Defense," 1-2.
[773] U.S. Army, "After Action Report, 2d Brigade Airborne Antiarmor Defense (AAAD) Seminar, 19-20 September 1978," 30 October 1978, Fort Bragg, North Carolina: Headquarters 2d Brigade, 82nd Airborne Division. William S. Lind Papers, Collection 4939, Box 16, Folder: "Maneuver AAAD," Marine Corps Archives, Quantico, Virginia, 1 to 3-3.

Antiarmor Defense."[774] This work got Lind's attention, and over the course of 1979 and 1980 Lind collaborated with Major Sendak and Major Donald Stamper on a paper titled "A Maneuver-Based Airborne Anti-Armor Defense." It isn't clear if this paper was ever published, but it was reviewed by the Combined Arms Center at Fort Leavenworth and the Assistant Division Commander of the 82nd Airborne Division.[775] In Lind's own words, the effort "was of course unofficial and ignored at Fort Bragg," but the project was significant as "one of my very first attempts to apply maneuver warfare theory."[776] Indeed, while it will be shown that Lind had become aware of Boyd's theory, and also began thinking of its relevance to bureaucracy and policymaking, it was pages from a draft of this paper, written in the months after Lind understood that Marines needed a better conceptual explanation of maneuver warfare, that provide the first evidence that Lind had made a direct connection between Boyd's ideas and maneuver warfare. There he wrote,

> Col. John Boyd, USAF (Ret.), has developed a comprehensive theory of conflict, which, applied to the Airborne Anti-Armor Defense, may permit the Airborne to take maximum advantage of its opponents' weaknesses…
>
> He observed that in any conflict situation all parties go through repeated cycles of observation-decision-action. The potentially victorious party is the one with an observation-decision-action cycle consistently quicker than his opponent's…[777]

[774] Theodore T. Sendak, "Employment of Airborne Air Cavalry in the Airborne Antiarmor Defense" (master's thesis, U.S. Army Command and General Staff College, 1979), William S. Lind Papers, Collection 4939, Box 16, Folder: "Maneuver AAAD," Marine Corps Archives, Quantico, Virginia; and Theodore T. Sendak, "The Airborne Antiarmor Defense," *Military Review* 59, no. 9 (September 1979): 43-51, William S. Lind Papers, Collection 4939, Box 16, Folder: "Maneuver AAAD," Marine Corps Archives. Quantico, Virginia.

[775] Anonymous, "Observations on the Comments on 'A Maneuver Airborne Anti-Armor Defense' Provided by the CAC, Ft. Leavenworth," undated notes, William S. Lind Papers, Collection 4939, Box 16, Folder: "Maneuver AAAD," Marine Corps Archives, Quantico, Virginia; and Richard A. Scholtes, letter to Major Don Stamper, 8 April 1980, William S. Lind Papers, Collection 4939, Box 16, Folder: "Maneuver AAAD," Marine Corps Archives, Quantico, Virginia.

[776] William S. Lind, untitled note, 20 April 2010, William S. Lind Papers, Collection 4939, Box 16, Folder: "Maneuver AAAD," Marine Corps Archives, Quantico, Virginia, 1.

[777] Lind, "Outline of Talk to Marine Command & Staff," 4-5.

These words are remarkably consistent with the explanation that Lind provided in the article "Defining maneuver warfare for the Marine Corps" about half a year later, in March 1980, as is his statement "The Boyd Theory is the theory of maneuver warfare."[778] Many analyses have identified Lind's March 1980 *Marine Corps Gazette* article as a critically important event, but they have missed this important context: the critical connection was made half a year earlier, while Lind was simultaneously trying to develop ideas on maneuver warfare for the U.S. Army.

The "dead hand of the Dupuy faction and synchronization" might prevent Lind's ideas from germinating in the Army, but a critically important seed had been planted, one which would take root in the Marine Corps. Even there, it took some time. The airborne work, largely ignored in the Army, did attract attention in the Marine Corps, in the form of a Command and Staff College thesis titled, "Alternate Defensive Doctrine and Tactics for Light Infantry in NATO" by Major William J. Tehan III. Tehan was a student at the college in the 1979-1980 academic year, and probably established a relationship with Lind after Lind's November 1979 talk to the student body. Tehan's annotated bibliography indicates he was in conversation with Lind, includes Lind's unpublished 1979 manuscript "A Maneuver Airborne Anti-Armor Defense," and shows a close parallel with the contemporary documents in Lind's own papers, including the other Airborne Anti-Armor Defense materials, and an unpublished paper by Steven Canby.[779] Despite being exposed to Lind's connection between the Boyd theory and maneuver warfare, and despite the fact that he invoked many of the same historical sources Lind was referencing, and saw relevance of *Wehrmacht* experiences in World War II as a model for NATO forces, Tehan did not present an argument advocating Lind's concept of maneuver

[778] Lind, "Outline of Talk to Marine Command & Staff," 5; and William S. Lind, "Defining maneuver warfare for the Marine Corps," *Marine Corps Gazette* 64, no. 3 (March 1980), 56.
[779] William J. Tehan III, "Alternate Defensive Doctrine and Tactics for Light Infantry in NATO" (Thesis, Marine Corps Command and Staff College, 1980), 121-128.

warfare, or even acknowledge its existence.[780] While Tehan was critical of doctrine based on attritional assumptions, he ultimately recommended a "Beehive Defense" that would rely on "violent and massed fires from all sides," "achieving surprise without requiring maneuver."[781] The importance of Tehan's paper to this study is that it again establishes that Lind and his ideas were being replicated through a complex network of Marines, soldiers, and defense analysts, with Lind playing a critical connective role for those who showed interest in the topic. It was still taking time, however, for his concept of maneuver warfare to take root.

Another member of Lind's network has figured prominently in the existing narratives of the adoption of maneuver warfare by the U.S. Marine Corps: Captain Steven Miller. Several studies have identified an article Miller wrote in the *Marine Corps Gazette* in 1979 as the start of the maneuver warfare movement. Fideleon Damian's 2001 "The Road to FMFM 1" focuses on the dialog in the *Gazette*, and cites articles written by Miller in October and December 1979, as the "first documented appearance" of the concept of maneuver warfare in the Marine Corps, pointing out that Miller "specifically mentions the Boyd OODA cycle as the cause of maneuver warfare's superiority."[782] Damian's claim that this was the first mention of maneuver warfare in the *Gazette* rests, in part, on an inflated sense of the appearance of the term "maneuver warfare." He erroneously misquotes the titles of the articles as "Winning Though Maneuver Warfare" rather than "Wining through maneuver."[783] Additionally, Damian misses that Miller's articles also make almost exclusive use of the term "maneuver doctrine," just as Lind had been doing, except for one mention of "maneuver warfare" in the very last paragraph of the second article.[784]

---

[780] Tehan, 48-74.
[781] Tehan, 113-114.
[782] Damian, 30-31
[783] Damian, 30.
[784] S.W. Miller, "Winning through maneuver: Conclusion--Countering the defense," *Marine Corps Gazette* 63, no. 12 (December 1979), 63.

Lind, meanwhile, had made use of the phrase "maneuver warfare" not only in his trip report of six months earlier, but also in a letter to the editor of the *Gazette* published in the October 1979 issue. That editorial included excerpts from June 1979 trip report, including the critically important phrase "The basic concept of maneuver warfare may not yet be understood."[785] While Miller's second article shows a good awareness of many of Boyd's ideas, suggesting that Miller had at least heard of "Patterns of Conflict," neither of his articles actually mentions OODA, as Damian maintains they did.[786] Damian's claims that Miller's articles were "the first step" in the Marines at "developing and promoting" a maneuver warfare concept invented by Boyd, while Lind was merely a promoter, are not supported by the evidence. Damian dramatically overstates the importance of Miller's articles at the expense of Lind's intellectual contributions and the progress Marines had already made in the Corps' MTF.[787]

Terry Terriff's 2006 *Journal of Strategic Studies* article, "'Innovate or die': Organizational culture and the origins of maneuver warfare in the United States Marine Corps," focuses on the debate within the *Marine Corps Gazette* in the first years after the end of the Vietnam War, "with the debate itself all but culminating" in Miller's two-part article, where "he argued that the concept of maneuver warfare furnished a practical answer to the problems the Corps was debating."[788] Terriff recognizes that Miller did not use the term maneuver warfare until the December article, and that Lind's *Gazette* editorial had introduced the term in print in October, but otherwise dismisses Lind's contributions. This is, in part, because Terriff's article is explicitly devoted to illuminating the role of organization culture in promoting military

[785] William S. Lind, "Only a beginning," *Marine Corps Gazette* 63, no. 10 (October 1979), 12.
[786] Damian, 31.
[787] Damian, 34.
[788] Terry Terriff, "'Innovate or die': Organizational culture and the origins of maneuver warfare in the United States Marine Corps," *Journal of Strategic Studies* 29, vol. 3 (August 2006), 477.

innovation. He argues the "organizational paranoia" of the Marine Corps, always facing fierce interservice competition which threatened its existence, promoted forward thinking among its officers about its roles and missions. This focus elides the contributions of outsiders like Lind, which are typically highlighted by another model of military innovation, civilian intervention. This bears out in Terriff's analysis, which ends with Miller's 1979 articles, and generally assigns Lind a peripheral role. Lind is highlighted for articles such as "Marines don't write about warfare," decrying Marines' failure to develop new concepts, but Terriff implies Lind is a hypocrite, since he merely "examined several models of mechanization, rather than developing or presenting a new conceptual or theoretical approach for the conduct of war, other than some historical allusions to German forces and their development of *Blitzkrieg*."[789] Terriff's analysis does not explain how Miller's article did anything more than that same thing, except in its allusion to Boyd, which is actually only a feature of the final paragraph of the second article. As a pair, Miller's articles do explain how things may be done to decentralize control, exploit mobility, retain the initiative, and create confusion and disorder through maneuver. Miller also appeals to Soviet doctrine and historical examples, most of which are German. In this respect, they actually show that Miller was promoting maneuverist ideas in very much the same way Lind had been. Terriff also inadvertently admits to a greater role for Lind. While he claims Miller, "ultimately first provided the public description showing how the concepts of maneuver warfare could furnish the Marine Corps with the means to defeat a putative superior enemy," he admits that Lind provided "the initial public germ of the idea." [790] Further, Terriff describes Miller's argument "effectively forms the starting point" of the debate on the merits of the concept of maneuver warfare, but then states it was "Lind's article three months later that clearly

[789] Terriff, 494-495
[790] Terriff, 498,

defined the concept of maneuver warfare."[791] In summary, Terriff privileges Marines, and therefore internal organizational forces, over the evidence of civilian intervention.

Ian's Brown's 2018 *A New Conception of War* doubles down on this interpretation. Brown holds the Marine Corps' culture of adaptation for the sake of institutional survival after the Vietnam War to be one of two major threads leading to the Maneuver Warfare Movement, the other being the ideas of John Boyd. It is natural, then, that Brown's research would feature Miller, a young officer who during this era wrote about the need to reevaluate the Marine Corps' role in national defense and its approach to fighting. Brown observes, "Stephen Miller's name has long been associated with the early stages of the maneuver warfare debate," and then Brown sets out to rectify a problem: "little is known of his background or how he came to the ideas later credited with igniting a historic institutional discussion."[792] To fill this void, informed by an interview he conducted of Miller, Brown provides a sketch of Miller's early career as a Marine armor (tank) officer, and more thoroughly documents the progression of Miller's developing ideas in *Gazette* articles he wrote between 1974 and 1979. In Brown's view, Miller was one of the Marines who was "already experimenting with maneuver techniques in the field," and as they "became aware of Boyd's ideas, they folded them into their embryonic discussion of victory by maneuver."[793] Brown demonstrates how Miller's articles appreciated the importance of deception and morale advantages. He shows that Miller saw the potential of maneuver and tactical mobility, was attracted to "what would become the standard *attrition versus maneuver* dichotomy [emphasis in the original]," recognized the value of armored vehicles for their psychological impact, and promoted the mechanization of amphibious forces.[794] While using

[791] Terriff, 497-498.
[792] Brown, 76.
[793] Brown, 61-62.
[794] Brown, 63, 70, 77-80. Quote drawn from page 80.

these as examples of Miller being primed to accept Boyd's ideas, Brown does not allow that some of them, particularly the firepower/attrition versus maneuver dichotomy, were actually manifestations of Lind's influence, probably on Miller directly, and certainly also through the professional discourse about mechanization. Brown does credit Lind with introducing Miller to Boyd's works, and shows how Miller's *Gazette* articles from the Fall of 1979 suggest he had direct exposure to Boyd, with the articles' emphasis on creating confusion and disorder, and explicit use of terms such as "high tempo" and "harmony."[795] At the same time, Brown pays no special notice to Miller's emphasis on German history in these articles, which could just as well speak to Lind's influence. Like Damian and Teriff, Brown does not convincingly show that Miller was the person actually bringing these ideas together in a comprehensive new way, as Lind was certainly doing by November 1979, and would do conclusively in print in March 1980.

These analyses, which privilege the forward thinking of Captain Stephen Miller between 1975 and 1979, highlight maneuverist themes in his articles, bolstering the notion that the concept of maneuver warfare originated with Boyd, but was developed by Marines. This reinforces the prevailing narrative that elements in Marine thinking after the Vietnam War primed them to accept, in Brown's words, Boyd's "grabby concept" of maneuver warfare. What they fail to recognize is that Lind was an important part of the context for these ideas, if not the source for many of them. Certainly, Lind does not deserve sole credit for getting the Marine Corps to experiment with mechanization, but he was a strong promoter of it, and the Marine Corps was responsive to his congressional influence, so much so that the Marine Corps identified Lind as the initial impetus for its force structure review and experimentation with mechanization. Further, Lind's articles and visits to Marine bases, network of Marines he cultivated, and

[795] Brown 81-83.

promotion of some of Boyd's ideas, were all part of the context in which Marines were learning and writing about these early maneuver concepts. Indeed, Miller himself was not only an armor officer, but was assigned to Marine Corps Base Twentynine Palms, and was a participant in the Mechanized Task Force experiments at the time he came into contact with Lind and Boyd's ideas.[796] Miller's articles endorsing maneuver doctrine were undoubtedly affected by those experiences. It was ultimately Lind, then, who not only shaped the thinking of Miller and others along maneuverist lines, but also identified the need for a better conceptual explanation of how maneuver warfare worked, a theory of maneuver warfare. It was Lind who, while working simultaneously with Marines and with Army officers of the 82nd Airborne Division, first grafted in the ideas of John Boyd, originally as the ODA loop. To understand how the connection between maneuver warfare and the Boyd cycle was ultimately made, requires turning back the clock to examine the relationship between Lind and Boyd.

**Lind's Relationship with Boyd**

It is not clear exactly when Lind first met John Boyd. In one interview Lind described their first interaction to be over technical matters in aviation sometime between 1973 and 1976, most likely while Boyd was still wearing an Air Force uniform.[797] The first archival evidence of any direct correspondence between them is a memorandum from Boyd on October 11, 1978. This letter centers on technical questions relating to aviation weapons systems and training. It shows nothing more than one would expect to routinely occur between a Congressional staffer interested in defense issues and a member of the Department of Defense's technical

[796] Lind, interview, 29 January 2020.
[797] Lind, interview, 28 October 2019. In Lind, interview, 29 January 2020, Lind placed his first contact with Boyd as occurring after Lind's 1977 *Military Review* article introducing the concept of maneuver warfare, probably in 1977 or 1978. This is not consistent with the other evidence that follows.

bureaucracy.[798] Other evidence suggests Lind probably first heard Boyd deliver "Patterns of Conflict" sometime close to the end of 1976, after Lind had developed the dichotomy of attrition/firepower doctrine and maneuver doctrine, and while Boyd's "Patterns of Conflict" was just a few months old. This is based on Lind's recollection that when he experienced the briefing for the first time, it had grown to more than an hour long, but was still far shorter than the final version.[799] By January 1977 Boyd's brief had grown to 52 slides, and began including key concepts that Lind would much later closely embrace, but there is no proof that he was aware of these concepts for another two years.[800] Together this suggests that Lind first saw one of the earliest versions of "Patterns of Conflict," in the last months of 1976, but did not sit through the brief again for quite some time afterwards. This tedious reconstruction of when Lind was exposed to Boyd's ideas and began to incorporate them is critically important, not just because it details the intellectual lineage of maneuver warfare, but also because it reveals much about the relationship between Lind and Boyd. It shows just how little contact they had with each other in the early years from 1976 to 1980, when both of them began evolving ideas about maneuver warfare so rapidly.

In December 1976, even as "Some Questions for TRADOC" was awaiting publication with the specific assertion that maneuver doctrine could "break the sprit and will of the opposing high command by creating unexpected and unfavorable *operational* or *strategic* situations [emphasis added]," Lind drafted another article titled, "Some Thoughts on Tactics."[801] In it,

[798] John R. Boyd, Memorandum to William S. Lind, 11 October 1978. William S. Lind Papers, Collection 4939, Box 13, no folder. Marine Corps Archives, Quantico, Virginia.
[799] Lind, interview, 29 January 2020, states that when Lind first saw the brief, "it was an hour plus, but I don't think it was more than three hours."
[800] John R. Boyd, "Patterns of Conflict, Warp VII." January 18, 1977, John R. Boyd Collection, Collection 2062, Box 4, Folder 11: Warp VII: Patterns of Conflict, 18 January 1977. Marine Corps Archives, Quantico, Virginia, slide 50.
[801] Lind, "Some Doctrinal Questions for the United States Army," 58.

Lind asked if it was possible to apply maneuver doctrine to tactics, which would mean devising a doctrine "based not on closing with and destroying the enemy through fire and maneuver, but rather on destroying the enemy's mental cohesion and will through fire, maneuver, and other means." [802] Lind suggested that factors like maneuver and surprise might have different roles in tactics than they do in operations and strategy. The document is significant not for any answers it suggests, but rather for the questions Lind posed, and the fact that they were left unanswered. Lind sketched four lines of inquiry. Collectively they were searching for the relationship between surprise, maneuver, vulnerability, and mental fatigue produced by continuous operations. It is possible that experiencing "Patterns of Conflict" sometime in this same period inspired these questions, for Boyd was just beginning to explore these same issues, and had yet to suggest an answer. That answer, it will be shown, was Boyd's Observation-Orientation-Decision-Action (OODA) loop, which Lind would eventually embrace as the theoretical explanation linking these elements together, the undergirding explanation for how maneuver warfare worked. Though Boyd began introducing its proto-concept, ODA, in January 1977, and had completely replaced it with OODA by May 1978, there is no evidence that Lind was aware of either concept prior to February 1979.

Even though Lind experienced Boyd's early ideas in "Patterns of Conflict," before Boyd introduced ODA or OODA and provided the answer to Lind's theoretical question, Lind quickly gravitated to Boyd's ideas. As he would later say of his early contact with Boyd's thinking,

> I was immediately very much impressed with the work John was doing. As he rightly claimed, he wasn't an analyst, he was a synthesizer. And he was right when he said, 'Washington is a city of ten thousand analysts but no synthesizers.' And, of course, the more he was influenced by the Germans, the more I was interested in what he was doing.[803]

[802] William S. Lind, "Some Thoughts on Tactics," unpublished draft paper, 13 December 1976. William S. Lind Papers, Collection 4939, Box 18, Folder 2. Marine Corps Archives. Quantico, Virginia, 1.
[803] Lind, interview, 29 January 2020.

The gravitation was mutual, for Lind's deep grounding in German military history made him a valuable resource as Boyd began to read more deeply into *Blitzkrieg* and the German way of war. Lind continued, "…through the whole of this, my basis has always been the Germans, much more so than Boyd's was. But the Germans became more and more the source for Boyd's work."[804] Circumstantial evidence suggests that Lind was, indeed, shaping Boyd's research. In his February 1978 *Gazette* article, "Marines don't write about warfare," Lind suggested some titles for Marine officers to start educating themselves, including works by V.Y. Savkin, Clausewitz, Liddell-Hart, Kesselring, and Rommel. Four of those five specific titles had shown up on Boyd's source list in the previous seventeen months, and the last appeared within the next eighteen months.[805] This shows that Lind and Boyd were reading some of the same things, but there is not enough evidence to argue that Lind was a primary influence on Boyd's thinking. Among other reasons, Pierre Sprey, one of Boyd's Acolytes and a close co-worker, was, in Lind's words, "very familiar" with German military history, and may have influenced Boyd's awareness of that subject as much as Lind did.[806] Also, as chapter 4 showed, briefing "Patterns of Conflict" was a deeply interactive experience which promoted the growth and evolution of Boyd's ideas, and as time went on his presentations were bringing him into contact with more

[804] Lind, interview, 29 January 2020.
[805] Lind, "Marines don't write about warfare," 14. Liddell-Hart's *Strategy* first appeared on Boyd's source list around September 1976, in John R. Boyd, "Patterns of Conflict, Version #3," circa 1976, John R. Boyd Collection, Collection 2062, Box 4, Folder 5: Patterns of Conflict, Version #3. Marine Corps Archives, slide 3. Savkin's *The Basic Principles of Operational Art and Tactics* first appeared in John R. Boyd, "Patterns of Conflict, Warp V," 17 November 1976, John R. Boyd Collection, Collection 2062, Box 4, Folder 8: Warp V: Patterns of Conflict, 17 November 1976. Marine Corps Archives, slide 3. Clausewitz's *On War* first appeared in John R. Boyd, "Patterns of Conflict, Warp IX," 10 May 1977, John R. Boyd Collection, Collection 2062, Box 4, Folder 17: Warp X: Patterns of Conflict, 10 May 1977. Marine Corps Archives, slide 9. Kesselring's *Manual for Command and Combat Employment of Smaller Units* first appeared in John R. Boyd, "Patterns of Conflict, Warp XI," 12 October 1977, John R. Boyd Collection, Collection 2062, Box 5, Folder 11: Warp X: Patterns of Conflict, 12 October 1977. Marine Corps Archives, slide 11. Rommel's *Infantry Attacks* first appeared in John R. Boyd, "Patterns of Conflict," July 1979, John R. Boyd Collection, Collection 2062, Box 6, Folder 1: Patterns of Conflict, July 1979. Marine Corps Archives, slide 12.
[806] Lind, interview, 29 January 2020.

and more people who were interested in its feature topics, like blitzkrieg. For the sake of this analysis, it is sufficient to point out that Lind and Boyd were in contact, and during this period Lind's deepest expertise and passion intersected with a topic at the center of Boyd's intense historical inquiry.

There is direct evidence of Lind and Boyd sharing common learning experiences on the subject of German history in World War II during this period: the Battelle Corporation's contracted interviews of former *Wehrmacht* officers between October 1976 and May 1979. Chapter 4 showed these interviews, initiated by the Pentagon office where Boyd worked, were an important source of ideas during Boyd's formative period for "Patterns of Conflict." This was especially true as the interviews turned from the technical and tactical matters of anti-tank aircraft to the wider German experience fighting the Soviets on the Eastern Front in World War II. The only positive evidence of Lind participating in the interviews comes from the last one, in May 1979, but it is likely that he participated in several of them. Over time he certainly became intimately familiar with all of them, so much so that he added each one to his list of recommended maneuver warfare readings.[807] It is not surprising that concrete traces of Lind's participation became more definite over time, since, as Lind stated, his interest in Boyd's activities corresponded with Boyd's growing interest in German military history.[808] Lind may have been an expert in German military history, but he benefitted from these events, learning from the direct contact the interviews provided with *Wehrmacht* leaders. For example, prior to being exposed to General Hermann Balck's interview, Lind had asserted that the German's

[807] Lind, *Maneuver Warfare Handbook*, 58-59, 63-64.
[808] In Lind, interview, 29 January 2020, Lind states that he does not recall being involved in the Battelle interviews, and may not have been aware of them until he read the published transcripts. The analysis that follows, however, shows definitive proof he attended and actively participated in at least one interview, that of General Mellenthin, in May 1979.

developed maneuver doctrine in the period between the world wars. From Balck Lind learned that the origins of maneuver warfare were actually in the German infiltration tactics developed in the last years of World War I.[809] From that point forward, Lind revised his explanation to stress the German stormtroops as the inception of maneuver warfare.

In the case of the May 1979 Battelle interview, the one in which there is direct evidence of Lind's participation, the nature of his participation is revealing. Lind helped the interviewer develop some of the concepts Boyd was becoming most interested in. For example, Lind redirected a critical discussion. When others were asking General Mellenthin about tangible aspects of communications and information management, such as the where a German commander would position himself during a battle, Lind shifted the conversation into a more abstract conversation about the nature of German command, asking,

> Bill Lind: We notice when we look at German operations in World War II, that the German forces were marked by an ability to make tactical decisions very quickly and that they appeared always to make the decision on the lowest possible level of command. Was this a basic principle of the German command system always to try to make the decision at the lowest possible level so that it could be made as quickly as possible?
>
> von Mellenthin: Yes, you are right, this was a principle in our operations to make the decision as low as possible.[810]

Though Lind and Boyd had both been showing interest in fostering subordinate initiative for some time, this was just one month before Lind first specifically named the concept in any of his writings, as "mission-type orders," and highlighted it as a vital development in the Marines' MTF experiments.[811]

---

[809] Lind, interview, 28 October 2019.
[810] Battelle Columbus Laboratories, *Armored Warfare in World War II Conference Featuring F.W. von Mellenthin, Generalmajor a.D., German Army* (Alexandria, VA: Defense Technology Information Center, 1985), 11. Hereafter "Battelle, *Armored Warfare in World War II Conference Featuring F.W. von Mellenthin."*
[811] Lind, "Report on Trip to Marine Corps Base 29 Palms, May 30 – June 1, 1979," 4.

Later in the Mellenthin interview, Lind attempted to get the German to confirm a key principle both he and Boyd had been advancing in their own work, asking,

> Bill Lind: General, in the counterattacks you discussed, you emphasized how the attempt was always made to hit the Russian penetration in the flank or in the rear. In your view, what was the decisive point in the counterattack? Was it the destruction that was inflicted on the enemy by firepower or was it the disorganization and disruption of his cohesion that was caused by appearing suddenly from an unexpected direction?
> von Mellenthin: The main point was to destroy the enemy….[812]

These two dialogs show that Lind had mixed success in getting Mellenthin to validate his developing views on warfare. Their real value to this study is that they show a close parallel between Lind's and Boyd's thinking at this time, a time when the Battelle interviews were one of the few things bringing them into contact with each other. Lind's deep grounding in German military history and linguistics was also highlighting nuances Boyd surely would have missed otherwise. For example, Lind asked von Mellenthin to explain the differences between three terms that Americans generally translated simply as "counterattack": *Gegenangriff, Gegenschlag*, and *Gegenstoss.* This led to discussion about purpose and nature of counterstrokes, a key element that would later come to define maneuver warfare.[813]

The image that emerges is that Lind and Boyd were on parallel paths in their intellectual inquiries and in their interests in promoting a more effective way for the U.S. military to approach warfare, but they were not close collaborators, at least before the formation of the Military Reform Institute in 1981. The latter aspect of this assertion is borne out by the way Lind gradually incorporated Boyd's OODA concept as a central element in his own promotion of maneuver warfare.

[812] Battelle, *Armored Warfare in World War II Conference Featuring F.W. von Mellenthin*, 28.
[813] Battelle, *Armored Warfare in World War II Conference Featuring F.W. von Mellenthin*, 35.

Though Lind likely first heard "Patterns of Conflict" in the fall of 1976, one of Boyd's earliest versions, the first mention of any of Boyd's ideas in Lind's work was a discussion of ODA, not OODA, in a talk at the Air Force Command and Staff College in February 1979. As Chapter 4 showed, this was two years after Boyd first introduced ODA as a key feature of "Patterns of Conflict in January 1977, and nine months after Boyd began replacing ODA with OODA in May 1978. Boyd had completely replaced all mention of ODA with OODA by July 1978, but did not begin integrating an explanation of maneuver conflict in his brief until November 1978. Since December 1976 Lind had been searching for a conceptual mechanism to explain the workings of his concept of maneuver doctrine. Though later, by November 1979, he would clearly associate the two stating, "The Boyd Theory is the theory of maneuver warfare,"[814] Lind did not make that connection in February 1979. This was probably because his last exposure to the brief was to a pre-OODA version, at least six months before Boyd synthesized his concept of maneuver conflict and directly associated the two. Consequently, while Lind was deeply impressed by the ODA concept, he only appreciated its relevance in a much more general way.

In his February 1979 speech Lind used Boyd's ODA concept to explain both operational and policy shortcoming of the U.S. military, but made no direct connection to maneuver doctrine. With the focus, "Main subject: look at Boyd theory in two contexts," he declared the "Soviets have 'Boyd cycled' us" in aviation by developing "effective ground-based air defense systems," "so that we can no longer oppose action which we need to oppose," rendering "tac[tical] air action out of sync with ground battle."[815] Lind provided a naval example as well:

[814] Lind, "Outline of Talk to Marine Command & Staff," 5.
[815] William S. Lind, "Notes for Talk at Air Force Command and Staff, Feb. 1, 1979," lecture notes, 1 February 1979, William S. Lind Papers, Collection 4939, Box 26, no folder. Marine Corps Archives, Quantico, Virginia, 1-2.

"WE [sic] have a surface/shore attack Navy to fight a submarine navy."[816] Most interesting is his discussion of ground warfare, where he argued Soviet "maneuver doctrine will render our tactical successes irrelevant," showing that he was thinking of maneuver as operational avoidance of battle, not a technique for winning battle.[817] In each of these cases, Lind saw the U.S. as losing a Boydian competition because it had shaped its force in ways that left it mismatched to specific enemy doctrines and force structures. These are matters of military policy and doctrine, above strategy, operations, and tactics. This directly related to the second context in which Lind argued the Boyd theory applied to competition with the Soviets: the formal, bureaucratic U.S. defense decision-making process was "dominated by intra-institutional concerns," whereas the Boyd theory meant the U.S. instead needed a "real decision-making process" to deal with "objective issues" for the "effective consideration of real defense needs and potentials."[818] Collectively, this evidence shows that in February 1979, when Lind first mentioned Boyd's ideas in any of his work, he was certainly impressed by ODA, but he was thinking of the Boyd cycle as it applied to policy-making and development of doctrine, and possibly strategy and operations, but not tactics.

Three months later, Lind drafted an article that was meant to convert the essence of the "Boyd theory" into a printed argument accessible to a wide audience. Though never published, this essay, titled "Bureaucratic Tactics" was, in Lind's words, "a short concept paper on a new tactics, based on the Boyd theory."[819] Despite the title and this claim, the paper was not really

[816] Lind, "Notes for Talk at Air Force Command and Staff, Feb. 1, 1979," 1-2.
[817] Lind, "Notes for Talk at Air Force Command and Staff, Feb. 1, 1979," 1.
[818] Lind, "Notes for Talk at Air Force Command and Staff, Feb. 1, 1979," 3.
[819] William S. Lind, "Bureaucratic Tactics," unpublished paper, undated, William S. Lind Papers, Collection 4939, Box 26, no folder. Marine Corps Archives, Quantico, Virginia, cover letter. Interestingly, the cover letter is addressed to an unknown party who Lind hoped to entice to sign the paper he wrote, in hopes that person would "help push it forward to its next required stage of development, testing in maneuvers," and "so credit can be given where it is due." Though it cannot be proven, this evidence suggests that Lind was writing to Boyd.

about tactics, at least in the sense of fighting. In this paper, Lind showed a strong awareness of Boyd's key ideas expressed in "Patterns of Conflict" as given before November 1978, before Boyd had expanded the ODA cycle into the OODA Loop and highlighted maneuver conflict. Lind even explained how Boyd's observations on fighter tactics had led him to his insights on fast transients and the ODA cycle, and stated, "The Boyd theory, that conflict is in essence competitive observation-decision-action cycles, explains many forms of combat on the tactical, operational, and strategic levels. It offers a basis for the development of new and improved battlefield tactics and for a better approach to operations."[820] The bulk of the paper, however, was devoted to the "Bureaucratic" in "Bureaucratic Tactics," explaining how military forces are actually engaged in long-term competitions between bureaucracies. These contests, he explained, stretch across peacetime and war as competitions to promote military effectiveness, "generating combat power from total resources."[821] Lind summarized, "The essence of bureaucratic tactics is encouraging the enemy to follow his own least militarily useful, most time-consuming bureaucratic habits until he lengthens his own observation-decision-action cycle to the point of total ineffectiveness."[822] In this article, though Lind suggests that ODA might have tactical and operational relevance, he makes no mention of the concept of maneuver doctrine he himself first introduced almost three years earlier, and focuses on policy-making. Lind was clearly highlighting the Boyd cycle as it applied to the overarching, systemic issues in military reform. Significantly, this was the very same month that Lind had written that the major obstacle to Marine progress in mechanized experimentation was that Marines didn't understand maneuver warfare. While Lind obviously understood just how expansive and universal Boyd's

[820] Lind, "Bureaucratic Tactics," 2.
[821] Lind, "Bureaucratic Tactics," 3-4.
[822] Lind, "Bureaucratic Tactics," 3.

ideas were, curiously this one lecture and unpublished paper from the first half of 1979 are the only evidence of him showcasing Boyd's larger message about strategic competition. Lind was on the verge of making a new connection, one that was in essence a flipping of a switch to apply the Boyd cycle in a very different way. From his next mention onwards, starting in the fall of 1979 on the "Maneuver Airborne Anti-Armor Defense" paper, Lind would exclusively highlight ODA, and later OODA, as the theoretical explanation for how maneuver warfare worked in tactical and operational applications. It was his work with the 82nd Airborne that led him to make the connection, one that would address the conceptual gap handicapping Marine progress.

Lind's failure to associate the general relevance of Boyd's OODA concept, now at least a year old, with Boyd's explanation of maneuver conflict, or even with Lind's own preexisting concept of maneuver doctrine, is entirely understandable. When Lind did incorporate ODA and maneuver warfare, the fall of 1979, it must have been based upon a recollection of "Patterns of Conflict" that was more than a year old, or some similar earlier contact with Boyd's ideas. Boyd had fully replaced ODA with OODA and added in his explanation of maneuver conflict by November 1978. It makes sense that Lind and Boyd would only have episodic contact on matters of theory in this period. As a Congressional staffer involved in may issues, Lind would have had limited time to attend Boyd's brief, which now consumed several hours every time he gave it. In 1977 and 1978 Lind was also devoting enormous time and effort to other projects. He was revising Taft's 1976 "White Paper on Defense: A Seapower Strategy for the United States" into a product that would be jointly published by Taft and Lind's new boss, Senator Gary Hart, as the 1978 "White Paper on Defense: A Modern Military Strategy for the United States."[823] In addition his travels to various Marine Corps bases to observe progress in

[823] Lind, "White Paper on Defense," 1978.

mechanized experimentation, and pushing the Marine Corps to act through his Congressional influence, Lind was also working with the Navy, Army, and to a lesser degree, Air Force. The idea that contact between Lind and Boyd was limited in this period is also consistent with the documentary evidence, and with the nature of their relationship even later, which was fundamentally different than Boyd had with his other colleagues. Boyd was infamous for dominating the attention of his Acolytes, often in hours-long phone calls late at night to expound upon new ideas. With Lind, Boyd had a more controlled relationship, even when they entered a period of closer collaboration later on. As Lind related,

> Now, I was in a different situation from the Acolytes. The Acolytes had to take the phone conversation whenever it came, even at two in the morning, and they could never say "OK, I'm out of time." I could and did, because I had an independent power base that John needed, …through the fact that I was working for Congress. …I would get the phone calls [in the daytime] and I would usually let him go for about forty-five minutes…and then I would be saying, "Well, I've got to go, John," and so forth. And he'd say, "Fine." That was not a problem with me. The Acolytes couldn't do that.[824]

Later on, Boyd and Lind found common interest in what would become the Military Reform Movement. When the Military Reform Caucus was formed in 1981, Lind counted Boyd among the five men at the intellectual core behind that effort.[825] A key product of that group, the briefing they assembled in 1981, bears the hallmarks of Boyd's style, and Lind described that they worked closely together on it.[826] During this critical period before 1980, however, when Lind and Boyd were each forming key ideas that would become associated with maneuver warfare, Lind enjoyed a more detached intellectual relationship with Boyd. It is no surprise, then, that Lind was not up to date on Boyd's latest thinking on ODA, OODA, and maneuver

[824] Lind, interview, 29 January 2020.
[825] Gary Hart, with William S. Lind. *America Can Win: The Case for Military Reform* (Bethesda, MD: Adler & Adler, 1986), 4-7; Lind, interview, 29 January 2020.
[826] John R. Boyd and others, "Briefing of the Congressional Military Reform Caucus," undated, William S. Lind Papers, Collection 4939. Unnumbered box at shelf location C/7/L/5/3, unnumbered and unlabeled manila folder. Marine Corps Archives, Quantico, Virginia.; Lind, interview, 29 January 2020.

conflict, when Lind himself began making the critical connection between ODA and his own concept of maneuver warfare in the fall of 1979, and then published the article "Defining Maneuver Warfare for the Corps" in March 1980. How Lind connected those two ideas in that seminal article had a big impact on the maneuver warfare movement, and how Lind's and Boyd's roles would be understood later on.

**"Defining maneuver warfare for the Marine Corps"**

In the spring of 1976 Lind invented the dichotomy of firepower/attrition doctrine and maneuver doctrine to help the U.S. Army understand how it had been captured by modes of warfare that simply would not work in a war against the numerically superior Warsaw Pact. Lind was advocating adoption of the *Wehrmacht's* style of mechanized, high-mobility warfare, and though he found the Army resistant to his ideas, Lind did manage to promote experimentation with mechanization within the U.S. Marine Corps. While some progress had been made on the "how" of a maneuver doctrine, Lind came to appreciate that his efforts within the Marine Corps were handicapped without an overarching explanation of how maneuver warfare actually worked. Maneuver doctrine concepts such as exploiting mobility, mission orders, and recon-pull lacked coherence because there was no unifying logic to tie them to capitalizing on speed and initiative, and achieving surprise to disrupt the moral and mental cohesion of an enemy. This explanation was ultimately provided by Boyd's ODA, and later OODA, concept. Work Lind did with Major Don Stamper of the U.S. Army in the fall of 1979 shows he was starting to make the connection. In an apparent draft of "A Maneuver-Bases Airborne Anti-Armor Defense" Lind wrote,

> Keep in mind that maneuver is <u>relational</u> movement. If your rate-of-advance on the ground is slower that that of your opponent, you can still maneuver more rapidly if you observe more quickly and more accurately and if you decide more quickly and correctly.

> Maneuver is composed of observation-decision-action; movement is only the action part. You can compensate for deficiencies in one element by superiority in others.[827]

Lind was clearly referencing Boyd's theory. If his mention of ODA does not make that clear, other language is highly evocative of Boyd, such as when Lind wrote, "The object is to pull the enemy commander apart by facing him simultaneously with a deteriorating situation in his attacking units as his penetrations are disrupted by flank and rear attacks, and with an 'expanding torrent' of attacks into the rear of his division."[828] By the time he spoke to the Marines in Quantico in November 1979, Lind had clearly made the connection, for several pages from a more finished version of the airborne paper attached to his lecture notes state,

> …Boyd began to evolve his theory of conflict. He observed that in any conflict situation all parties go through repeated cycles of observation-decision-action. The potentially victorious party is the one with an observation-decision-action cycle consistently quicker than his opponent's (including the time required to transition from one cycle to another). As this party repeatedly cycles inside his opponent, the opponent finds he is losing control of the situation… Suddenly, he realizes there is nothing he can do to control the situation, or turn it to his advantage. At that point, he has lost. Often, he suffers a mental breakdown in the form of panic and is defeated before he is destroyed physically.[829]

The shift from conceiving of maneuver warfare as a mode that somehow attacks the cohesion of enemy units to an approach that specifically does so through the mind of the enemy commander is clear. This is even more evident in the statement, "The goal is disruption of the enemy's vital cohesion--disruption--not piece-by-piece physical destruction. The objective is the mind of the enemy commander, not the bodies of his troops."[830] This was a critical development in Lind's thinking about how maneuver warfare worked. If the reference to ODA in the fall of 1979 doesn't make it clear enough that this idea came from Boyd, Lind made it clear to another

[827] Anonymous, untitled draft pages, undated, William S. Lind Papers, Collection 4939, Box 16, Folder: "Maneuver AAAD," Marine Corps Archives, Quantico, Virginia, one of several unnumbered pages.
[828] Anonymous, untitled draft pages, undated, William S. Lind Papers, Collection 4939, Box 16, Folder: "Maneuver AAAD," Marine Corps Archives, Quantico, Virginia, 13.
[829] Lind, "Outline of Talk to Marine Command & Staff," 4-5.
[830] Lind, "Outline of Talk to Marine Command & Staff," 6.

Marine audience less than a year later that Boyd had, indeed, been the source of this critical inspiration. His lecture notes for that presentation state, "New development: Boyd. German focus was disruption of enemy unit. Did not understand what they were doing to mind of enemy commander. But now we have some insight through Boyd."[831] All of this explains why, in the fall of 1979, Lind first wrote, "The Boyd Theory is the theory of maneuver warfare."[832] This is the origin of the phrase cited in so many other studies for its appearance in the March 1980 *Marine Corps Gazette*, where Lind finally presented a published explanation meant to rectify the problem that Marines did not understand what maneuver warfare was.

Several analyses have identified Lind's 1980, "Defining maneuver warfare for the Marine Corps," as a critical article. Damian and Brown, both tracing the debate in the *Marine Corps Gazette* back to its origins, highlight the article as a contribution which spurred much of the subsequent discussion.[833] Brown explains the article was significant because it "helped frame the debate that followed."[834] Some have also highlighted Lind's statement, "The Boyd Theory is the theory of maneuver warfare" to argue that Lind was little more than a promoter of Boyd's ideas.[835] It was indeed a key statement, but a closer look at this article, in the context described above, is necessary to evaluate the accuracy of these claims.

Curiously, one thing that Lind did not do in "Defining maneuver warfare for the Marine Corps" was actually define maneuver warfare, updating the definition he had originally offered for maneuver doctrine in his March 1977 *Military Review* article. Instead, Lind *describes* maneuver warfare, explicitly setting out to rectify confusion surrounding the recent appearance

[831] William S. Lind, "Speech to Amphibious Warfare School, September 18, 1980," lecture notes, 18 September 1980. William S. Lind Papers, Collection 4939, Box 25, no folder. Marine Corps Archives, Quantico, Virginia, 4.
[832] Lind, "Outline of Talk to Marine Command & Staff," 5.
[833] Damian, 48-49, Brown, 124-125.
[834] Brown, 124-125.
[835] Brown, 83, 124-125.

of that term in the *Gazette* by providing a "review of what this term means and why it's important to the United States Marine Corps."[836] Lind's article presented maneuver warfare as "an overall concept or 'style' of warfare" directly opposed to the firepower-attrition style, and contrasts the two using historical examples. Lind highlighted that attrition is a "mutual casualty inflicting and absorbing contest," where the "The conflict is more physical than mental" and "Efforts focus on the tactical level…," which is to say battle, the actual clash of forces and infliction of destruction.[837] Lind then went on to describe its opposite,

> In contrast, maneuver war is warfare on the model of Ghengis Khan, the German blitzkrieg and almost all Israeli campaigns. The goal is destruction of the enemy's vital cohesion—disruption—not piece-by-piece physical destruction. The objective is the enemy's mind not his body. The principal tool is moving forces into unexpected places at surprisingly high speeds. Firepower is the servant of maneuver, used to create openings in enemy defenses and, when necessary, to annihilate the remnants of his forces after their cohesion has been shattered.
>
> Maneuver conflict is more psychological than physical. Effort focuses more on the operational than on the tactical level.[838]

Following this basic description, Lind did go on to provide a definition, not of maneuver warfare, but of maneuver, writing,

> A key to understanding maneuver warfare is to realize that not all movement is maneuver. Maneuver is *relational* movement. Maneuver is not a matter of simply moving or even of moving rapidly. Maneuver means moving and acting *consistently more rapidly* than the opponent.[839]

In this passage, Lind seeks to clarify the doctrinal ambiguity in the terms movement and maneuver, but does it in a significant way. Where Luttwak had defined it as relational movement to pit strength against weakness, something that seemed largely spatial but could also be interpreted conceptually, Lind emphasized that maneuver is relative movement not just in

[836] Lind, "Defining maneuver warfare for the Marine Corps," 55.
[837] Lind, "Defining maneuver warfare for the Marine Corps," 55.
[838] Lind, "Defining maneuver warfare for the Marine Corps," 56.
[839] Lind, "Defining maneuver warfare for the Marine Corps," 56n3.

space, but in time. This explanation was clearly influenced by Boyd's long-standing insistence that conflict does not take place merely in space, but in Mind-Space-Time. Lind makes the connection clear in the next paragraphs, which are worth quoting at length,

> Recently, the concepts behind maneuver war have been organized and expanded into an overall theory of conflict. This theory was developed by Col John Boyd, USAF (Ret.) and is appropriately known as the "Boyd Theory."
>
> Col Boyd was the father of energy management air combat tactics. More recently he has devoted himself to studying the nature of conflict in general. He observed that in any conflict situation all parties go through repeated cycles of observation-decision-action. The potentially victorious party is the one with an observation-decision-action cycle consistently quicker than his opponent's (including the time required to transition from one cycle to another). As this party *repeatedly* cycles inside his opponent, the opponent finds he is losing control of the situation. Because of his longer cycle time, his reaction is facing a later action by the faster party than that which it was intended to oppose. Instead of achieving convergence with the first party's action, he finds himself facing ever-widening divergence. Suddenly, he realizes there is nothing he can do to control the situation or turn it to his advantage. At that point, he has lost. Often he suffers mental breakdown in the form of panic and is defeated before he is destroyed physically.
>
> The Boyd Theory is the theory of maneuver warfare. In maneuver war, if the enemy is destroyed physically (and often that is not necessary), that is not the decision but merely the outcome. The real defeat is the nervous/mental/systemic breakdown caused when he becomes aware the situation is beyond his control, which is in turn a product of our ability consistently to cut inside the time of his observation-decision-action cycle.

In language mirroring what he had written about a maneuver-based airborne concept the previous fall, Lind made it clear that Boyd's ODA cycle provided the theoretical explanation for why maneuver warfare works, showing how embracing a bias for quick action would outpace an adversary and serve to destabilize that adversary's ability to decide on appropriate countermoves. If done consistently, this worsens the situation until adversary command and control systems are brought to morale and mental collapse, even without significant physical destruction. This was the unifying explanation that tied together concepts which had previously seemed only loosely related, such as focus on speed and surprise, the importance of the moral element of war and cohesion, retaining the initiative, decentralized command and control, and ensuring firepower served maneuver rather than maneuver serving firepower.

The rest of the article really offered Marines little new to think about, except that it tied together several other arguments Lind had been making for mechanization, now under the concept of maneuver warfare. Lind assured the Marines reading the *Gazette* that "In many scenarios Marines are likely to be outnumbered in men and material" and "An attritional contest is not promising for the outnumbered force, while maneuver makes quantitative factors less important by striking at the enemy's mind."[840] Lind reminded them that a key to being able to implement such an approach to warfare would be embracing the German concept of *Auftragstaktik*.[841] Lind also addressed a misconception which had obviously arisen from the close association of mechanization and maneuver doctrine concepts over the last four years. True to form, Lind used German history as a tool to make his point, clarifying,

> It is sometimes mistakenly thought that maneuver warfare automatically means armored warfare. To be sure, foot infantry cannot fight effective maneuver war in open terrain. But in rugged terrain, maneuver concepts apply fully to infantry warfare. Indeed, maneuver war was first manifested in the West in this century during World War I by German foot infantry in so-called infiltration "von Hutier" or "soft-spot" tactics. The World War II blitzkrieg differed little in concept from these early infiltration tactics, merely substituting tanks for storm troops and achieving the higher rates of advance permitted by mechanization. Infiltration tactics may offer as much potential to Marine foot infantry as to future Marine mechanized units.[842]

There are actually several important ideas, then, that "Lind's Defining maneuver warfare for the Marine Corps," interjected into the awareness of the officer corps. Its most important contribution, however, was tying Lind's concept of maneuver warfare, one derived from the German historical model, to an overarching theoretical explanation that made maneuver warfare comprehensible to those who adhered to other traditions in military thinking. Lind's associate, Edward Luttwak, had warned of the difficulty of attempting to transfer a military tradition from

[840] Lind, "Defining maneuver warfare for the Marine Corps," 57.
[841] Lind, "Defining maneuver warfare for the Marine Corps," 58.
[842] Lind, "Defining maneuver warfare for the Marine Corps," 58.

one nation to another. Indeed, Lind quotes Luttwak's 1979 *Air Force* magazine article to make this point, "It is not surprising that maneuver warfare is so unfamiliar to American military men—in whose self-image material superiority still looms large—while it is almost instinctive to those who see themselves as inferior in resources, be they from Vietnam or Israel."[843]

While several authors have focused on the fact that Lind attributed the basis of maneuver warfare to Boyd, they have generally missed a critical distinction in how Lind made the connection, one that makes the timing of Lind's and Boyd's interactions vitally important. Lind was referencing ODA, the proto-concept of OODA, before Boyd expanded this aspect of his theory to include Orientation, which Boyd would come to see as the most important step. Lind was thinking of the Boyd Cycle in terms of the more objective competitive cycle, one based on simply observing, deciding, and acting. Lost was the emphasis Boyd had come to place on perception and understanding observations, achieved through the addition of the subjective Orientation process. Lind, understanding the cycle to be more objective, emphasized that the key advantages were gained by completing this cycle faster than the adversary, changing the physical reality he had to operate within. What he neglected in his privileging of speed was the sophistication Boyd had added though the inherently subjective nature of orientation, such as the opportunity to corrupt adversary orientation, and the possibility that ambiguity in one's action's might encourage an observer to form a self-deceptive orientation. This introduced a critical theoretical divide in the maneuver warfare movement, for from this article onward, including in FMFM 1 and MCDP 1, Marines would place an undue emphasis on achieving competitive

[843] Lind, "Defining maneuver warfare for the Marine Corps," 57. Interestingly, Luttwak's article, which is the first time "maneuver warfare" is known to have been used in print, has attracted no attention from other researchers on this topic.

advantage by emphasizing speed, and generally fail to appreciate the full value of deception and ambiguity.

The closest another analysis has come to making this connection is a foot note by Ian Brown, which observes of this seminal article, "here, in Lind's first attempt to define Boyd's concepts, he omits the orientation step, which Boyd considered by far the most important."[844] Brown later notes that a key problem in the maneuver warfare movement was Marines thinking about OODA with a single-minded emphasis on speed, or thinking about speed in an absolute sense, which was an idea Lind advanced, contrary to Boyd's emphasis on relative speed. Without the context of Lind's own evolving development of maneuver warfare concepts, including his definition of maneuver doctrine which anticipated Boyd's concept of maneuver conflict by more than two years, this assessment suggests Lind just got it wrong. The idea that Lind was simply offering a flawed interpretation of Boyd's insight would relegate Lind to merely being a promoter for Boyd, the real thinker behind maneuver warfare. Lind did, indeed, get it wrong, and the way he did had a big impact on the maneuver warfare movement, as Brown points out. This study is a corrective in that it shows why Lind got it wrong: Lind was developing ideas about maneuver warfare on a pre-existing and parallel track to Boyd's, and was grafting in Boyd's ODA construct likely before he knew that Boyd himself had already expanded the concept into OODA, and then tied it to his own explanation of maneuver conflict.[845]

[844] Brown, 125.

[845] The first time Lind updated his explanation from ODA to OODA would not be until a *Marine Corps Gazette* article in April 1981. G.I. Wilson, Michael D. Wyly, William S. Lind, and Bernard E. Trainor, "The 'Maneuver Warfare' Concept." *Marine Corps Gazette* 65, no. 4 (April 1981), 53, was about a year and a half after Lind first began referring to ODA, but three years after Boyd began using OODA, and two and a half years after Boyd had made a wholesale replacement of ODA.

While many saw this article as proof of Lind being a front man for Boyd's genius, it instead represents an important milestone, the point at which Lind would graft Boyd's ideas in to help promote progress. Critically significant to this study is the manner in which Lind began to overtly embrace just one select idea from "Patterns of Conflict", the ODA loop, to support his advocacy of maneuver warfare. This study will show that it set a pattern that would both reinforce the misperception, and even present an obstacle to the incorporation of other elements from within Boyd's widening and deepening body of ideas. To return to the narrative of Lind's interaction with the Marine Corps, and how it led to the development of other ideas for the promotion of maneuver warfare, this study must now return to events occurring in the fall of 1979, just as Lind was making the connection between ODA and maneuver warfare. Most important was the shift of Lind's attention from Twentynine Palms to Quantico, and the initiation of a critical new relationship, that with Lieutenant Colonel Michael Wyly.

**Conclusion**

This chapter has shown, contrary to the conventional narratives which discount William S. Lind's contributions as a mere promotor of John Boyd's ideas, that Lind was the central figure in the development of the concept of maneuver warfare. Lind was the originator of the concept of maneuver warfare as a style of fighting exemplified by the German army, and an appropriate model to reform the U.S. military after the Vietnam War to prepare for a future war with the Warsaw Pact, where it would have to "Fight Outnumbered and Win." Lind found the Marine Corps to be the most profitable target for his reforms, which would require a new concept of professionalism and significant institutional changes in addition to adopting a new doctrine for fighting. Lind used his Congressional influence to pressure the Marine Corps to initiate the Mechanized Task Force experiments. He interacted with Marines involved with that

experimentation, and in the process discovered that they were handicapped by a failure to understand the central concepts of the new doctrine. At that point, Lind's efforts shifted from promoting mechanization to developing the more general concept of maneuver warfare.

It must be stressed that this process was not solely Lind's. The interactions between Bill Lind and John Boyd were very infrequent because their interests in maneuver warfare were different. Lind was very much focused on practical concerns, promoting the Prussian example of professionalism and German mode of fighting as a model for U.S. military reform. Boyd's interests were more abstract, seeking an explanation for how human conflict worked, within which maneuver warfare was just one form it could take. The way that Lind incorporated some of Boyd's ideas, particularly his description of OODA and emphasis on speed, and Lind's pronouncement that "The Boyd's Theory is the theory of maneuver warfare," helps explain why some of Boyd's ideas are so fundamentally misunderstood today, as well as the role of both men in the development of maneuver warfare. The next two chapters elaborate on that subject. Though the two men came into a much closer collaboration on wider reform efforts as the military reform movement blossomed into the congressional Military Reform Caucus, their involvements with the development of maneuver warfare differed, reflecting their individual interests. Lind intensified his collaboration with the U.S. Marines in developing maneuver warfare as an actionable doctrine, while Boyd's role was less intimate, continuing the development of more abstract ideas needed to understand the workings of maneuver warfare and conflict writ large.

Chapter 6: John Boyd's Maturing Theory and Relationship with Maneuver Warfare

Today, anyone who wants to get a sense of John Boyd and his "Patterns of Conflict" briefing can do so by watching a video of that presentation from about 1986 that is available on the internet. Boyd, about 60 years old at the time of the recording, is gaunt, gray-haired, and wearing a short-sleeved white shirt equipped with pocket protector and dark tie, looking very much like the engineering consultant he was hired to be by the TacAir Shop. From his first slides through the end, however, it is clear that Boyd was deeply excited about the subject, and was seeking to persuade his audience that there was a very different way of looking at military affairs. His argument was laced with irreverent humor and built to provoke questions before suggesting answers, leading Boyd's audience on an intellectual journey that was a microcosm of Boyd's own pursuits over the previous decade. Though the total length of the video is five and a half hours long, it can take many more hours to review and understand. The recording quality was low, Boyd's ideas are often expressed in abstract terms, and Boyd's speech is rapid-fire, challenging the listener to understand what he has said before he is off to the next idea.

"Patterns of Conflict" has come to be understood as the primary vehicle through which John Boyd argued for the adoption of maneuver warfare. Indeed, this must have been the case at the time Boyd was still alive, for his very first words in his presentation brief alerted his audience that the brief should not be called "Patterns of War" or "Patterns of Maneuver" as the press and other people had started referring to it.[846] Despite its close association with the maneuver warfare movement of the 1980s, in this recording Boyd never mentions the phrase "maneuver warfare" once in the 54,000 words he uses to deliver the briefing. In fact, he only used the word

[846] John R. Boyd, "Patterns of Conflict," presentation, circa 1986, transcript prepared by Shawn P. Callahan, in the hands of Shawn P. Callahan, preliminary comments before slide 1. Hereafter "Boyd, 'Patterns of Conflict,' 1986 transcript.".

"maneuver" 69 times, and all but one of those were part of his historical analysis that made up the first 126 slides. In the final 59 slides, where Boyd explained his synthesis on the Pattern for Successful Operations, described the application of his ideas, and then summarized his argument, he only used the word "maneuver" once.[847] This apparently did little to change the impressions of audiences who came expecting to hear about maneuver warfare. After delivering his final slide to stress his main argument about the importance of initiative, adaptability, and organizational harmony, enabling organizations to compete with adversaries in mind-time-space and collapse their will to resist, Boyd asks for the dimmed room lights to be turned back up and opens the floor for discussion. The first question an audience member asks relates to a topic Boyd had not spoken of in more than an hour, his apparent preference for maneuver conflict and moral conflict over attrition conflict. The tape ends before the question is finished and so today's viewer cannot know what Boyd's response to this questions was.[848] The question does illustrate, however, that many of Boyd's audience members came to his "Patterns of Conflict" briefing with preconceived notions about his argument, and failed to appreciate his much more general and complex central argument.

Just as some of Boyd's audience members interpreted "Patterns of Conflict" to be an argument for the adoption of maneuver warfare, historical accounts represent this brief as Boyd's primary means of inspiring the maneuver warfare movement and equipping it with new ideas on warfare. The most conspicuous examples are the two most recent works on the subject, Ian Brown's 2018 *A New Conception of War: John Boyd, The U.S. Marines, and Maneuver Warfare* and Stephen Robinson's 2021 *The Blind Strategist: John Boyd and the American Art of War*. Brown writes, "It was 'Patterns of Conflict' and its robust exegesis on maneuver warfare that, by

[847] Boyd, "Patterns of Conflict," 1986 transcript, slide 136.
[848] Boyd, "Patterns of Conflict," 1986 transcript, slide 185.

1980, influenced the Corps."[849] Robinson argues "Through *Patterns of Conflict* maneuver warfare became the philosophy of those opposing Active Defense."[850] Where Robinson elaborates on the process by introducing other agents, he continually emphasizes Boyd and "Patterns of Conflict" as the fount of the new ideas. For example, only "after listening to Boyd deliver *Patterns of Conflict*" was it that William S. Lind "translated Boyd's complex theories into easy to read passages, influencing a large audience of military minded individuals."[851] The 2nd Marine Division then "translated Boyd's concepts into tactics," but only after Boyd "delivered his briefing to the division, which became a maneuver warfare laboratory."[852] "Patterns of Conflict" was the undoubtedly the means by which Boyd had the greatest influence on the maneuver warfare movement, but the role of that brief, and therefore Boyd's contributions, is misunderstood.

Chapter 4 analyzed Boyd's earliest work on the nature of conflict, which began in 1976 and ultimately initiated the decade-long project, his "Patterns of Conflict" briefing. That chapter showed that Boyd was seeking to discern the most fundamental patterns of behavior which yielded success across a broad spectrum of human competition. In the process, he developed an argument that the most important qualities needed for success were Initiative, Quickness, Fluidity, and Cohesion (IQFC), and he developed the complementary concept of the Observe-Orient-Decide-Act (OODA) cycle, explaining how these traits yielded advantage when competing in Mind-Time-Space. This chapter ended in 1978 so that Chapter 5 could turn back the clock to focus on William S. Lind as the originator of the concept of maneuver warfare. It

[849] Ian T. Brown, *A New Conception of War: John Boyd, the U.S. Marines, and Maneuver Warfare* (Quantico, VA: Marne Corps University Press, 2018), 61.
[850] Stephen Robinson, *The Blind Strategist: John Boyd and the American Art of War* (Dunedin, New Zealand: Exisle Publishing, 2021), 46.
[851] Robinson, 47-48.
[852] Robinson, 57.

was in 1976 that Lind coined the term "maneuver doctrine" and developed the dichotomy contrasting maneuver with attrition/firepower doctrine, in an effort to persuade the U.S. military to adopt a German model of warfare. Chapter 5 showed that Lind became frustrated with the U.S. Army's disinterest in the subject, but did find leverage with the U.S. Marine Corps, which began experimenting with the new ideas. It was Lind who incorporated "the Boyd Cycle" in his explanation of maneuver warfare that started the misconception that Boyd invented maneuver warfare. Chapter 7 will return to show how Lind, in cooperation with Marines at the Amphibious Warfare School and from the Second Marine Division helped develop the supporting concepts that made maneuver warfare an actionable approach to war, first given comprehensive explanation in a nearly doctrine-ready form as Lind's 1985 *Maneuver Warfare Handbook.*

Before explaining those developments in chapter 7, this chapter considers Boyd's relationship with the maneuver warfare movement and the maturing concept of maneuver warfare. It will show how Boyd incorporated Lind's ideas, but did it critically, and incorporated only those aspects he found persuasive. When Boyd did this, it was as part of a much broader understanding of war rather than an argument for the adoption of maneuver warfare. Further, it will show that while Boyd continued to give and refine his "Patterns of Conflict" briefing, including to audiences interested in maneuver warfare, Boyd's concept of "maneuver conflict" was just a small part of his theory, and was never his main argument in the brief. Indeed, this chapter argues that over time Boyd's interests diverged from those of the maneuverists. As Chapter 7 will show, from 1980 to 1985 the maneuverists were working to develop an actionable doctrine and adopt maneuver warfare, but in this same period Boyd's interests moved towards more abstract and general ideas on conflict, competition, and survival. As Boyd's theory became

more general and abstract, he did continue lecturing to audiences on "Pattens of Conflict." His efforts as part of the Military Reform Movement also earned him a reputation as a fierce advocate of maneuver warfare, but he showed no real intellectual interest in the important work being done with maneuver warfare, and his expanding ideas were not shaped by them.

Together, chapters 4 and 6 narrate the development of Boyd's ideas in the decade from 1976 to 1986. They center on the "Patterns of Conflict" brief, including its relationship with the maturing concept of maneuver warfare. These chapters generally divide at 1978, which was the year Boyd evolved the concept of OODA from ODA and first mentioned "maneuver conflict." That being said, just as chapter 4's analysis of Boyd's relationship with his most well-known concept, OODA, moved beyond the concept's inception in 1978, this chapter's analysis of Boyd's relationship with the concept of maneuver warfare, or "maneuver conflict" as he called it, must include events which occurred before 1978. Boyd's study of theory and German military history in this period was particularly influential in his theoretical synthesis. Misperceptions of his study of these subjects have also fueled criticism of his work, and of the concept of maneuver warfare. This was true when Boyd was still developing "Patterns of Conflict" and today. For those reasons, this chapter begins by addressing two of the subjects Boyd delved into before 1978: the work of Carl von Clausewitz and German military history. Though neither subject had a prominent role in shaping Boyd's development of OODA, they were more important later to the ideas developed later on, the focus of this chapter.

**Boyd's Interpretation of Clausewitz**

After reading Sun Tzu around January 1977, one of the next books Boyd turned to, if not the first, was Carl von Clausewitz's *On War*. Boyd's interest in Clausewitz was probably spurred, at least in part, by the resurgence of interest in the Prussian theorist's work within the American

academy and military after the publication of Michael Howard's and Peter Paret's translation in 1976. Clausewitz was also commended to Boyd by some of his earliest and most trusted historical sources. In *Panzer Leader,* Heinz Guderian described *On War* as "one of the most important works of military science" and "a little-read but much criticized book" which "contains the first attempt to create a philosophy of war and to analyze its characteristics from a detached standpoint."[853] Some of Boyd's other early sources provided more mixed assessment of Clausewitz. Liddell Hart's *Strategy* makes repeated reference to Clausewitz's influence, and while praising Clausewitz for many of his insights, more often Liddell Hart criticizes the Prussian for placing too much emphasis on destruction and bloodshed as an unavoidable cost of victory.[854] Montross credits Clausewitz with both developing a philosophy of war and making "tactical deductions, based on sound judgement and long experience," which revealed "as keen an appreciation of dexterity as Saxe of Guibert."[855] Connecting Clausewitz to the Western way of war Boyd had already become quick to criticize, however, Montross wrote, "…if Clausewitz fathered the most bloody and wasteful era of warfare in modern times, it is because lesser minds accepted his philosophy rather than his tactics, his flashing phrases rather than his sober modifications."[856] Boyd's very first mention of Clausewitz came before he even read *On War*, in January 1977, just as he was encountering Sun Tzu's work. In an interview that month Boyd repeated an unflattering assessment of the Prussian theorist from one of the earliest sources he studied,

---

[853] Heinz Guderian, *Panzer Leader* (Cambridge, MA: DaCapo Press, 1996), 454. This book actually didn't appear on Boyd's "Patterns of Conflict" source list until after Clausewitz. That was the version produced between October 1977 and November 1978, between six and 19 months after Clausewitz is first listed.
[854] B.H. Liddell Hart, *Strategy,* Second Revised Edition (New York: Frederick A. Praeger, Inc., Publishers, 1967). Copy annotated by John R. Boyd. John R. Boyd Collection, Collection 2062, Book Box 1, Marine Corps Archives, 198, 224-227, 338, 355,
[855] Lynn Montross, *War Through the Ages*, 3rd ed. (New York: Harper & Row, Publishers, 1960), xiv. Copy annotated by John R. Boyd. John R. Boyd Collection, Collection 2949, Box 3, Marine Corps Archives, 583, 585.
[856] Montross, *War Through the Ages*, copy annotated by Boyd, 585.

> Lawrence, in his book, Seven Pillars of Wisdom, compared the ideas of Saxe's and Guibert's against those of Clausewitz'[sic]. …he made the comment that the works of Clausewitz'[sic] were much more logical; his works seemed much more powerful than those of Saxe's and Guibert's. But Lawrence continued to say, in actual application the ideas of Saxe's and Guibert's proved to be the better ones… If one looks at Clausewitz'[sic] theory from an academic point of view--Lawrence was a scholar, you remember, from Cambridge--his method seemed more superior than those belonging to Saxe and Guibert. However, in terms of application, Saxe's and Guibert's were superior--and after all, isn't application the name of the game here?[857]

These mixed assessments speak to the mixed legacy of Clausewitz's work, and it less important to judge their accuracy in interpreting Clausewitz than to identify how Clausewitz was generally interpreted at the time Boyd came to know his work.

In view of Boyd's project, such commendations and criticisms of the Prussian theorist must have begged for his attention so he could make his own assessment. Curiously, though Howard and Paret's translation was already in print, the first time Clausewitz appears on Boyd's source list, in May 1977, was as "(three volumes, 1827) 1968."[858] This may refer to the only three-volume version published, the first English translation, which was made by the British Colonel James John Graham in 1873, or to an abridged version published by Penguin Books in 1968. Boyd soon discarded this edition and studied the Howard and Paret translation, which remains the English translation in widest use today, more than forty years later. Boyd's interrogation of that translation is visible to today's researcher because his personal copy of this book, complete with his extensive marginal notations, is held by the Marine Corps Archives in Quantico, Virginia.

---

[857] U.S. Air Force, *Oral History Interview: Col John R. Boyd, 28 Jan 1977, Corona Ace Interview*. John R. Boyd Collection, Collection 2062, Box 24, Folder 10: General U.S. Air Force Oral History Interview – Col John R. Boyd, 28 January 1977, Marine Corps Archives, 181.

[858] John R. Boyd, "Patterns of Conflict, Warp IX," May 10, 1977. John R. Boyd Collection, Collection 2062, Box 4, Folder 17: Warp IX: Patterns of Conflict, 10 May 1977. Marine Corps Archives, slide 9. Hereafter, "Boyd, 'Patterns of Conflict,' Warp IX of May 10, 1977."

It is clear that Boyd read Clausewitz with Sun Tzu in mind. Marginal comments Boyd made in his copy of *On War* include, "Why not undermine adversary and diminish his expenditure of effort?—a'la Sun Tzu!" and "No mention of aspects [illegible] to Cheng and Chi the adversary! "[859] While these comments are generally critical, other marginal comments reveal that Boyd saw parallels between Sun Tzu and Clausewitz. For example, when Clausewitz argues that the value of an advance guard is not to fight an enemy and stop his advance, but rather to limit the enemy's freedom of action, Boyd notes, "Cheng."[860] While Boyd's interpretation of Clausewitz was shaped by other sources, as evidenced by marginal comments such as "Von Mellenthin would not agree with this point! (Panzer Battles)," Boyd's discussion of Clausewitz in "Patterns of Conflict" shows constant comparison and contrast with Sun Tzu.[861]

Boyd obviously read Clausewitz closely, as indicated by his notes in the margins of the text. He also warned his audiences to remember that Clausewitz used a dialectical approach, and therefore some of the Prussian's more extreme statements needed to be approached with caution, as they might not present Clausewitz's whole understanding.[862] Boyd praised Clausewitz for his insights into the nature of war, and was obviously particularly impressed with Book I, Chapter 3 of *On War*, where Clausewitz sets out "to survey all those gifts of mind and temperament that in combination bear on military activity."[863] Clausewitz does this by discussing various aspects of the nature of war that bear upon military decision-making, and then discusses the qualities that enable a leader to function effectively in the face of those vexing factors. One of Clausewitz's more famous passages from this chapter is "War is the realm of uncertainty; three quarters of the

[859] Carl von Clausewitz, *On War*, ed. Michael Howard and Peter Paret, trans. Michael Howard and Peter Paret (Princeton, NJ: Princeton University Press, 1976), 93, 303. Copy annotated by John R. Boyd. John R. Boyd Collection, Collection 2949, Box "John Boyd: Annotated Copy of 'On War'," Marine Corps Archives.
[860] Clausewitz, *On War*, copy annotated by Boyd, 311.
[861] Clausewitz, *On War*, copy annotated by Boyd, 326.
[862] Battelle Columbus Laboratories, *Proceedings of Seminar on Air Antitank Warfare (May 25-26, 1978)*, 18.
[863] Clausewitz, *On War*, copy annotated by Boyd, 100.

factors on which action in war is based are wrapped in a fog of greater or lesser uncertainty."[864] Boyd was not the first or last to see a connection between this passage and the contemporary phrase, "fog of war," but Boyd also saw a connection to another of Clausewitz's ideas, the concept of friction. In the margin of this same page he wrote, "Fog of War related to uncertainty."[865] Clausewitz explains friction as the combination of many factors arising out of human nature and complex military organizations, collectively preventing subordinates from easily executing a commander's intentions. Clausewitz saw strength of character to be an important asset for overcoming this resistance. Boyd concurred, praising Clausewitz for seeing that war was fundamentally pervaded by friction, uncertainty, and chance, and told his audiences, "one of the biggest jobs of the commander was to be able to overcome friction, uncertainty, and chance in an effective fashion."[866] Attuned to the importance of perception, however, Boyd continued the his written comment in the margins of his copy, "Fog of War related to uncertainty; never uncertainty part of friction (as would be shown later on) fog of war is not different than friction, but part of friction."[867] Such comments directly reflected Boyd's unique perspective and constant process of deconstructive analysis and creative synthesis in his interrogation of what he studied.

Boyd was naturally predisposed to look at concepts from different perspectives and for interrelationships between apparently disparate ideas. He was also particularly attuned by his recent study of Taoism to look for the flip side of any concept. In Clausewitz's chapter explaining friction, Boyd noted, "Overcome friction, yes—but also why not magnify friction for

[864] Clausewitz, *On War*, copy annotated by Boyd, 101.
[865] Clausewitz, *On War*, copy annotated by Boyd, 101.
[866] Battelle Columbus Laboratories, *Proceedings of Seminar on Air Antitank Warfare (May 25-26, 1978)*,18-19.
[867] Clausewitz, *On War*, copy annotated by Boyd, 101.

the adversary commander… Clausewitz has yet to come to grips with this '<u>duality</u>'."[868] As a result, Boyd saw that a lack of clarity in perception (fog), along with the resulting uncertainty in a commander's mind, could be a potent a source of resistance (friction), even as much as all the physical, psychological, and informational disturbances within his unit that might resist the commander's will once his decision was made. At an early stage in the life of "Patterns of Conflict," Boyd saw the idea of weaponizing ambiguity as a key feature distinguishing Sun Tzu from Clausewitz. He later criticized Clausewitz by observing,

> Interestingly enough, even though he goes through this dialectic, he does not come down on the other side. He really does not address the idea of trying to magnify his adversary's friction and uncertainty. Yet when you look at his works you find out that if he had done that you would begin to see some more positive aspects from strategic maneuvers because the kinds of things you are trying to do in a strategic maneuver is to generate that confusion, chaos, and disorder, or friction and uncertainty as he called them. In any case, I regard this as being the crucial difference between him and Sun-Tzu. Of course they wrote at different times. Sun-Tzu was trying to magnify his adversary's friction and uncertainty or confusion and disorder, whereas Clausewitz generally thought in terms of trying to overcome it from a commander's perspective. In modern vernacular, Sun-Tzu was trying to drive his adversary bananas; Clausewitz was trying to keep himself from being driven bananas.[869]

In his early versions of "Patterns of conflict" Boyd also criticized Clausewitz for underemphasizing strategic maneuver and overemphasizing decisive battle. Boyd may have garnered some of this from secondary sources. In the front of the Howard and Parent translation is an essay by Bernard Brodie on the continuing relevance of *On War*. One passage that caught Boyd's attention was "The centerpiece of this book is the major battle (Haupschlacht) and its consequences; what Clausewitz termed 'the true center of gravity of the war.'"[870] This suggested a very different emphasis than Sun Tzu, who urged his readers to seek victory without battle, and

[868] Clausewitz, *On War*, copy annotated by Boyd, 120.
[869] Battelle Columbus Laboratories, *Proceedings of Seminar on Air Antitank Warfare (May 25-26, 1978)*, 18-19.
[870] Clausewitz, *On War*, copy annotated by Boyd, 29.

make wise decisions before a battle begins so its outcome is foreordained, rather than depending on the fortitude and heroism of one's troops to achieve victory. That distinction would certainly become clearer over time as Boyd's interpretation matured into a more thorough critique of Clausewitz. This is covered later in this chapter where it will be clear that Boyd's maturing response to Clausewitz was intertwined with the emergence of some of Boyd's most important ideas, most notably the concept of noncooperative centers of gravity. For now, it is sufficient to remind the reader that though Boyd saw Clausewitz as one of the three most influential sources shaping his early thinking about conflict,[871] he clearly read Clausewitz with Sun Tzu in mind, and as a result critically considered Clausewitz's ideas from a unique perspective that prompted original insights.

**Boyd's Interrogation of German History**

While Boyd's early inquiry into military theory was most heavily influenced by Sun Tzu, his historical studies in this period focused most on *Blitzkrieg*, one of the four major investigative categories for his early work. In the 1978 transcript, Boyd identifies Erich von Manstein's *Lost Victories* as one of three particularly interesting and relevant books, alongside Sun Tzu's *The Art of War* and Clausewitz's *On War*. Of note, Boyd saw Manstein as particularly valuable "after I had read some of the other information."[872] Boyd was empathic on the importance of this *Lost Victories*, stating, "…I think if you do not read this book you are not going to really have a deep understanding of how the modern German general staff worked or actually how that Blitzkrieg unfolded and the thinking that went behind it."[873] Boyd had also studied a number of other works to form his early impressions of *Blitzkrieg*.

[871] Battelle Columbus Laboratories, *Proceedings of Seminar on Air Antitank Warfare (May 25-26, 1978)*, 10-11.
[872] Battelle Columbus Laboratories, *Proceedings of Seminar on Air Antitank Warfare (May 25-26, 1978)*, 10-11.
[873] Battelle Columbus Laboratories, *Proceedings of Seminar on Air Antitank Warfare (May 25-26, 1978)*, 11.

It has been shown that early on Boyd had an appreciation that there was similarity between *Blitzkrieg* and his insights on air-to-air combat, but the only German history appearing in Boyd's first source list of September 1976 was Kenneth Macksey's *Guderian: Creator of the Blitzkrieg* (1976). Boyd's engagement with that newly-published book represents his first exploration of the German military tradition, but it soon expanded dramatically. In the next month, he read F.O. Miksche's *Blitzkrieg* (1941), F.W. Mellenthin's *Panzer Battles* (1956), then returned to a more recent analysis with Charles Messenger's *Blitzkrieg Story* (1976). Then came the period when Boyd studied Sun Tzu and Clausewitz, but this was interspersed with more German history, including Richard Humble's *Hitler's Generals* (1974) and Robert Wernick's Time-Life publication *Blitzkrieg* (1976), followed by Macksey's *Panzer Division* (1968) and Liddell Hart's *History of the Second World War* in two volumes (1970). Then he turned to Fritz Bayerlin's 1954 *Marine Corps Gazette* article "With the Panzers in Russia, 1941 and 1943," David Downing's *The Devil's Virtuosos: German Generals at War, 1940-45* (1977), Trevor Dupuy's *A Genius for War* (1977), and David Irving's biography of Erwin Rommel, *The Trail of the Fox* (1977). In this period he also dug deep into primary sources on the *Wehrmacht* experience, including Albert Kesselring's *Manual for Command an Combat Employment of Smaller Units* (1952), Paul Deichmann's *German Air Force Operations in Support of the Army* (1962), Heinz Guderian's *Panzer Leader* (1952), F.W. von Mellenthin's *German Generals of World War II* (1977), and, of course, Manstein's *Lost Victories* (1958). In total, in the two years before the fall of 1978, when Boyd described maneuver conflict for the first time, sources on the *Wehrmacht* in World War II made up 14 of the 28 works he read (50%). In the last year before those important steps in the development of Boyd's theory these titles composed and even higher portion: 9 of 12 works (75%). This correlation suggests German history had much to do with

why Boyd first integrated the concept of maneuver conflict, just as it had for Lind's invention of it. However, it must be remembered that this was preceded by a much broader inquiry into military history and theory, and this chapter will show that Boyd's studies soon became much broader again, and his relationship with maneuver warfare has been grossly overinflated.

Boyd's inquiry into the German way of war in their period was enriched by a unique opportunity to meet some of the German practitioners. He was involved in a series of interviews conducted of former *Wehrmacht* officers between October 1976 and 1980, but his interpretation of these events was still shaped by his earlier ideas. These interviews were coordinated by the Battelle Corporation under a contract to several different offices with the Department of Defense. Table 2 lists the Battelle events, which initially were part of a fact-finding effort to improve the design of anti-tank aircraft. Over time they expanded into wider interest in the German army's operational and tactical experience on the Eastern Front. Members of the U.S. defense establishment thought that NATO, which would need to be able to fight the Warsaw Pact while outnumbered, could learn from *Wehrmacht* experience under similar conditions in World War II. Ultimately former *Wehrmacht* generals including Mellenthin were invited to participate in war games with senior U.S. officers.

Table 2. Interviews of *Wehrmacht* officers supported by a contract to the Battelle Corporation.[874]

| Date | Subject | Topic |
|---|---|---|
| 14-15 Oct 1976 | Colonel Hans-Ulrich Rudel | Air Anti-tank Warfare in World War II |
| 25-26 May 1978 | Colonel Hans-Ulrich Rudel | Air Anti-tank Warfare in World War II |
| November 1978 | General Paul-Werner Hozzel | Air Anti-tank Warfare in World War II |
| 12 Jan 1979 | General Hermann Balck | Armored Warfare in World War II |
| 12 Apr 1979 | General Heinz Gaedcke | Armored Warfare in World War II |
| 10 May 1979 | General Friedrich von Mellenthin | Armored Warfare in World War II |

[874] Boyd was an active participant in at least two of these events. Battelle Columbus Laboratories, *Armored Warfare in World War II Conference Featuring F.W. von Mellenthin, Generalmajor a.D., German Army* (Alexandria, VA:

According to Charles Spinney, one of Boyd's Acolytes, Boyd was involved in the project from the start. It began with U.S. Air Force Captain Lon Ratley, a student at the U.S. Naval Postgraduate School conducting research under the supervision of Professor Russell Stolfi on the use of aircraft against armored formations. Ratley decided to try and interview Colonel Hans Rudel, Germany's leading tank-killing pilot in World War II, and who was well known because of his autobiographical account, *Stuka Pilot*, first published immediately after the German escaped to Argentina in 1948, then republished in the U.S. in 1958. Ratley's planned interview came to attention of Thomas P. Christie, another one of Boyd's intellectual Acolytes. Christie was at the time serving the director of the program office where Boyd had been hired as a civilian consultant. Christie and Boyd suggested that Ratley conduct the interview of Rudel in a seminar format, allowing people from a number of different organizations to ask the German questions. It is probable that Boyd participated in the conference, but even if there is no proof of that in the transcript, the first conference remains an important milestone because Boyd's role in setting up the conference establishes that his technical concerns were bringing him into contact with former *Wehrmacht* officers in the fall of 1976. This was just after Boyd had finished his "New Conception for Air-to-Air Combat" and just three months after he began his wider historical inquiry. Indeed, Boyd was somewhere between his third and fifth versions of "Patterns of Conflict" at the time of the first Rudel interview.

Hans Rudel was invited back for a second interview in May 1978, and this event was significant for a number of reasons. Though still hosted by Battelle under contract, this interview was no longer focused on technical matters affecting aircraft design. It was a two-day "Seminar on Air Antitank Warfare" concerned with the employment of air power in the context

---

Defense Technology Information Center, 1985), 1; Battelle Columbus Laboratories, *Proceedings of Seminar on Air Antitank Warfare (May 25-26, 1978)*, 3.

of NATO in Eastern Europe. The opening event of the conference was Boyd presenting "Patterns of Conflict." In the discussion with Rudel which followed, some participants still asked for the German's observations on technical matters relating to air-to-ground attack and anti-aircraft defenses. These included which weak areas on German tanks he had aimed for, the ranges at which he would shoot, and the difficulties he faced with weather and battlefield smoke in obscuring targets.[875] Other questions, however, were less technical, relating to command and control issues, such as the daily routine of the Stuka units and how they received assignments to support of ground units in changing operational situations. Indeed, one question was even framed in terms of Boyd's concepts, when the moderator asked, "Was he [the Stuka pilot] given those kind of details or was he told, like John Boyd was talking about, 'Here's the main activity of the day. Do your mission?'"[876] Significantly, these questions were submitted by Christie, Boyd's Acolyte but also his boss at the time, and therefore perhaps on Boyd's behalf. If true, that would not be surprising. The analysis below will show that by 1978 the German approach to command and control became one of Boyd's key concerns.

The Battelle interviews continued over the first three years of Boyd's ten-year project building and refining "Patterns of Conflict," and they continued to shape his ideas. Boyd made repeated refences to Balck and Mellenthin in particular, and these forums may have opened opportunities for greater interaction. In 1986 Boyd described, "I spent a lot of time with General Balck, somewhere in 1980 or 81," which was after the Battelle series had ended.[877] Their interactions in that period, however, helped Boyd see new importance in certain passages of Balck's book, shaping his analysis in "Patterns of Conflict."

---

[875] Battelle Columbus Laboratories, *Proceedings of Seminar on Air Antitank Warfare (May 25-26, 1978)*, 153-154.
[876] Battelle Columbus Laboratories, *Proceedings of Seminar on Air Antitank Warfare (May 25-26, 1978)*, 3-105, 107, 111-112, 114, 141-143. Quote drawn from 143.
[877] Boyd, "Patterns of Conflict," 1986 transcript, slides 118-119.

Informed by deep study of German history and his interaction with *Wehrmacht* officers in the most critical years of his synthesis, Boyd's appreciation of German military history deepened and resulted in the gradual integration of important concepts into his synthesis. While there was no direct infusion of specific German terms and concepts prior to October 1977, in his earliest versions of "Patterns of Conflict" Boyd had identified some key themes. He understood German infiltration tactics to be a "way out" of the stagnation and frightening attrition that typified World War I, where massive advances were made "generally as expected and along paths of hardened resistance."[878] Infiltration tactics succeeded because the stormtroop teams avoided defensive strongpoints and developed paths of least resistance for infantry to follow, and reserves were used to support success rather than "redeem failure against regions of heavy resistance."[879] Blitzkrieg was likewise valued for opening "breaches and gaps from regions of least expectation and along paths of least resistance."[880] Boyd's language in these explanations obviously reflects Liddell Hart, and with these themes already in mind it is little wonder Sun Tzu's admonition to pit strength against weakness so quickly attracted Boyd's attention when he read *The Art of War*. Both Liddell Hart and Sun Tzu fundamentally shaped Boyd's interpretation and explanation of German military history.

In his earliest surviving briefing slides it is also clear that Boyd appreciated the value of German "Command at local level to exploit opportunities generated by rapid action within a broad loosely woven scheme laid down from above."[881] The idea of command at the local level was immediately translated into Boyd's "Pattern for Successful Operations,"[882] but this is a

[878] John R. Boyd, "Patterns of Conflict, Version #3," circa 1976, John R. Boyd Collection, Collection 2062, Box 4, Folder 5: Patterns of Conflict, Version #3. Marine Corps Archives, slide 13. Hereafter, "Boyd, 'Patterns of Conflict,' Version #3."
[879] Boyd, "Patterns of Conflict, Version #3," slide 15.
[880] Boyd, "Patterns of Conflict, Version #3," slide 20.
[881] Boyd, "Patterns of Conflict, Version #3," slide 21.
[882] Boyd, "Patterns of Conflict, Version #3," slide 29.

concept he toyed with for some time, sensing there was more to it. For a few of the early versions of "Patterns of Conflict" he merely referred to it as "decentralized" command[883] but Boyd apparently realized that there was a problem in decentralization, for when he began reading and including Sun Tzu's ideas he began adding the qualifier, "without losing cohesion of overall effort."[884] This tension was expressed in a "Key Point" slide he added to his historical narrative in January 1977, "Difficult to sustain fast tempo and maintain cohesion of Blitz effort when forced to repeatedly and rapidly shift concentration of strength against weakness…"[885] In that same version he went on to specify two complementary aspects of command in his Pattern for Successful Operations:

- Decentralize, in a tactical sense, to encourage lower level commanders to shape, direct, and take the sudden/sharp actions necessary to quickly exploit opportunities as they present themselves.
- Centralize, in a strategic sense, to formulate policy, sketch flexible plans, allocate resources, and shift center of overall action.[886]

This dualistic approach to command didn't solve the question about how tactical agility would be preserved. A centralized strategic plan conceived at the start of an action couldn't provide the direction or cohesion that would shift overall action in immediate response to local successes and opportunities. Without some degree of tactical centralization, or some other tool to allow rapid refocusing of decentralized tactical efforts, local successes could never be enlarged, such as by using reserves to exploit success. Only over time and after extensive research was Boyd able to reconcile this tension between decentralization and cohesion, or between enabling units to

[883] John R. Boyd, "Patterns of Conflict, Warp V," November 17, 1976. John R. Boyd Collection, Collection 2062, Box 3, Folder 13: Warp V: Patterns of Conflict—12 November 1976, Marine Corps Archives, slide 36.
[884] John R. Boyd, "Patterns of Conflict, Warp VII," January 18, 1977. John R. Boyd Collection, Collection 2062, Box 4, Folder 11: Warp VII: Patterns of Conflict, 18 January 1977. Marine Corps Archives, slide 42. Hereafter, "Boyd, 'Patterns of Conflict,' Warp VII of January 18, 1977."
[885] Boyd, "Patterns of Conflict," Warp VII of January 18, 1977, slide 45.
[886] Boyd, "Patterns of Conflict," Warp VII of January 18, 1977, slide 49.

exploit tactical flexibility while also ensuring that their collective efforts contributed to some larger goal.

Boyd's interest in cohesion hadn't started with Sun Tzu, though that is a theme within *The Art of War* that further attuned Boyd to its importance. Starting in November 1976 Boyd had begun to emphasize cohesion, suggesting that the most decentralized of all units in World War I, German storm troops, were able to deal with the tension because they were "trained for cohesion."[887] This was a theme in his narrative, which explained the "fast tempo/fluidity-of-action and cohesion" of armored teams and guerilla bands facilitated their agility to concentrate, disperse, and shift forces in *Blitzkrieg* and guerilla warfare.[888] Cohesion in a general sense could simply mean the unity or social strength of a unit, but what Boyd still couldn't answer, was how cohesive action, tactical focus, would be created. Simple cohesion, not situationally dependent, could not generate a shared course of action for small units operating independently in changing situations under decentralized command. Boyd was still searching for a missing element, so his Key Point still remained, though it was expressed in an even simpler form: "Difficult to sustain fast tempo and maintain cohesion of Blitz effort when forced to repeatedly and rapidly shift concentration of strength against weakness."[889] Boyd understood that a degree of tactical centralization was necessary, for in relating his Pattern for Successful Operations to tactical action he even added that it was vital to be able to "shift center of effort to gain or keep initiative."[890] The answer came to Boyd in late September or early October 1977, with the

[887] Boyd, "Patterns of Conflict, Warp V," slide 16.
[888] Boyd, "Patterns of Conflict, Warp V," slides 21, 27.
[889] John R. Boyd, "Patterns of Conflict, Warp VIII." March 17, 1977. John R. Boyd Collection, Collection 2062, Box 4, Folder 4: Warp VIII: Patterns of Conflict—17 March 1977. Marine Corps Archives, slide 47; through John R. Boyd, "Patterns of Conflict, Warp X," September 16, 1977, John R. Boyd Collection, Collection 2062, Box 4, Folder 9: Warp X: Patterns of Conflict—16 September 1977, Marine Corps Archives, slide 42.
[890] Boyd, "Patterns of Conflict, Warp X," slide 55.

adoption of the concept of *Schwerpunkt,* a German term which generally translates as "point of main effort" or "focus of main effort."

The importance of this term to Boyd's studies is clear. The first time he incorporated the word, in October 1977, it was pervasive. This version of "Patterns of Conflict" was also the only time he gave the brief a subtitle, apparently a short-lived experiment to highlight the vital ideas. The title of that brief was "Patterns of Conflict: Cheng, Ch'i, and Schwerpunkt."[891] What is less clear is why the concept of *Schwerpunkt* gained such significance at that time. Boyd had been familiar with the term for at least a year. One of the first books he read in 1976 was Ferdinand Otto Miksche's 1942 *Blitzkrieg*. Miksche was a Czechoslovakian who served with the International Brigades in the Spanish Civil War, ultimately becoming a major in the Spanish Republican Army.[892] Writing in England while exiled from the Nazi-occupied Czechoslovakia, Miksche argued that the German success in *Blitzkrieg* was a product of concentrating on a narrow front to pierce enemy defenses, and the method for accomplishing this was captured by two words, *Schwerpunkt* and *Aufrollen*. Boyd marked his copy of the book to highlight Miksche's explanation:

> These two words are the most striking features of German military doctrine. They have both strategic and an operative or tactical meaning, right down to the minutest details of fighting as conducted by small units. They are just as much a feature of infantry operations as of operations carried out by mechanized or motorized units, the latter of course being most suitable to carry these tactical conceptions into effect.[893]

Miksche then defined *Schwerpunkt* as a "continual seeking for the weakest points of resistance, in order to attack them with local superiority," and a "swaying back and forth to maintain

[891] John R. Boyd, "Patterns of Conflict, Warp XI," October 12, 1977, John R. Boyd Collection, Collection 2062, Box 4, Folder 10: Warp XI: Patterns of Conflict—12 October 1977, Marine Corps Archives, slide 1.
[892] F.O. Miksche, *Blitzkrieg* (London: Faber and Faber Limited, 1942), copy annotated by John R. Boyd, John R. Boyd Collection, Collection 2062, Book Box 1, Marine Corps Archives, 7-8, 13.
[893] Miksche, *Blitzkrieg*, copy annotated by Boyd, 53-54.

initiative, superiority, and surprise even in the smallest details of the fight."[894] He describes *Aufrollen* as a complement to this, "which alternates with the movement of the Schwerpunkt" for the "immediate and methodical exploiting of each local success by side thrusts" to "protect the flanks of the advancing units."[895] Miksche continued, "The Schwerpunkt and the direction of the thrust are chosen first, before the action. Should they prove unsuccessful, both point and direction of thrust are switched over by building up a new thrust-point from the reserves."[896] This passage in and of itself did not offer a clear answer to Boyd's search for a way to balance the necessity for both decentralization and cohesion. Even Miksche's translator, a British colonel named Tom Wintringham, realized that the explanation did not impart much useful clarity and needed elaboration. Wintringham attempted to clarify these two concepts, which he considered the "single main pattern of German tactics," by offering his own explanation:

> The dictionary translation of Schwerpunkt is 'centre of gravity', or 'point of principal effort. Neither of these terms fits the meaning that the word has acquired in German military literature. Throughout this book I have translated the German word by "thrust-point…
>
> The Germans believe in concentrating powerful forces against narrow frontages. The point for their thrust is provisionally chosen, and the direction of this thrust, before battle. But a constant change of thrust-point occurs in the course of the battle's development, and a constant swinging of the direction of the thrust from one flank to another over a considerable arc. This gives the German attack, whether carried out by a hundred men or a hundred thousand, one of its main characteristics: that is searches continually for a weak point in the enemy's position and continually uses this weak point to secure ground from which flank attacks, and attacks from the rear, can swing against stronger points.[897]

While Boyd's notes show he paid attention to these explanations of *Schwerpunkt*, the enormous significance he ascribed to the concept was a year away. This may be because Boyd generally distrusted Miksche's analysis. In response to Mickshe's discussion of specific roles for various

[894] Miksche, *Blitzkrieg*, copy annotated by Boyd, 54.
[895] Miksche, *Blitzkrieg*, copy annotated by Boyd, 54.
[896] Miksche, *Blitzkrieg*, copy annotated by Boyd, 55.
[897] Miksche, *Blitzkrieg*, copy annotated by Boyd, 17

types of units, for example, Boyd wrote in the margins, "Experience (Guderian and others) suggests that these comments are too rigid and not necessarily true!" and "The whole approach is too rigid and the idea of [Panzer] Divisions being reigned in after the breakthrough doesn't conform to the evidence!"[898] Over time, Boyd's continuing studies of the *Wehrmacht* would help him separate the wheat from the chaff in Mikche's analysis.

Over the course of the next year, Boyd became more familiar with the *Wehrmacht* through books such as Kenneth Macksey's 1968 *Panzer Division*, Richard Humble's 1974 *Hitler's Generals*, and Charles Messenger's 1976 *The Blitzkrieg Story*, among others. Another, Albert Kesselring's 1952 "Manual for Command and Combat Employment of Smaller Units" must have played an important role. It was the only addition to Boyd's source list in the month before he aggressively incorporated *Schwerpunkt* in "Patterns of Conflict," and the decreased pace of his reading suggests that Boyd took time to engage with the book carefully. Kesselring, a former *Luftwaffe* field marshal, led a team of former *Wehrmacht* officers in preparing this study for U.S. European Command in 1952 with the support and translation services of the U.S. Army's Chief of Military History. The project's objective was to see what the German experience in World War II suggested was of practical value for a future war against the Soviets in Europe. Kesselring's manual explains the concept of command in a particularly German way, one that emphasizes command as an expression of an officer's moral authority, earned by soldierly conduct and a track record of successful decisions, both of which earn the trust of his subordinates.[899] Kesselring explained,

> Exercises and combat make the units familiar with each other's method; they become accustomed to their commanders and the commanders know what can be asked of them. The solidarity between commanders and their men, as well as between the men and their

[898] Miksche, *Blitzkrieg*, copy annotated by Boyd, 119, 116.
[899] Albert Kesselring, *Small Unit Tactics Manual for Command and Combat Employment of Smaller Units* (Washington, D.C.: Department of the Army, Office of the Chief of Military History, 1952), 12-14.

> friends, has developed from common traditions, common experiences and common accomplishments. To split up units in tactical operations is a measure to which a commander should resort only in cases of extreme emergency. Units or their elements, when placed under strange commanders, are neither led nor supplied in the manner to which they are accustomed. Their combat value diminishes rapidly and losses are excessive.[900]

In such a conception of command, a leader's subordinate military units are not discrete containers of combat power to be employed as playing pieces, but parts of a larger, cohesive social structure which could collectively adapt because of a shared mutual understanding within the group. This is a critical notion that Boyd would later emphasize in the most mature versions of "Patterns of Conflict," and in his later works, where he would emphasize the value of "implicit connections or bonds."[901]

Kesselring shows that mutual trust and understanding is reflected in the actual exercise of command, where

> prior discussions with subordinates or discussions before execution of the order are indispensable. The commanding officer thereby makes sure that everything has been correctly understood; the subordinate has an opportunity to clear up any doubts he may have had and, having acquired an idea of the general situation, he will be able to act according to the intentions of the commanding officer if the situation should change.[902]

In essence, a subordinate does not merely carry out a specific act assigned by his commander, but carries it out with an understanding of, and in pursuit of, his commander's higher intention. Acting with this higher intention as the ultimate goal, the subordinate is empowered to adapt to changing situations by altering his own course of action rather than waiting until he is told to do so. Kesselring explained,

> If…the commander believes his subordinates are capable of completing a mission themselves, because they have the necessary training, experience and fighting qualities, he will content himself with stating the purpose and objective of his order. Further details of the execution can be limited to the elements absolutely necessary for co-ordinating

[900] Kesselring, 15-16.
[901] Boyd, "Patterns of Conflict," 1986 transcript, slide 95.
[902] Kesselring, 13-14.

> activities of adjacent, supporting or supported troops with respect to time and place. This…form of giving orders, the assignment of a mission, with latitude being given as to execution, will induce all commanders and combatants to think. It will increase their self-confidence and their sense of responsibility and, in case of a sudden change in the situation, it will insure that the spearheads act according to the intentions of the commander. On the other hand, forces accustomed to waiting for an order, or who need an order for each action, will simply freeze to the point of inaction unless they receive such an order.[903]

Boyd appreciated the value of a command style which did not depend on specific detailed instructions, later arguing "The key thing is implicit over explicit communication, which suggests that the secret to German command lies in what's unstated or not communicated to one another. In other words, instead of laying out detailed orders, it's unstated."[904]

Though as translated in the published work Kesselring did not explicitly use the German term *Schwerpunkt*, the concept of "point of main effort" was tied to the German command style of focusing on the higher purpose of an action, rather than the action itself.

> 14. The commanders of small and the smallest units are generally instructed regarding the purpose of a tactical action and their mission by the orders of higher command agencies. …Every independent decision must, in the first place, be in conformity with the intentions of the senior commander. The latter, therefore, must see to it that his intentions are made known to all subordinate commanders…
>
> 15. Of decisive influence on the course of an operation is the choice of a point of main effort. As a rule the point of main effort of an attack will be selected at a point where the terrain, the organization of the enemy forces and of the friendly forces offer conditions favorable for success.[905]

The term "point of main effort" appears constantly throughout this manual, showing that the designation of a focal effort for a unit is what gives its various efforts unity, especially when it is widely understood across supporting arms (like artillery) and support services (like supply). Further, Kesselring made an important connection to the German concept of command, insisting, "If, during combat operations, a situation arises which offers an unexpected advantage over the

[903] Kesselring, 26.
[904] Boyd, "Patterns of Conflict," 1986 transcript, slide 76.
[905] Kesselring, 16-17.

enemy, it may be considered a duty to exceed the scope of combat mission." With a duty to disobey or exceed orders in certain circumstances, the German officer's idea of a point of main effort, or *Schwerpunkt*, takes on new meaning. Rather than simply being the specific place or objective that a commander specifies, one he might change from time to time in specific orders, it is the overall intention of his operation, or general objective he seeks. As a result, in changing circumstances subordinates would need to modify their specific actions to accomplish this intended objective, rather than waiting on the commander to interpret the situation and issue specific directive orders. With this in mind, the deeper meaning of Miksche's and Wintringham's explanation, describing *Schwerpunkt* as a main direction of thrust which constantly "swings" or "sways" to seek weak points, is clear. It is how a tactical unit seeks out the most productive path to the higher commander's deeper objective, rather than getting mired in a fight which might not contribute toward that objective. This is critical, as it helps preserve "initiative, superiority, and surprise even in the smallest details of the fight."[906]

By October 1977, a year of study had armed Boyd with a deeper knowledge of *Wehrmacht* operations and commanders in World War II, and he now benefited from a specific explanation of the German style of command by one of those commanders (Kesselring), but in English terms. During this time Boyd was also exposed to several scholars in German military history who spoke German, including Russell Stolfi from first the Battelle interview and, possibly, William S. Lind. Whatever the reason for Boyd's increased comfort with what had been an alien linguistic term, Boyd's October 1977 revision of "Patterns of Conflict" showed immediate and wide adoption of the *Schwerpunkt* concept. In this version he introduced a slide titled "Unifying

[906] Miksche, *Blitzkrieg*, copy annotated by Boyd, 54.

Concept of Blitzkrieg," and that slide makes it clear he saw *Schwerpunkt* as the missing link he had been searching for, a way to balance decentralization and cohesion. Boyd's new slide stated,

> Schwerpunkt (Point of Main Effort)
> - Implies a thinning out of force and effort in other sectors.
> - Center or axis around which:
>  -- Fire and movement of all arms (at all levels) are focused to produce sudden shock action.
>  -- Initiative at tactical level is meshed with intent at strategic level.
> - Unifying concept or tool that makes possible true decentralization of tactical command within centralized strategic guidance.[907]

Boyd also modified the Pattern for Successful Operations at the end of his brief. Where in September one of the bullets was "pursue direction which permits many branches and threatens alternative objectives" reflecting simply decentralization, now it read, "Establish center of effort and pursue direction which permits many branches and threatens alternative objectives," followed by "(schwerpunkt)."[908] This change shows that Boyd had come to understand that tactical variations had to occur within some larger tactical concept that provided some common purpose to those variations. This had to be changeable, for a key capability of acting more inconspicuously, more quickly, and more fluidity without losing cohesion of overall effort was to "shift center of effort to gain or keep initiative."[909]

The 1978 transcript shows Boyd was emphatic on the importance of *Schwerpunkt* in his presentations, stating,

> The key to their success—I have already pointed it out, and I want to stress it again, the idea of the schwerpunkt to do these things: focus, shift, and harmonize organizations support at all levels. It is the central glue that makes the whole thing work… The decentralized command once again based upon Schwerpunkt where they actually give their lower level commanders this freedom of action so they can shoot the gaps. They can shoot the voids. Take advantage of opportunities. The idea is superior mobile communications in

[907] Boyd, "Patterns of Conflict, Warp XI," 34.
[908] Boyd, "Patterns of Conflict, Warp X," slide 49; Boyd, "Patterns of Conflict, Warp XI," slide 58.
[909] Boyd, "Patterns of Conflict, Warp XI," slide 60.

> order to maintain the cohesion and to reallocate efforts or reserves wherever you have to shift that point of main effort to every now and then.[910]

For a brief time Boyd discussed *cheng*, *ch'i*, and *Schwerpunkt* as his three central concepts, roughly equating them with deception, surprise, and shock.[911] Boyd would soon come to adopt other German terms to elaborate on these ideas. Boyd saw the close relationship between *cheng* and *ch'i* as Sun Tzu's pairing of the deceptive action which played upon enemy expectations, setting up the success of an unexpected, decisive action. Of the two, *Schwerpunkt* most solely resembled *ch'i*, a decisive move made in an unexpected way to generate surprise and shock. If *Schwerpunkt* equated to *ch'i*, and these ideas were truly universal, there should be some German complement to *cheng*, a lesser, supporting effort made to deceive the enemy. Boyd saw that the Germans indeed had a concept to describe supporting efforts that would facilitate the success of the *Schwerpunkt*. Boyd explained,

> I did not know what the word was, so I talked to some of my friends here who are very familiar with German—it is Nebenpunkt, or those points of secondary or other efforts, which they would use to tie up or drain away their adversary's strength. They were playing two kinds of games there: the point of main effort, or Schwerpunkt, and points of these other efforts, nebenpunkt. This was not just a thrust point driving into some adversary's front.[912]

In time, Boyd would elaborate further, showing how these concepts were allowing him to bring together various disparate parts which he had individually recognized to be important. Sun Tzu stressed fluidity and pitting strength against weakness. Sun Tzu had also stressed cohesion. In the Germans Boyd saw the value of avoiding paths of expectation to exploit paths of weakness, and the importance of decentralization. What had been lacking was an idea of how one would bring enough cohesion to decentralized effort so that a force could actually concentrate strength

[910] Battelle Columbus Laboratories, *Proceedings of Seminar on Air Antitank Warfare (May 25-26, 1978)*, 33.
[911] Boyd, "Patterns of Conflict, Warp XI," slides 61, 65.
[912] Battelle Columbus Laboratories, *Proceedings of Seminar on Air Antitank Warfare (May 25-26, 1978)*, 28-29.

to exploit weakness. These new concepts allowed him to bring all those ideas together. He explained,

> So how do you even keep the Blitzkrieg together, keep it from flying apart? If you give your lower level commander a lot of independence, they all start doing their own thing and pretty soon you might have a comic opera going on there. With that in mind let us get back to that notion of schwerpunkt… One of the things that is implied is a dramatic thinning out of force and effort in other sectors and the reason [is] they are trying to generate local superiority. They use words prior to World War I—the tactics of "surface" and "gaps." They recognized that they had to have gaps and voids in order to generate these schwerpunkt. They are applied at all levels from platoon to theater. In other words, the platoon will have a schwerpunkt. A company will have a schwerpunkt, a battalion, regiment, division, corps, army, group, theater. So you have schwerpunkt inside schwerpunkt. They applied at all levels. …the center or axis around which they maneuver using fire and movement of all arms and supporting elements. They even talk about a schwerpunkt for their logistics effort. The air [force] has a schwerpunkt… All supporting elements. The idea is to focus those things in order to exploit those opportunities and maintain the tempo of operation. So it is a center or axis around which these things are focused. Then we can actually mesh together the initiative of the tactical level with the intent of the strategic… So it acts as a glue in order to hold that Blitzkrieg together so it can function as intended.[913]

This passage illustrates the centrality of *Schwerpunkt* to the constellation of ideas Boyd was connecting, tearing apart, and reassembling. Boyd would later return to more closely consider the inherent tension between focusing effort and decentralizing action to exploit opportunities and tempo, a topic covered later in this chapter. Before moving on to Boyd's later studies, however, his mention of the tactics of surfaces and gaps in this passage is significant, and must be addressed.

Surfaces and gaps would become central theme of maneuver warfare after they were integrated by William S. Lind and Michael Wyly and then became part of Marine Corps *Warfighting* doctrine. Indeed, to this day people with a superficial understanding of maneuver warfare see it as little more than avoiding enemy strong points or strengths (surfaces) and

[913] Battelle Columbus Laboratories, *Proceedings of Seminar on Air Antitank Warfare (May 25-26, 1978)*, 30.

exploiting the enemy's weak points (gaps). Significantly, Boyd, allegedly the father of maneuver warfare, did not embrace these paired concepts as he did *cheng* and *ch'i* or *Schwerpunkt* and *Nebenpunkt*. Boyd clearly understood how surfaces and gaps independently related to his expanding ideas. He mentioned gaps numerous times in later versions of his brief, either as something to be identified in the enemy's dispositions and exploited, or as a weakness in one's own dispositions that one needed to be aware of. Boyd also clearly placed emphasis on avoiding regions of expectation to exploit paths of least resistance, what others would simply describe as avoiding surfaces to exploit gaps. The May 1978 transcript quoted above, however, is the only place Boyd is known to have mentioned the German tactics of surfaces and gaps, pairing those two concepts just as he encountered them one of his first books on German military history, Miksche's *Blitzkreig,* in the fall of 1976, and just as many maneuver warfare advocates would continue to do.[914]

Chapters 7, 8, and 9 will show that the tactics of surfaces and gaps were central to Boyd's contemporaries' conceptions of maneuver warfare, but Boyd did not include it in any of the 32 extant versions of the slide deck for "Patterns of Conflict," and it does not appear in the transcripts for either his 1986 or 1989 presentations of that brief.[915] His sole mention of surfaces and gaps as a dualistic pair in 1978 shows that he was aware of it, but only chose not to integrate it into his analysis. The importance of this issue for this study bears repeating—one of the

[914] Miksche, *Blitzkrieg*, copy annotated by Boyd, 54. Just after the discussion of *Schwerpunkt* and *Aufrollen*, Misksche discusses "*Flachen und Lückentaktik* (tactics of spaces and gap)" which this dissertation's next chapter will show Lind developed into the concept of surfaces and gaps.

[915] In John R. Boyd, "Discourse on Winning and Losing," presentation, 25 April – 3 May 1989, transcript prepared by Ian T. Brown, in the hands of Shawn P. Callahan. Though Brown titled this transcript "Discourse on Winning and Losing," it only covers the "Patterns of Conflict" portion of Boyd's *A Discourse on Winning and Losing* "Green Book" briefing. Hereafter "Boyd, 'A Discourse on Winning and Losing,' 1989 transcript." Boyd actually does discuss surfaces and gaps in 1989, but it is in response to a question asked by an audience member, and Boyd answers it explicitly references FMFM-1, which was published a year earlier and makes prominent use of the concept. The point here is that Boyd did not originate or endorse the concept of surfaces and gaps in "Patterns of Conflict," so it must have found its way there from another source, to be revealed in a later chapter.

central concepts that has come to be associated with maneuver warfare did not come from John Boyd. Boyd knew of the tactics of surfaces and gaps, but only took interest in the half of the concept (gaps) that he could fit into his growing synthesis of ideas conflict from a diverse range of sources. Contrary to the critique that Boyd was uncritical in his read of German history, Boyd was selective in his adoption of ideas he read, even when they were embraced by the leading maneuverists. Boyd was neither the single genius behind the concept of maneuver warfare, nor beholden to a superficial narrative of German military history.

**The Progression of Boyd's Ideas in "Patterns of Conflict": Synthesis and Stabilization**

The general development of Boyd's ideas described thus far is as follows: In the fall of 1976 Boyd began his wider historical inquiry, developing some impressions about the nature of conflict informed by his intuitions about aerial warfare. He next embarked upon a detailed study of Sun Tzu, which dramatically shaped his understanding and expression of his ideas. This led to what Chapter 4 refers to as Boyd's first great synthesis in the life of "Patterns of Conflict": in January 1977 Boyd incepted Observe-Decide-Act (ODA) and emphasized Initiative, Quickness, Fluidity and Cohesion (IQFC) as the key characteristics that would promote success in war. In the summer of 1977, he moved on to integrate ideas drawn from a close study of Clausewitz, and continued exploring German history with a renewed focus, thinking about the style of command needed to capitalize on the vital qualities of IQFC. Over the first half of 1978, Boyd gradually incorporated Orientation as an explicit process in the ODA cycle, so that by July OODA completely replaced ODA. This section of this chapter focuses on what came next, in November 1978. That month was a particularly important moment in the development of "Patterns of Conflict" for several reasons.

First, the two revisions Boyd produced in November 1978 refined and integrated some of the most central ideas later associated with "Patterns of Conflict." These include initial incorporation of the concept of "maneuver conflict," and explicit rejection of formulaic theories of war. These each deserve their own treatments, and are the subjects of the next two sections of this chapter.

A second reason why November 1978 was particularly important was that the two versions of "Patterns of Conflict" produced in that month marked a continued decrease in the pace of Boyd's revisions, and a distinct change in the nature of his revisions. Figure 5 depicts the number of slides in each version of Boyd's brief, as well as the number of sources he cited in that brief. The November 1978 versions are at least the sixth and seventh he produced that year, but Boyd would make only four more over the next year.[916] Whereas in the early months, late

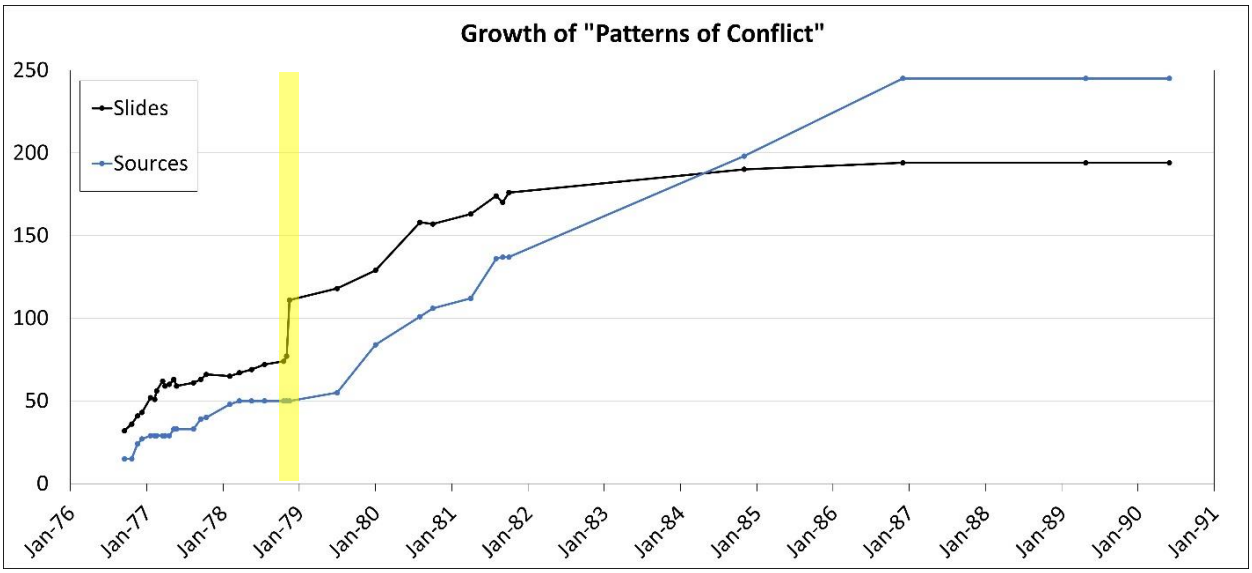



Figure 5. Boyd's most radical period of synthesis. The progressive growth of Boyd's "Patterns of Conflict" study is represented by the number of sources in his source lists (blue line) and the total number of slides in his exposition (black line). The yellow region indicates the two versions produced in November 1978 when Boyd's most radical period of synthesis occurred, after which the pace of revisions slowed significantly.

[916] There are four known copies of "Patterns of Conflict" from 1978: March 20, May 18, November 1, and "November," but Boyd's system for noting revisions indicates that revisions were also made on February 2, July 18, and October 18. For 1979 there is one copy in existence for April 1979, but his title slides of this and the January 1980 version indicate revisions were also made in April, June, and November.

1976 and early 1977, Boyd was sometimes producing multiple revisions to "Patterns of Conflict" in a single month, in 1978 and 1979 the pace slowed to an average of just one revision every two to three months. After 1979 he would make only nine more revisions in seven years. This indicates that Boyd's ideas were stabilizing into a larger synthesis he felt was acceptably coherent. The subsequent changes were more refinements than the result of revolutionary insights that would require Boyd to destroy what he had built to date and create of something new. Figure 5 is also valuable because it also shows the relationship between the number of sources Boyd was reading compared to the changes he was making in his brief, or the rate at which he was reading new material compared to rate at which "Patterns of Conflict" expanded. Over the period roughly corresponding to calendar years 1978 and 1979 Boyd was reading much less new material, but spending much more time synthesizing and expanding the expression of his ideas. November 1978, indicated in yellow on the figure, shows the most notable leap in the volume of content in Boyd's brief, a quantitative expression of the results of this second great period of synthesis.

The final reason November 1978 is significant is because much of the radical increase in the size of "Patterns of Conflict" was the result of introducing new structure. Boyd's synthesis was producing entirely new elements in exposition. Boyd inserted two new sections at the end of "Patterns of Conflict": "Wrap Up" and "Application." The significance and permanence of this structural change to the larger project is graphically evident in Figure 2 with the appearance of the green and blue segments of each column, but each of those additions is worthy of its own explanation.

The earlier addition of a "Synthesis" section in Warp XI of October 1977 was largely a cosmetic change. This was simply a relabeling of the "Pattern for Successful Operations"

section which had served as the synthetic conclusion of Boyd's brief since its earliest version, though it grew from four slides to eleven.[917] In November 1978, however, Boyd added "Application," a new section birthed in a complete state, a package of 28 slides that Boyd would barely revise at all in the next eight years. The Application section came immediately after the Synthesis, and used historical case studies to illustrate the ideas Boyd expressed in his Pattern for Successful Operations. If there was a section of this brief where Boyd could be accused of using history merely to substantiate his own ideas, this would be it. This critique holds much less water, however, when one realizes that the Application section was only added after Boyd's Historical Investigation, which had begun four years earlier. The Application was also a much smaller portion of the brief than the Historical Investigation, and when Boyd was running short of time in his presentation (as he frequently was), he dropped this section of the brief from his talk.[918]

The final portion of the brief, the "Wrap Up," was added just a few weeks before the Application, further suggesting that Boyd's Application was merely a illustration of the conclusions he synthesized from his inquiry into history and theory. The Wrap Up was the final section of "Patterns of Conflict" and varied between four and five slides long over the next eight years. It was meant as an expansion of the Message slide stressing the four key qualities of IQFC. Boyd couldn't end by telling his audiences to "do" OODA, but the wrap-up allowed him to conclude by telling his audiences something they should do. Boyd wanted them to strive for greater IQFC, or build a force that was more IQFC to promote success in fundamentally

[917] Boyd, "Patterns of Conflict, Warp XI," slides 56-66.
[918] This is the case with both of the transcripts from the time after Boyd built the Application section of his brief. Boyd, "Patterns of Conflict," 1986 transcript, slide 173; and Boyd, "A Discourse on Winning and Losing," 1989 transcript, 139. Pages 160-168 show that in 1989 Boyd did come back afterwards to briefly cover a portion of these slides.

competitive environments. The addition of the Wrap Up allowed Boyd to end his brief, now three or four hours long, with an appropriate emphasis on this concept. With these major structural changes in mind, the next sections of this chapter turn to the major conceptual changes Boyd incorporated in November 1978: his initial explicit integration of maneuver conflict and his explicit rejection of formulaic approaches to a theory of war.

**Boyd's Initial Incorporation of the Concept of Maneuver**

Though Boyd is frequently described as the originator of the concept of maneuver warfare, Chapter 5 showed that William S. Lind first developed the idea of maneuver doctrine in May 1976, and its first appearance in print was in October of that year, in an *Armed Forces Journal* article ghost-written by Lind.[919] This was well before Boyd first began discussing the idea of maneuver as a coherent concept and incorporated "maneuver conflict" in his "Patterns of Conflict" briefing. That did not occur for two more years, in November 1978. It is not clear if Boyd and Lind met before May 1978, or if Boyd was familiar with the 1976 article introducing the "maneuver doctrine" and "attrition/firepower doctrine" as dichotomous concepts. It is therefore not clear what role Lind may have played in Boyd's early understanding of maneuver. Boyd was, however, certainly familiar with the idea that maneuver and attrition could be considered different approaches to warfare, and did employ those underlying terms long before his brief explained maneuver conflict as a form of conflict.

Boyd's earliest and most influential historical readings made conspicuous mention of maneuver as a preferred alternative to attrition. While not an explicit theme in *War Through the Ages*, Lynn Montross described manoeuvre as an expedient which could compensate for

[919] John Patrick, "Banned At Fort Monroe, Or The Article The Army Doesn't Want You To Read." *Armed Forces Journal International* 114, no. 2 (October 1976), 26.

numerical inferiority, where "manoeuvre must take the place of numbers."[920] He also described manoeuvre a means of delivering devastating defeats by hitting an enemy in an unexpected place, or by cornering him in an impossible situation. Montross credited Napoleon with employing certain units as "masses of manoeuvre" to make decisive strikes in his bids for victory.[921] Montross even described the "school of manoeuvre" as a talented strategist's way of accomplishing his objectives without battle. As an example, he explained one might shun "combat while depending on complex manoeuvres to deceive or wear down the enemy."[922] Many of these elements were also captured in Liddell Hart's *Strategy*, supporting Liddell Hart's basic argument that an indirect approach dislocates an enemy's psychological and physical balance, leading to a decisive victory at significantly lower cost than one in which the enemy's endurance is gradually drained.[923] In his narrative of history, Liddell Hart described an "excess of directness" as a "want of art," and praised some of the most effective commanders for "substitution of manœuvre for direct assaults" upon the enemy.[924] Strategy, he wrote, can have a Jekyll and Hyde character, with the refined Dr. Jekyll corresponding to "blood saving manœuvre," while the savage Hyde personified pursuit of the immediate objective in front of one's eyes (destruction of the adversary's force), fighting battles with less attention to the larger objectives of a campaign.[925] This idea of maneuver as an alternative to direct attacks and bloody assaults comported well with Sun Tzu when Boyd studied *The Art of War*. Though Sun Tu did not use the same terms, Boyd's "conceptual father," was famous for the maxim, "For to win one hundred victories in one hundred battles is not the acme of skill. To subdue the enemy without

[920] Montross, *War Through the Ages*, copy annotated by Boyd, 305, 403, 463.
[921] Montross, *War Through the Ages*, copy annotated by Boyd, 203, 343, 508, 536.
[922] Montross, *War Through the Ages*, copy annotated by Boyd, 243, 291-292, 341, 367
[923] Liddell Hart, *Strategy*, copy annotated by Boyd, xx, 25, 31.
[924] Liddell Hart, *Strategy*, copy annotated by Boyd, 54-55.
[925] Liddell Hart, *Strategy*, copy annotated by Boyd, 57.

fighting is the acme of skill." The last sentence is underlined in Boyd's personal copy of *The Art of War*.[926]

Though Boyd never presented the two concepts of attrition and maneuver as a dichotomy in "Pattens of Conflict," he clearly picked up on the theme in his readings that maneuver was a better alternative to attrition. The earliest copy of his slides, Version 3 from the fall 1976, clearly depicts attrition in a negative manner, with World War I characterized by "Stagnation and enormous attrition."[927] In this same version of the brief he described German infiltration tactics as a solution to this problem, avoiding such stagnation and attrition.[928] Boyd was also clearly aware of that some writers had contrasted "maneuver" with "attrition." In January 1977 Boyd described the series of major conflicts from the U.S. Civil War to World War I as "wars of attrition, wars of fire power, instead of wars of maneuver."[929] This was not just a casual observation. Boyd understood there was debate on these concepts, and where he stood in that debate. At the end of that interview, he explained the value of his study of history, stating,

> I am glad I did because I have a much deeper appreciation for history. Instead of thinking it [sic] as a battle with everybody charging one another and a lot of bodies flying around, I can see now there are some very different distinctions. Like one of the big distinctions you have in war, particularly in armies, is the idea of fire and maneuver. You have heard of that--or fire and move. Now in some sense, you get the argument where some people believe that one is the handmaid and one is the servant of the other; like maneuver may be the servant of fire, or fire may be the servant of maneuver. What I am trying to say is, some people say you maneuver in order to fire. The issue is to fire; you just get into position to blow everybody away. The other people say, "No, that is wrong." Both flavors are very strong. The argument comes, "No, you really want to use fire as a basis for maneuver."
>
> …My theory is more the fire in order to maneuver. My study leans more that way, in the sense that I use the fire part to wedge them out so I can put the shock on them by moving very quickly against them. It tends to lean more in that direction.

---

[926] Sun Tzu, *The Art of War*, trans. Samuel B. Griffith (New York: Oxford University Press, 1963), copy annotated by John R. Boyd. John R. Boyd Collection, Collection 2062, Book Box 1, Marine Corps Archives, 77.
[927] Boyd, "Patterns of Conflict, Version #3," slide 13.
[928] Boyd, "Patterns of Conflict, Version #3," slide 14.
[929] U.S. Air Force, *Corona Ace Interview*, 172.

> …what I am talking about is that people maneuver in order to fire and blow people away. My fire is to open things up so that I can get the opportunity to maneuver even though I may fire again. In other words, I am trying to put the shock on him by always having things happen very fast. So, my plan would lean more in the direction of fire in order to maneuver… I can see it either way; however, when you start talking about maneuvering to fire, most people will move their trucks or artillery so they can blow everybody away. It is an attrition game, but the Germans did it differently. They used the fire in order to open everything up so that they could go like hell and occupy the opponent's command structures—communication lines and support areas, et cetera--and then they would just hold. That was the idea of the blitz. It tended to be a fire drill in order to maneuver.[930]

Chapter 5 has shown that this concept of firepower supporting maneuver rather than maneuver supporting firepower was the same way Lind began to differentiate the two modes of fighting as early as February 1976. His initial critique of the U.S. Army's new doctrine that month pointed out that it "Implies you maneuver to apply firepower; ultimately should you not apply firepower to create opportunities for maneuver?"[931] Chapter 5 further shows that this idea of firepower serving maneuver, rather than maneuver serving firepower, continued to be central to Lind's explanations, through the time when he actually coined the terms "maneuver doctrine" and "firepower/attrition doctrine" later in 1976, and eventually changed the name to of his preferred mode to "maneuver warfare." Even if Boyd had not met Lind or read his article, by January 1977 he was certainly aware of the debate Lind had initiated.

Chapter 8 will show that one obstacle to the progress of the maneuver warfare movement was Lind's conception of maneuver warfare and attrition warfare as a dichotomy. This invited criticism. Opponents often pointed out that fire and destruction were still important to the success of maneuver, and the distinction between the two forms of fighting was therefore artificial. Though Boyd recognized at this early stage that his ideas comported more with the

[930] U.S. Air Force, *Corona Ace Interview*, 224-226.
[931] William S. Lind, "Reflections on 100-5," 27 February 1976, William S. Lind Papers, Collection 4939, Box 18, Folder 1: Land Forces Writings. Marine Corps Archives, Quantico, Virginia, 2.

idea of using firepower to enable decisive, disorienting, and dislocating maneuver, he did not adopt Lind's dichotomy. Boyd saw these concepts as part of an intermixed duality. Where the maneuverists put these concepts at opposite poles, condemning attrition and commending maneuver warfare as its antidote, Boyd never severed the two concepts. This was much more in line with his own integrative thinking, and the holistic, contextualized approach to knowledge promoted by his studies of Sun Tzu and Taosim.

When and how Boyd ultimately integrated the idea of maneuver in his brief as a coherent concept is important. That occurred more than two years into his historical inquiry, in November 1978. Prior to that point he had talked about maneuver and attrition as abstract approaches to war, informing his analysis of patterns in conflict. He had not built in either concept as a coherent idea supported by explanatory slides. This changed in November 1978 when he first began integrating the concept of maneuver conflict. Unfortunately, there are no transcripts of Boyd's presenting his brief for another eight years, in December 1986. The content and placement of his new slides on maneuver conflict are therefor the only evidence available to try and understand Boyd's early integration of maneuver conflict as an explicit concept.

Notably, though Boyd has apocryphally come to be known as a champion and the father of maneuver warfare, when he did integrate a concept of maneuver, he did not present it as the answer to his basic question for the brief, "Does History give any insight or suggest a useful pattern?"[932] Though the concept of maneuver clearly aligned with his thinking about the keys to success in conflict, "Patterns of Conflict" was not designed to persuade his listeners to adopt it. Instead, Boyd merely presented it as one of the patterns he observed in military history. Boyd's initial introduction of the idea of maneuver conflict was made in a single slide at the very end of

[932] Boyd, "Patterns of Conflict, Version #3," slide 4.

his Historical Investigation, before the Synthesis section where he presented his Pattern for Successful Operations. Figure 6 shows that first slide, titled "Essence of Maneuver Conflict." In it, Boyd offers a spatial correlation of various concepts had previously discussed. In the left column he depicts maneuver conflict as a "Game" of Deception, Speed, Fast Transient Maneuvers, and *Cheng*/*Ch'i* or *Nebenpunkt*/*Schwerpunkt* efforts. These generate the "Reward" of Disorientation, Surprise, Shock, and Disruption. The "Aim" of all this is simply "Pull adversary apart to bring about his collapse."[933] Boyd's slide did not offer a precise definition of maneuver warfare, but instead presented a vague sketch of a mode of conflict suggested by his

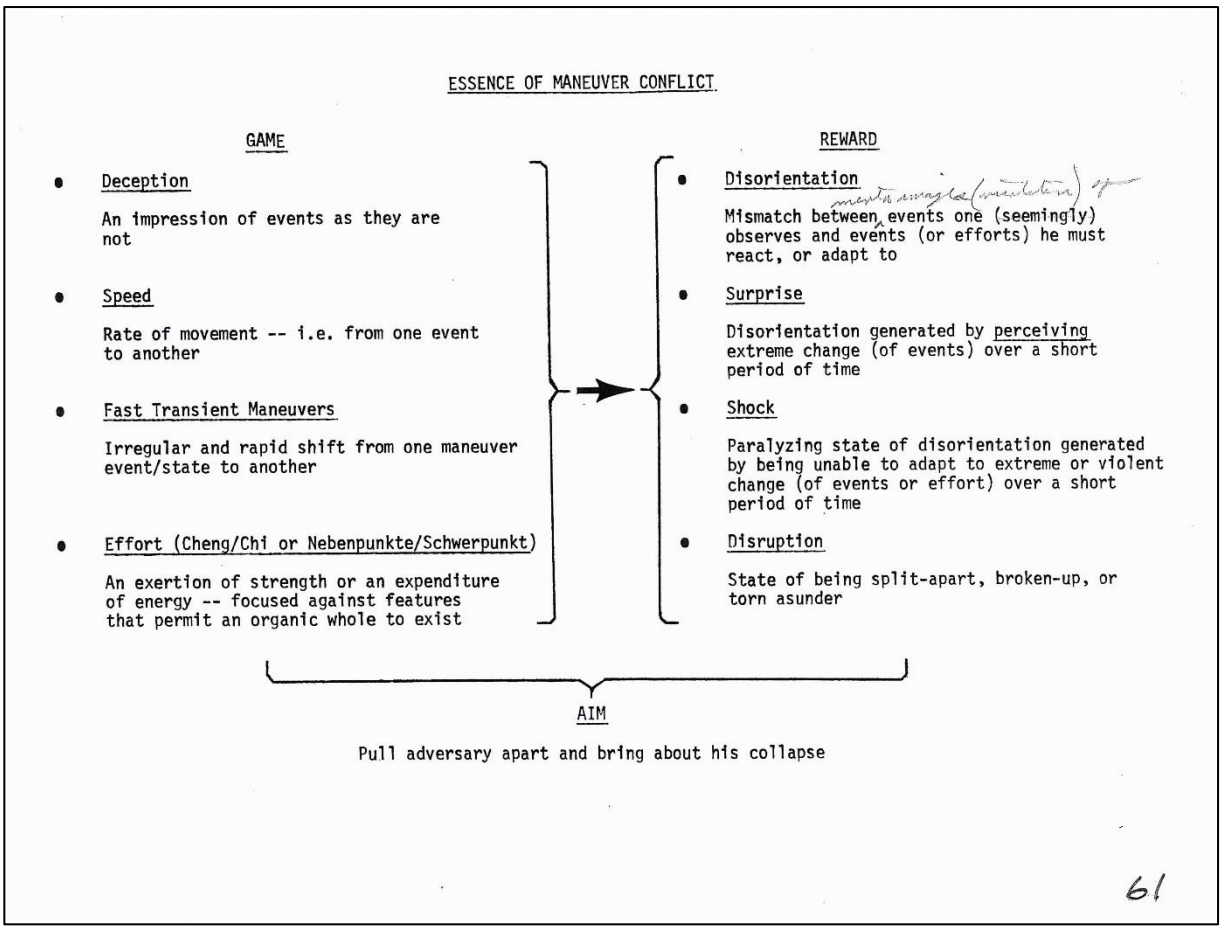



Figure 6. Slide 61 from the November 1, 1978 version of "Patterns of Conflict." This is the first evidence of Boyd using the term "maneuver conflict" and incorporating a concept similar to maneuver warfare in his briefs.

[933] John R. Boyd, "Patterns of Conflict," November 1, 1978, John R. Boyd Collection, Collection 2062, Box 4, Folder 12: Patterns of Conflict - 1978, Marine Corps Archives, slide 61. Hereafter, "Boyd, 'Patterns of Conflict,' November 1, 1978."

historical inquiry. Located at the end of his Historical Investigation, it was observational, and not part of the synthesis where Boyd would describe a coherent Pattern for Successful Operations that included OODA and ended by urging his audience to strive to imbue their military forces with IQFC.[934]

It is not clear why Boyd does not offer a sketch of attrition warfare or attrition conflict alongside maneuver conflict. It is also curious why he called it "maneuver conflict" instead of "maneuver doctrine," as was being discussed between military professionals in debates, and as Lind had initially defined the concept more than two years earlier. Even after Lind rebranded the concept "maneuver warfare" in June 1979, Boyd insisted on calling it "maneuver conflict" throughout the life of the "Patterns of Conflict" briefing. Boyd and Lind had been acquainted with each other for at least six months by November 1978, and Chapter 5 has shown their association was close enough for Lind to begin drawing Boyd's ideas into his own conception of maneuver warfare. As the January 1977 interview shows, almost two years prior to that, perhaps before Boyd ever knew of Lind, Boyd had also begun to align himself with Lind's agenda to promote maneuver as a better alternative to the U.S. military's historical dependence on firepower and attrition. Despite this, through his process of destructive analysis and creative synthesis, Boyd was selective in which terms and aspects of the debate he drew into "Patterns of Conflict," and did not adopt Lind's dichotomy.

Boyd's own, earliest, historical studies show that he was disposed to agree with Lind's terms of critique: attrition was an accurate descriptor of how the U.S. military had come to approach war. Boyd used the term "attrition" in the earliest versions of "Patterns of Conflict," discussing it as a feature of modern war demonstrated in the American Civil War, Austro-

[934] Boyd, "Patterns of Conflict," November 1, 1978, slides 62-72.

Prussian War, Franco-Prussian War, Boer War, Russo-Japanese War. There, he argued, the use of railroads and massive logistics footprints limited surprise, deception, and mobility, resulting in "frightful and debilitating casualties." In a more elaborate critique of World War I, he saw that dependence on railroads and tactic which focused on reducing strong points by firepower resulted in "stagnation and enormous attrition." Attrition is mentioned several times with a similar connotation throughout Boyd's Historical Investigation. For a brief period, between February and October 1977, he even mentioned attrition at the end of his brief as an antithesis of the Pattern for Successful Operations, stating that with regard to Grand Strategy, the underlying idea was to "Avoid high attrition, avoid widespread destruction, avoid battles, avoid protracted war."[935] If the Pattern for Successful Operations was the antithesis of attrition, it is even more curious why Boyd never upheld maneuver to be the ideal Pattern. In the months before he finally integrated the idea of maneuver conflict in his brief he even stated, "…any model we have that is not a Blitzkrieg is attrition warfare."[936] It was clear that the avoidance of attrition had remained a key part of Boyd's analysis, for another member of the May 1978 Battelle conference suggested that a central theme of Boyd's talk was that "we [Americans] only understand attrition warfare." Boyd responded by acknowledging that attrition warfare was a way of thinking that is deeply ingrained in the thinking of the U.S. military.[937] It is clear then, that by the fall of 1978 though Boyd didn't describe attrition doctrine and maneuver doctrine as a dichotomy in his slides, he was clearly searching for a way to describe an alternative to the attritionist status quo. This was exactly the type of thinking that led Lind to invent the term "maneuver doctrine" in 1976, and later "maneuver warfare." Boyd's awareness of the maneuver

[935] Boyd, "Patterns of Conflict, Warp VIII," February 16, 1977, slide 55.
[936] Battelle Columbus Laboratories, *Proceedings of Seminar on Air Antitank Warfare (May 25-26, 1978)*, 32.
[937] Battelle Columbus Laboratories, *Proceedings of Seminar on Air Antitank Warfare (May 25-26, 1978)*, 115.

warfare/attrition warfare dichotomy, and his alignment with Lind's agenda, only heighten the mystery surrounding his avoidance of this construct in "Patterns of Conflict."

Some answers are suggested by the way Boyd's "Essence of Maneuver Conflict" slide differs from his maturing explanation of his Pattern for Successful Operations. Most of the same concepts are mentioned on the two slides, with the former presenting Boyd's understanding of maneuver conflict while the latter discussed the more universal pattern of behavior. The Essence of Maneuver Conflict leaves out the central role of OODA, and the value of action being more inconspicuous, quick, and fluid, without losing cohesion (IQFC), as a basis for repeatedly and unexpectedly focusing strength against weakness to keep or gain the initiative. The Pattern for Successful Operations includes these ideas, is tied to the ultimate goal of depriving an adversary of his capacity for independent action, and highlights the need for a strategically centralized but tactically decentralized command style.[938] From this it is clear that Boyd did not see OODA and IQFC as a features tied exclusively to Blitzkrieg or maneuver conflict, and therefore the secrets of its dramatic success. He understood that these applied much more widely, and OODA was certainly much more than a vehicle for selling maneuver warfare, as many have come to understand it. Collectively, all this suggests that Boyd understood maneuver conflict to be a historical feature with *suggestions* about the nature of conflict writ large, one manifestation of the Pattern for Successful Operations. Boyd had been studying the *Wehrmacht* intensively during this period, and saw maneuver conflict as one historical manifestation of the Pattern for Successful Operations, but didn't think emulating the Germans was the whole answer. Where Lind was explicitly advocating that the U.S. military adopt the German model of warfare, Boyd was after something bigger that related not just to battle or war, but conflict in

[938] Boyd, "Patterns of Conflict," Warp XII of November 1, 1978, slide 64.

general. Boyd understood it was important to dislodge the U.S. military from its attritionist habits, but did not see maneuver warfare as the sole solution. "Patterns of Conflict" was not a vehicle for advocating maneuver warfare, but an inquiry seeking answers to larger questions.

In 1979 Boyd modified his presentation of the Essence of Maneuver Conflict slightly. At that point he explained that its aim was not merely to pull the adversary apart, but rather to create weaknesses or opportunities to do so, and he used a two-slide presentation to show how the rewards of Surprise and Shock could be restated as a failure to adapt to changing circumstances.[939] These changes, however, are not substantive. Significant changes would not occur until October 1980, and how they occurred is even more revealing about Boyd's understanding of maneuver conflict, suggesting why he always called this mode of competition "maneuver conflict" rather than "maneuver warfare." Those changes also affirm the assertion that endorsing maneuver conflict or maneuver warfare was never a central purpose of Boyd's brief. Before turning to those changes, however, this narrative addresses the second major concept Boyd added in the important revisions of November 1978: rejecting formulaic approaches to a theory of war.

**Jomini and Formulaic Approaches to a Theory of War**

Boyd's first mention of Henri Antoine Jomini in a slide or transcript was in the November 1978 version of "Patterns of Conflict," where he added a two-slide summary of Jomini's most famous work, his 1838 *Summary of the Art of War*. Jomini, a Swiss contemporary of Clausewitz who competes with the Prussian for the title of most influential European theorist on war, was an intellectual rival while the two men were alive. Jomini's magnum opus was

[939] John R. Boyd, "Patterns of Conflict," July 1979, John R. Boyd Collection, Collection 2062, Box 5, Folder 2: Patterns of Conflict [July 1979], Marine Corps Archives, slides 70-72.

published just six years after *On War* was posthumously published, and was in many ways a reaction to Clausewitz's work.[940] Of the two, Jomini is generally regarded as having the greatest impact on American military thinking as he sought to express the art of war in a set of principles. These generally focused on achieving an advantageous concentration of force in a decisive place. With such a large impact on American thinking, it was inevitable that Boyd would turn to Jomini at some point, and that happened about two years into his historical inquiry.

It should not be surprising that Boyd did not study Jomini sooner, as Boyd's other sources did not give the Swiss writer the high praise they had to Clausewitz, even if it was sometimes accompanied by pointed critique of *On War*. The German generals praised the Prussian, but did not mention the Swiss theorist. Liddell Hart spoke to Clausewitz's influence, and while he also found fault with the Prussian, Liddell Hart did not even mention Jomini. Montross devoted five pages to contrasting the ideas of Jomini and Clausewitz, and summarized their enduring influence in a way that was not flattering to Jomini. Montross pointed out that while Jomini enjoyed greater popularity among their contemporaries,

> …the Prussian writer's theories have endured to shape the warfare of a day which has forgotten the *Précis* [*de l'art de la guerre,* Jomini's magnum opus]. This outcome, which would have amazed the soldiers of 1854, may be explained by the fact that Jomini produced a system of war, Clausewitz a philosophy. The one has been outdated by new weapons, the other still influences the strategy behind those weapons.[941]

Boyd would ultimately adopt very similar descriptors in his own contrast between the two theorists, describing Clausewitz as the preeminent 19th century "philosopher [of] war" while Jomini was the "systemizer [of] war."[942]

---

[940] Christopher Bassford, "Jomini and Clausewitz: Their Interaction," in *The Consortium on Revolutionary Europe, 1750-1850, Proceedings, 1993*, eds. Ellen Evans and John W. Rooney, Jr. (Tallahassee, FL: Florida State University, 1994), 139. Full text available at https://www.clausewitz.com/readings/Bassford/Jomini/JOMINIX.htm
[941] Montross, *War Through the Ages*, copy annotated by Boyd, 583.
[942] Boyd, "Patterns of Conflict," 1986 transcript, slide 32.

When Boyd did first introduce Jomini in his brief, it was in November 1978 in two new slides. Though Jomini's classic did not appear on Boyd's source list until eight months later, it is likely that Boyd had begun to read the *Summary of the Art of War*, for the first of his new slides provides a lengthy quote. Boyd highlighted that Jomini claimed to have discovered "the Secret," which, if applied, would give "the key to all the science of war."[943] Boyd followed this with a slide listing the key ideas which Jomini developed with the aim of making "evident a 'secret' for success in war."[944] While that summary provides seven bullets relating to strategy and grand tactics, they do not provide a good sense of Boyd's larger assessment of Jomini at this time. The first transcript available to clarify Boyd's interpretation is from eight years later. In it Boyd draws attention to Jomini's "Supporting Mechanism," which the slides describe as, "divide theater and it subordinate components (zones, fronts, positions, etc.) into three subdivisions…"[945] In his oral explanation Boyd elaborated that he considered Jomini to have described a framework by which a battle area is thought of as three compartments. By deploying one's forces in these zones in different ways, one could "allocate your force relative to your adversary so you can gain [] leverage."[946] In this framework, friendly and enemy bases of operations were particularly important. The dependence of combat forces on these bases, and the lines of communication linking them to these bases, created both vulnerabilities and opportunities for each side in a war.

Jomini has over time been roundly criticized for seeming to reduce the art of war to a geometry of bases, lines of communication, and objectives. Montross, for example, one of

[943] John R. Boyd, "Patterns of Conflict," November 1978. John R. Boyd Collection, Collection 2062, Box 4, Folder 13: Patterns of Conflict - November 1978. Marine Corps Archives, slide 25.
[944] Boyd, "Patterns of Conflict," November 1978, slide 26.
[945] Boyd, "Patterns of Conflict," November 1978, slide 26.
[946] Boyd, "Patterns of Conflict," 1986 transcript, slide 45.

Boyd's first historical sources, criticized Jomini as a "military scientist seeking to condense his observations into a workable formula for other soldiers" yielding a "profusion of diagrams, axioms, and geometrical allusions which often obscure the human side."[947] Boyd's critique was a bit more sophisticated:

> [Jomini] was very much preoccupied with the form of operations, the range of bases, the formal orders of battle, etc. That's not so good because what does that do? You tend to become less adaptable, more predictable. Rigidity begins to creep in. …And the likely result: operations become stereotyped unless you can appreciate his ideas outside their formal underpinnings. Now, if you take his formal underpinnings and pull them away, then there's some nice fluidity and adaptability in his operations. But if you tend to retain that [framework compartmenting the battle space], then you tend to be less adaptable, more predictable. In other words, throw away the lattice work. After you create the picture you don't leave the lattice there in order to screw up the picture.[948]

Where many, such as Montross, had criticized Jomini for being too formulaic, Boyd saw that the real danger wasn't the reliability of the formula themselves, but that they were held in such high regard, leading to rigid thinking and predictable operations. These were the very opposites of the fluidity and inconspicuousness Boyd considered critical in a competitive environment. To Boyd, more dangerous than Jomini's framework itself was becoming so bound to understanding events through that framework that one could not see the larger situation for what it really was. Boyd thought Jomini's adherents saw war as a game of manipulating deployments of forces within geographic compartments, relative to lines of communication and bases of operations. This view made them be oblivious to the fluid game of concentration and dispersion that Boyd argued was taking place in the same time and space. Indeed, Boyd's discussion of war being a game of concentration and dispersion in time and space illuminates a concept Boyd had incorporated in his earliest versions of "Patterns of Conflict", but never explicitly explained: Mind-Space-Time schemes or frameworks.

---

[947] Montross, *War Through the Ages*, copy annotated by Boyd, 582.
[948] Boyd, "Patterns of Conflict," 1986 transcript, slide 45.

In November 1976 Boyd mentioned this concept for the first time within a Fundamental Message, "…Blitz and Guerillas 'get inside adversary's' Mind-Space-Time Framework."[949] The marginal notes Boyd added to his copy of Clausewitz's *On War* (which he began reding about a year later) frequently include the acronym "M-S-T."[950] By November 1978 this concept was integrated in Boyd's most central concepts. In his Pattern for Successful Operations, for example, the idea is to "Cycle inside adversary's Observation-Orientation-Decision-Action loop or get inside his Mind-Time-Space."[951] While many thought of war as a contest taking place in space, Boyd's "Mind-Space-Time" concept stressed that the physical space being contested only had value as one element of this trinity. Boyd saw that Jomini's framework taught his readers to privilege space, to the neglect of time and especially mind. Boyd saw these latter dimensions as much more important to the successful conduct of war and conflict.

Boyd's analysis of Jomini shows that Boyd did see some value to these ideas when detached from their "formal underpinnings," but he was highly critical of the way they had come to be understood, simply as a rigid framework. In time, he saw this point deserved greater emphasis, perhaps because his critical message about the dangers of systemizing war into formulas or frameworks was being missed. Indeed, it is clear that even today many people continue to oversimplify Boyd's own complex ideas as nothing more than a methodical four-step OODA process to be completed as rapidly as possible. To help drive his point home about the danger of over-systematizing one's understanding of war, in August 1980 Boyd added a new section to his brief called the "Epilogue." This seven-slide coda walked his audience through the fallacy of a doctrine or understanding of war based upon rigid list of principles.

[949] Boyd, "Patterns of Conflict, Warp V," slide 32.
[950] Clausewitz, *On War*, copy annotated by Boyd, 11, 102, 139.
[951] Boyd, "Patterns of Conflict, Warp XII," November 1, 1978, slide 67.

Boyd had made periodic references to the "so called" principles of war throughout his brief that he expected would make his listeners uncomfortable, since such principles was considered by many to be the very heart of military theory and doctrine. Starting in August 1980 he used the Epilogue to make a direct, comprehensive, and explicit critique of this view. Boyd began by observing that in the previous hours of discussion he had made numerous comments about the Principles of War that questioned their real value, leaving audience unsettled. To guide his listeners through a closer examination of the principles, he presented a slide which listed the Principles of War as defined by the doctrines of four different nations: the United States, the United Kingdom, the Soviet Union, and France. Figure 7 shows while there are some similar features among the four columns, they commonalities are abstract, such as an emphasis on action, concentration, and economy. Boyd showed that while one nation, the United Kingdom, felt that ten principles were necessary to fully describe what is important in war, on the other extreme France only listed three.[952] Boyd explained "Scientific laws and principles are the same for all countries and seem to change little over time."[953] In the matter of war, however, each nation had a different set of principles, so none of them could not in fact be any sort of valid universal principles for understanding war.[954] Boyd's conclusion, then, was, "…the principles are not principles. Instead, they seem to be some kind of a (shifting) static check or laundry list of what should be adhered to."[955] Boyd warned his audiences to avoid an understanding of war based upon arbitrary principles, or any other form of attractive elegant definitive solution. Instead, he reminded them, it was flexibility in thinking about each particular competitive

[952] John R. Boyd, "Patterns of Conflict," August 1980, John R. Boyd Collection, Collection 2062, Box 6, Folder 2: Patterns of Conflict, August 1980, Marine Corps Archives, slide 140; Boyd, "Patterns of Conflict," December 1986 slides, slide 181.
[953] Boyd, "Patterns of Conflict," August 1980, slide 141.
[954] Boyd, "Patterns of Conflict," 1986 transcript, slide 182.
[955] Boyd, "Patterns of Conflict," August 1980, slide 141.

situation that would help generate "decisive mismatches of effort in mind-time-space to splinter [an] adversary organism and bring about his collapse."[956]

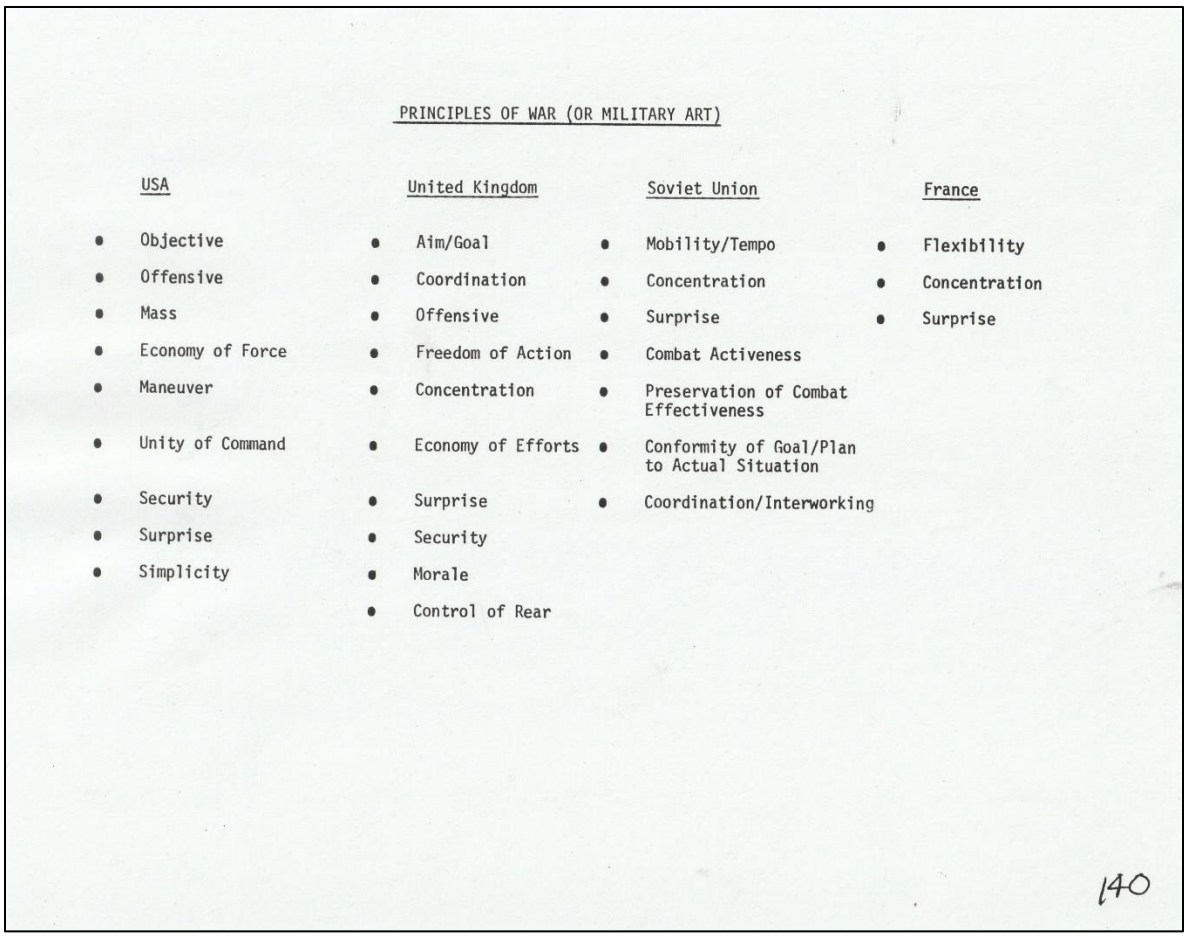



Figure 7. Slide 140 from the August 1980 version of "Patterns of Conflict." In this slide Boyd first provided a critique of the principles of war based on inconsistencies between the list of "universal" principles recognized by four different nations.

## Boyd's Expanded Historical Investigation and Concept of Non-Cooperative Centers of Gravity

From the time when he first incorporated the concept of maneuver conflict, Boyd was aware that there were some critical elements that his Essence of Maneuver Conflict did not account for. This helps explain why it was integrated as an observation at the end of his Historical Investigation, instead of as his Pattern for Successful Operations, which was seeking

[956] Boyd, "Patterns of Conflict," August 1980, slide 144.

to define something larger. For example, Boyd observed from his studies that the Mongols sometimes used terror to cow their enemies into acquiescence, without having to resort to physical violence. To Boyd, this was an anomaly his newly-constructed mental image of maneuver conflict could not explain. Those anomalies would increase as he continued his historical inquiry. There were some elements of guerrilla warfare that didn't quite fit, and as Boyd deepened his study of irregular warfare, he moved further into the political dimension by focusing on insurgency, and Marxist revolutionary theory in particular. Titles appearing on his source list after November 1978 include Robert L. Heilbroner's 1980 *Marxism: For and Against*, Hans Kohn's and John Hazard's 1972 *Communism*, Carl Landauer's 1972 *Marxism*, Arthur P. Mendel's 1961 collection *Essential Works of Marxism*, and William J. Pomeroy's 1968 compilation *Guerrilla Warfare and Marxism*. It is obvious these studies had a deep impact on Boyd, evident in the version of "Patterns of Conflict" produced in August 1981. There, his older discussion of how 19th century technology produced a tendency towards attrition in modern war, was followed by two new slides discussing the "Impact of 19th Century Capitalism on Insurrection/Revolution (with a Marxian flavor)."[957] Boyd concluded this section by synthesizing the impact of both capitalism and technology on the conduct of war was providing the opportunity to "conduct war against societies from within as well as from without."[958] In Boyd's discussion of major advances between the World Wars, where previously he had discussed Blitzkrieg and Modern (Guerilla) War as the two major categories, he then added a third, "Soviet Revolutionary Strategy." This was, "A Scheme that emphasizes moral/psychological factors as basis to destroy a regime from within."[959] This was followed by

[957] John R. Boyd, "Patterns of Conflict," August 1981, John R. Boyd Collection, Collection 2062, Box 6, Folder 4: Patterns of Conflict, August 1981, Marine Corps Archives, slides 48-48A.
[958] Boyd, "Patterns of Conflict," August 1981, slide 48B.
[959] Boyd, "Patterns of Conflict," August 1981, slide 62.

two new slides analyzing this topic in detail.[960] Following this analysis, another new feature of this brief synthesizes some of these ideas. While a long-standing portion of "Patterns of Conflict" had reflectively discussed the common features or essence of both blitzkrieg and guerilla warfare, in September 1981 he added a two-slide section which looked back at the commonalities of Modern Guerilla Campaigns and Soviet Revolutionary Strategy. This highlights that guerillas use vanguards to sow discord, magnifying an existing regime's internal frictions and hamstringing its ability to deal with crises, fomenting further mistrust and discord. While this is being done, vanguards can simultaneously establish their own legitimacy by offering help to a desperate population that comes to see them as the only way out of crisis.[961]

Just prior to these changes, Boyd had elaborated on his explanation of the Mongols, showing that he was still wrestling with the anomaly of the Mongols being able to defeat their enemies purely through terror. A new slide on the Mongols added in April 1981 included the idea that "Subversive propaganda, clever stratagems, fast breaking maneuvers, and calculated terror not only created vulnerabilities and weaknesses, but also played upon moral factors that drain-away resolve, produce panic, and bring about collapse."[962] By "calculated terror" Boyd referred to the Mongol practice showing relative leniency to those who capitulated to their threats, but completely destroying any adversaries who risked challenging them in battle. Boyd argued in this way the Mongols were able to avoid costly sieges, and achieve outsized effects with their often-limited forces. Boyd apparently derived this notion from the importance Montross placed on the same policy. Of Mongol economy of means, Montross wrote,

[960] Boyd, "Patterns of Conflict," August 1981, slides 62A-62B.
[961] John R. Boyd, "Patterns of Conflict," September 1981, John R. Boyd Collection, Collection 2062, Box 6, Folder 5: Patterns of Conflict, September 1981, Marine Corps Archives, slide 87.
[962] John R. Boyd, "Patterns of Conflict," April 1981, John R. Boyd Collection, Collection 2062, Box 6, Folder 3: Patterns of Conflict, April 1981, Marine Corps Archives, slide 29A.

> Yet manoeuvre appears no more important to the final outcome than the moral weapon of frightfulness. The sack of Bokhara served as a first object lesson. The few who survived that horror bore tales of infamies which made death seem a reward…
>
> The result bears no resemblance to the senseless ravages of barbarians, nor can it be compared to a hot-blooded outburst such as the massacre perpetrated by the Crusaders in Jerusalem. Mongol excesses were cool and systematic, aiming at definite moral objectives…
>
> It might appear that such horrors would defeat their purpose by driving defenders to a suicidal desperation. Bu the Mongols did not err in supposing that the result would more often be capitulation, saving the trouble of a storm or siege."[963]

In his discussion of the Mongols, Montross also hinted at another concept that had already attracted Boyd's attention, cohesion. Montross explained that as the Mongol empire grew, its hordes were a polyethnic, polyglot organizations unified only by "a professional spirit," for "Military effectiveness remained the only common bond…"[964] Where terror stressed a destructive dimension of the moral element of war, Montross showed that the moral factor had a positive element as well, providing cohesion. In the same brief where Boyd began highlighting the Mongol use of terror, he added a new comment to his explanation of Napoleon's art of war. Now, one of the gifts the French revolutionary army bequeathed to Napoleon was "Moral and physical energy of citizen-soldiers and new leaders generated by the revolution and magnified by successes against invading allied armies."[965] Boyd's expanded historical inquiry from guerilla warfare to political revolutions suggested consistencies with his earliest studies of the Mongols and Napoleon, and he began to articulate this as a relationship between moral factors and organizational cohesion. In time he would expand upon these ideas to argue the moral dimension of conflict could be leveraged and as a third approach to conflict, an alternative to both destructive attrition and disruptive maneuver.

---

[963] Montross, *War Through the Ages*, copy annotated by Boyd, 151. While the first three sentences of this passage are underlined in Boyd's personal copy of this book, this is also true for many other passages of Montross's narrative on the Mongols, and there is no indication that Boyd paid special attention to the word "manoeuvre."
[964] Montross, *War Through the Ages*, copy annotated by Boyd, 154.
[965] Boyd, "Patterns of Conflict, September 1981," slide 34.

Another related feature of this era, when Boyd was taking a closer look at the nature and sources of cohesion, was an expanded critique of Clausewitz. The third extant transcript of his brief, from 1986, shows that Boyd became more explicit both in highlighting Clausewitz's key insights and in describing his shortcomings. Boyd continued to credit Clausewitz with major insights on war as a competitive, interactive activity pervaded by uncertainty. He continued to praise Clausewitz was one of the rare theorists who focused on psychological and moral factors, rather than simply physical ones. Further, Boyd appreciated Clausewitz's insights that war is pervaded by friction, and that "uncertainty acts as an impediment in competitive, vigorous activity," while individual character traits such as intelligence, courage, confidence, and spirt can either serve as counterweights or magnify those effects.[966]

Boyd saw that Clausewitz was on the verge of some significant insights. In his explanation of war as a game of concentration and dispersion Boyd cites a long discussion in Book VIII of *On War*. In this discussion, Boyd points out, Clausewitz lists four exceptions to the principle of concentration, but none for the principle of speed. The implication, in Boyd's mind, is that concertation is a conditional advantage, while speed is universal, or nearly universal. In Boyd's words, "the premier idea is speed, not concentration. …if you can operate at a faster tempo than the adversary then …you don't have to abide by that principle of concentration."[967] Boyd credits Clausewitz with being on the verge of seeing warfare as a game of concentration and dispersion with the decisive element being the ability to exploit time, allowing one to concentrate in times and places the adversary would not anticipate and therefore could not counter. Boyd believed Clausewitz came up short of this idea, instead offering the "simple truth" that "Generally speaking, it is better to go on striking in the same direction than to move

[966] Boyd, "Patterns of Conflict," 1986 transcript, slide 40.
[967] Boyd, "Patterns of Conflict," 1986 transcript, slide 28.

one's forces this way and that, because shifting forces back and forth involves losing time."[968] Boyd underlined "shifting troops back and forth involves wasting time," highlighting that Clausewitz's failure to appreciate that maneuver wasn't a waste of time, but instead a way to weaponize time.

Other new dimensions grew from Boyd's original critique of Clausewitz. Early on he had identified that the Prussian understood friction to be an internal force, resistance to taking desired actions brought about by moral, mental, and physical obstacles within a commander's own forces. Boyd's study of Sun Tzu helped him see while friction might need to be minimized in one's own force, it could also be magnified for one's adversary, something he would thereafter refer to as "the inverse Clausewitzian notion." Now he came to see that Clausewitz's inward focus had other implications. Consistent with Boyd's growing concern with rigid frameworks, as expressed in his critique of Jomini, Boyd began to notice traces of them in *On War*. Boyd's copy of this book provides some insight into his thinking on this matter.

In Book II, Chapter 4, titled, "Method and Routine," Clausewitz reminds his reader, "….no prescriptive formulation universal enough to deserve the name of law can be applied to the constant change and diversity of the phenomena of war."[969] While this would seem consistent with Boyd's theme, Clausewitz immediately qualifies this statement, observing

> Principles, rules, regulations, and methods are, however, indispensable concepts for that part of the theory of war that leads to positive doctrines; for in these doctrines the truth can express itself only in such compressed forms.
>
> Those concepts will appear most frequently in tactics, which is that part of war in which theory can develop most fully into a positive doctrine.[970]

Boyd underlined this entire passage, as well as another on the following page,

[968] Clausewitz, *On War*, copy annotated by Boyd, 163.
[969] Clausewitz, *On War*, copy annotated by Boyd, 152.
[970] Clausewitz, *On War*, copy annotated by Boyd, 152.

> Routine, apart from its sheer inevitability, also contains one positive advantage. Constant practice leads to *brisk*, *precise*, and *reliable* leadership, reducing natural friction and easing the working of the machine.
>
> In short, routine will be more frequent and indispensable, the lower the level of action. As the level rises, its use will decrease to the point where, at the summit, it disappears completely. Consequently, it is more appropriate to tactics than to strategy.[971]

Boyd uses especially heavy underlining for the phrase "reducing natural friction" and ties this entire passage to a comment added in the margins, "However, the <u>friction</u> (or resistance) for tactical adversaries may be reduced—Strange that Clausewitz does not comment on this—in view of the fact he already introduced the idea of friction!"[972] Boyd was responding to Clausewitz, suggesting that if a commander strove to reduce his internal friction, his adversary would naturally seek to do the same. Boyd saw dangerous implications for battle in which each of the adversaries focused on maximum efficiency in the application of violence. As he explained in 1986, "So you're trying to have your methods and routines, and the other guy does the same and pretty soon you have a nice, well-regulated battle, strength going against strength—it's a bloodbath."[973] To Boyd, method and routine were to be avoided because they violated a key concept that had become clear to him very early in his thinking, the value of ambiguity.

Boyd had other concerns with these passages. To him they suggested that above the level of tactics the fundamentally unpredictable nature of war required a commander with highly developed qualities of military genius, but within battle the contest would favor the force which operated in the most predictable, mechanistic way. Clausewitz, of course, began his book by describing the fundamentally unpredictable nature of war, and never delineated war to have a different nature, that of a determined system, within the conduct of battle. No one who had experienced battle would, but in Boyd's read of *On War* this must have seemed a fundamental

[971] Clausewitz, *On War*, copy annotated by Boyd, 153.
[972] Clausewitz, *On War*, copy annotated by Boyd, 152.
[973] Boyd, "Patterns of Conflict," 1986 transcript, slide 42.

inconsistency in Clausewitz's theory. Worse, Boyd saw this anomaly as a common flaw in the thinking of Napoleon, Clausewitz, and Jomini, who

> …all in a sense had the same blind spot, if you look at all three of them. All three of them did not appreciate the importance of loose, irregular, tactical arrangements—low level arrangements—loose and irregular. Remember? Clausewitz worried about method and routine. Napoleon, 1791 drill regulations [unintelligible] with method and routine. And now we see Jomini, some of the same trap. Why do they have this blind spot? Because all three of them tended to do the kind of a war from the top down, emphasizing adaptability at the top and regularity at the bottom.[974]

Boyd drove his point home in terms that highlighted the ultimate danger, stating, "Imposing rigidity comes at a cost of making yourself less adaptable, more predictable."[975] A fundamental problem Boyd had to solve then, was explaining how a leader would foster ambiguity and adaptability in his force without losing cohesion, the same challenge created by apparent contradictions within his emphasis on the four qualities of Inconspicuousness, Quickness, Fluidity, and Cohesion. *Schwerpunkt* suggested that the Germans had been close to a solution, and the answer, it will be shown, Boyd discovered in the German concept of *Auftragstaktik.* Before turning to that, however, one final element of Boyd's critique of Clausewitz bears explanation, for it yielded one of Boyd's most important insights. Boyd elaborated on Clausewitz's concept of a center of gravity to develop a central concept for connecting Boyd's other ideas: noncooperative centers of gravity.

A constant feature of Boyd's critique through the years, probably first brought to his attention by Montross and Liddell Hart, was the idea that "Clausewitz overemphasized Decisive Battle and underemphasized Strategic Maneuver."[976] Liddell Hart in particular alluded to talented commanders pursuing victory through manoeuver rather than battle, and this aligned

[974] Boyd, "Patterns of Conflict," 1986 transcript, slide 46.
[975] Boyd, "Patterns of Conflict," 1986 transcript, slide 46.
[976] Boyd, "Patterns of Conflict, September 1981," slide 42.

with Sun Tzu's admonition that the epitome of military skill was not to be victorious in every battle, but to win without fighting. With this in mind, Boyd's expanded critique of Clausewitz connected the Prussian's fixation on battle with Clausewitz's concept of a center of gravity.

The concept of the center of gravity is one of the most coopted portions of Clausewitz's theory. He defined the center of gravity in the passage, "What the theorist has to say here is this: one must keep the dominant characteristics of both belligerents in mind. Out of these characteristics a certain center of gravity develops, the hub of all power and movement, on which everything depends. That is the point against which all our energies should be directed."[977] Clausewitz went on to say that this source of power can come from a politically significant city such as a capital, or it may be the common interest that bonds an alliance together, or it might even be the charisma of a leader or public opinion. In most cases, however, Clausewitz held that the center of gravity is the adversary's army, a point he drives home by stating,

> It is against these that our energies should be directed. If the enemy is thrown off balance, he must not be given time to recover. Blow after blow must be aimed in the same direction: the victor, in other words, must strike with all his strength and not just against a fraction of the enemy's. Not by taking things the easy way--using superior strength to filch some province, preferring the security of this minor conquest to great success--but by constantly seeking out the center of his power, by daring all to win all, will one really defeat the enemy. Still, no matter what the central feature of the enemy's power may be--the point on which your efforts must converge--the defeat and destruction of his fighting force remains the best way to begin, and in every case will be a very significant feature of the campaign.[978]

This statement stands in stark contrast to Sun Tzu's maxim that the acme of skill is to win without fighting, leading Boyd to think deeply about how Clausewitz's analogy of a center of mass may have mislead him. The answer, Boyd explained, lay in the analogy itself, for modern

[977] Clausewitz, *On War*, copy annotated by Boyd, 595-596.
[978] Clausewitz, *On War*, copy annotated by Boyd, 596.

physics showed it to be flawed. His critique is worth quoting at length as it reveals a central component of Boyd's theory.

> And then Clausewitz made an incorrect statement. Quote, "a center of gravity is always found where the mass is concentrated most densely." That's not always true. The center of gravity in a donut is in the hole—there is no mass. Or, in a hollow steel ball, it's where the steel isn't. Or in a dumbbell, it's in the connection between the two masses. You know there's all kinds of counter examples. So you might say, 'Wait a minute here, that might be a cheap shot. He may not have appealed to that definition that strictly.' That's correct. But let's look and see how it did appeal to him. And then he argued…that is where the blows should be aimed and the decision should be reached, that center of gravity. But then he gave three examples of centers of gravity: the army, the capital, and public opinion. He followed up on the army and capital, but he didn't follow up on public opinion. That was a mistake, because public opinion depends upon what? The connections of one against the other. That's what you people [congressional staffers] deal with. And if you can disrupt those connections you can generate many non-cooperative centers of gravity. And that's my point—he failed to develop the idea of generating many non-cooperative centers of gravity by striking at those connections that permit a larger center of gravity to exist. We need to follow up on that.
>
> So it raises a rather interesting question. What does all this mean? I made this big argument, but where the hell am I going? So let's invert the argument. Once again, very often we get insight if we invert. So, once again, let's invert the argument. Let's assume you generate many non-cooperative centers of gravity in your adversary's system. If we can do that, then you deprive him the opportunity to expend effort, that's the same thing as paralysis. If we paralyze him, we impede vigorous operations—that's the definition of friction. We have magnified friction. So we generate many non-cooperative centers of gravity in the system, we deprive him of the opportunity to operate in a directed way, we paralyze him, we impede vigorous activity, which defines friction. Magnify his friction. So you can draw a real good connection between friction and centers of gravity.[979]

Boyd was arguing that any adversary organization should not be thought of as a unitary system, but instead as an interconnected group of smaller parts, each with its own center of gravity. This naturally tends to impart friction to his system, consistent with Clausewitz's observation that a

[979] Boyd, "Patterns of Conflict," 1986 transcript, slide 41. When Boyd quotes Clausewitz, "a center of gravity is always found where the mass is concentrated most densely," he is probably referring to page 487 of *On War*, where Clausewitz states, "those centers of gravity will be found wherever the forces are most concentrated." Boyd may not have been giving Clausewitz enough credit, for in next two sentence Clausewitz qualifies this statement in terms that show he understood cohesion to be an important factor. Clausewitz adds, "But in war as in the world of inanimate matter the effect produced on a center of gravity is determined and limited by the cohesion of the parts. In either case, a blow may well be stronger than the resistance requires, and in that case it may strike nothing but air, and so be a waste of energy."

key concern for any general had to be overcoming the friction within his own force. Boyd saw, however, that this natural tendency for entropy could be exploited if one could disrupt whatever was imparting a degree of focus and cohesion to the adversary's collection of smaller parts, allowing them to operate as a directed whole with greater resistive force. This conception matched up with Clausewitz's declaration that the center of gravity in an insurrection could be the leader's charisma or public opinion, as these are the elements that permit a large social mass to operate with political direction and effect. The concept of naturally noncooperative centers of gravity gaining cohesion from an artificial social force is equally applicable to the case of fighting an enemy army. Because Clausewitz lacked this concept, Boyd concluded,

> Clausewitz was very much concerned with trying to overcome or reduce friction and uncertainty. Unfortunately he didn't turn that around. He failed to address the idea of, "Why not try to magnify your adversary's friction and uncertainty?". It's not that the former is wrong. We want to look at it both ways. Remember, if you reduce your own, and you are not looking at his, you may also help your adversary, too, relative to you. You've got to look at it both ways all the time.
>
> Clausewitz was also concerned with trying to exhaust his adversary by influencing him to increase his expenditure of effort. Once again, he didn't turn that argument around. He failed to address the idea of, "Why not try to paralyze your adversary by denying him the opportunity to expend any of it?"[980]

It is clear, then, as "Patterns of Conflict" matured, so did Boyd's discussion of Clausewitz. It evolved from a critique of specific ideas expressed by the Prussian into a critique of a way of thinking about war, one focused on the destruction of strength rather than the disruption of cohesion. Despite Clausewitz's great insights on the fundamental uncertainty of war, Boyd saw the Prussian's focus on method and routine as a way of reducing internal friction to be missing a larger point—that in a competitive environment pervaded by uncertainty, friction was not merely an obstacle, but a double-edged sword, and therefore could be wielded as a weapon. Boyd's

[980] Boyd, "Patterns of Conflict," 1986 transcript, slide 41.

process of destructive deductive analysis and creative induction lead him to reinvent Clausewitz concept of the center of gravity into something new, the innovative concept of noncooperative centers of gravity. This new conception was consistent with Boyd's emphasis on cohesion and notion of weaponizing friction, yielding a theory which more successfully matched up with his observations of military history and the truths he glimpsed in the works of other theorists.

After Boyd's expanded historical investigation incorporated new analysis of Soviet revolutionary thinking, increased emphasis on moral authority and cohesion, and unveiled his new concept of non-cooperative centers of gravity, Boyd made another major change to "Patterns of Conflict." In August 1980, Boyd introduced a brand-new section of the brief called "Categories of Conflict." This presented a new model, one which reconciled the disconnect between Boyd's description of maneuver conflict and the more universal Pattern for Successful Operations derived from his descriptive analysis of conflict writ large. This new model, and the way it tied into Boyd's larger ideas, suggests why Boyd chose the term "maneuver conflict" rather than "maneuver warfare," and definitively shows that the real value of "Patterns of Conflict" to the maneuver warfare movement was in providing an overarching explanation of conflict. It was this larger explanation that incidentally described how maneuver warfare functioned, and why it was a superior approach to attrition warfare.

**Boyd's Categories of Conflict**

Boyd inserted the new "Categories of Conflict" section into his brief in August 1980, at the end of his historical investigation, which he now relabeled, "Historical Snapshots." Boyd's Categories of Conflict replaced his two slides on the Essence of Maneuver Conflict with a 14-slide package introducing three forms of conflict: "Attrition Warfare, "Maneuver Conflict," and "Moral Conflict." Boyd introduced this new section by writing, "Now looking back and

reflecting upon the panorama of military history we can imagine three kinds of human conflict."[981] The way Boyd explained this portion of the brief in 1986 is particularly significant, stating, "…I'm going to show you how it all ties back to the moral, the mental, and the physical. And so we are really talking about three kinds of military viewpoints: attrition, maneuver, and moral."[982] This is significant because when Boyd added the Categories of Conflict in 1980, he also modified the Purpose slide he used to explain the entire brief. Whereas previously he had discussed discerning a pattern for successful operations, generalizing tactics and strategy, and finding a basis for grand strategy, now he added, "To make manifest the nature of Moral-Mental-Physical Conflict."[983] Boyd's brief had always sought to help readers understand the moral and mental dimensions of conflict, which was significant because military activity is often understood in material terms. In the changes of August 1980 Boyd was increasing his emphasis on the moral element, including in his categorization of war into three approaches, one focused in the material realm, one focused in the mental realm, and the final focused on the moral realm.

Boyd started by explaining Attrition Warfare. Of his three categories, this was the mode practiced "by the Emperor Napoleon [not the more successful general of Bonaparte's earlier years], by all sides during the 19th century and during World War I, by the Allies during World War II, and by present-day nuclear planners."[984] He observed that in attrition warfare, "Firepower, as a destructive force, is king," "Mobility is used to bring firepower to bear or to evade enemy fire," and "Measures of success are (now) 'bodycount' and targets destroyed."[985] To Boyd, the essence of attrition warfare was to create and exploit destructive force as a means

[981] Boyd, "Patterns of Conflict," August 1980, slide 89A.
[982] Boyd, "Patterns of Conflict," 1986 transcript, slide 111.
[983] Boyd, "Patterns of Conflict," August 1980, slide 1.
[984] Boyd, "Patterns of Conflict," August 1980, slide 89A.
[985] Boyd, "Patterns of Conflict," August 1980, slide 89B.

create widespread destruction that would break the enemy's will to resist and to seize and hold terrain objectives, all with the aim, "Compel enemy to surrender and sue for peace."[986] Boyd ended his discussion of Attrition Warfare in 1986 by stressing, "That form has a high physical content. Remember, we are going to talk about moral, mental and physical. Attrition has a high physical content…"[987]

Boyd's explanation of attrition warfare was followed by a contrasting description of maneuver conflict, the mode "practiced by the Mongols, General Bonaparte, Confederate General Stonewall Jackson, Hitler's Generals (in particular Manstein, Guderian, Balck, Rommel) and the Americans under Generals Patton and MacArthur."[988] In maneuver conflict, "ambiguity, ambivalence, deception, and mobility are used to generate surprise and shock."[989] Rather than fire dominating, "Fire and movement are used in combination, like Cheng/Ch'i or Nebenpunkte/Schwerpunkt, to tie-up, divert, or drain-away adversary attention and strength in order to expose as well as menace and exploit vulnerabilities or weaknesses elsewhere."[990] While Boyd saw body count as a typical gauge of effectiveness in attrition warfare, he explained that maneuver conflict required very different indices. Body count and target destruction were quantitative measures, but in maneuver conflict,

> they tend to be qualitative. And the key idea is any phenomena that suggests inability to adapt to change. You don't have to kill him, as long as you get him in a position where it makes it very difficult for him to adapt. I'll give you some examples: onset of confusion and disorder, high prisoner count. When he gets all kinds of prisoners, that means he is very confused and disordered. He can't keep up. Let me cite an example here. Many of you people have seen a basketball game, here. And you see, you ever notice when one team starts getting ahead of the other? Christ, they come unglued. You can't measure that. All you know is they aren't working together…You can't measure that. So why do we use targets destroyed and body counts? Because you can measure it and insert it in a computer.

[986] Boyd, "Patterns of Conflict," August 1980, slide 89C.
[987] Boyd, "Patterns of Conflict," 1986 transcript, slide 113.
[988] Boyd, "Patterns of Conflict," August 1980, slide 89A.
[989] Boyd, "Patterns of Conflict," August 1980, slide 89D.
[990] Boyd, "Patterns of Conflict," August 1980, slide 89D.

> I guess after the bar charts go up so high they are supposed to throw the towel in, but they don't. Guderian, when he went through France, another example. He sensed it. He said, "By God, I can smell the rotten French army! Now's the time to punch through!" You couldn't measure it.[991]

While hard quantitative measures were used to gauge progress in attrition warfare, where success was achieved in physical effects, for maneuver conflict Boyd believed qualitative indicators of an inability to react effectively to change were more appropriate indices.

Boyd argued in maneuver conflict the qualities of ambiguity and ambivalence combined with the activities of deception, fast transient maneuvers, and *cheng*/*ch'i* or *Nebenpunkt*/*Schwerpunkt* maneuvers to create a very specific payoff: "you are trying to disorient, deliberately generate a mismatch between what he sees, and that which he must react or adapt to."[992] Boyd stressed that the key word in that phrase was disorientation, for "Surprise is nothing more than a form of disorientation…. And shock is nothing more than what you call a paralyzing state of disorientation."[993] Boyd's explanation of these slides in 1986 highlighted how much the concept of maneuver had become associated with physical movement, rather than the more important goal of disorienting one's enemy. He related,

> You see, most often when you see newspapers talking about maneuver it's talking about troops going down this highway or that. Geez, you're not getting the whole—you're not getting any mental action. You don't dislocate a mind, you disorient it. And when a guy is mentally disorientated, is he coping with a situation, or is he isolated from it? So you've got mental isolation![994]

This is an important observation, for it establishes several things. First, Boyd has apparently been unimpressed by Liddell Hart's emphasis on "dislocation," a term Liddell Hart used so flexibly in *Strategy* that it its meaning was lost. Second, Boyd was reminding his audience that,

[991] Boyd, "Patterns of Conflict," 1986 transcript, slide 114.
[992] Boyd, "Patterns of Conflict," 1986 transcript, slide 115.
[993] Boyd, "Patterns of Conflict," 1986 transcript, slide 115
[994] Boyd, "Patterns of Conflict," 1986 transcript, slide 117.

at its heart, the decisive results of maneuver warfare were created by isolating an opponent's mental patterns of meaning from the reality they should be representing, which had been the heart of Boyd's "New Conception." Finally, this key element was often unnoticed by laymen, who thought maneuver was really fundamentally just movement in space. The aim of maneuver conflict, Boyd later elaborated, was to create effects "in a mental as well as a physical sense" to "shatter cohesion, produce paralysis, and bring about his collapse."[995] For his audiences Boyd elaborated, "Here's basically what we are trying to do. We are trying to do these things: we are trying to disorient a guy, disrupt a guy, and we are trying to overload him, so he can't cope, so he can't keep up."[996] To further highlight the distinction between maneuver conflict and attrition warfare, Boyd ended his discussion with, "What's the highest content there? That's a high mental content. Attrition has a high physical content, maneuver has a high mental content. Just look at it and you'll see. That's what we're talking about. A high mental content."[997]

In adopting a model that contained both Attrition Warfare and Maneuver Conflict in 1980, then, Boyd had essentially assimilated two of the concepts that Lind had first introduced as a dichotomy in 1976, except for two important differences. First, Boyd was clearly associating Attrition Warfare with the physical destruction of an adversary to compel him to submit, while maneuver warfare was associated with creating physical and mental affects that would prevent an adversary from acting effectively. Second, Boyd was not adopting these two concepts as part of a dichotomy, but instead introducing a tripartite model, with the third category being "Moral Conflict."

[995] Boyd, "Patterns of Conflict," April 1981," slides 98, 100.
[996] Boyd, "Patterns of Conflict," 1986 transcript, slide 117.
[997] Boyd, "Patterns of Conflict," 1986 transcript, slide 117.

Boyd's introduced his concept of Moral Conflict as the mode practiced "by the Mongols, most Guerilla Leaders, a very few Counter-Guerillas (such as Magsaysay) and certain others from Sun Tzu to the present."[998] This suggested Moral Conflict wasn't an entirely distinct approach to warfare, but a mode that practitioners of maneuver warfare like the Mongols might adopt from time to time. He began his explanation with observations from Hermann Balck and Cyril Falls on conventional operations in World War II. These stressed the importance of moral values and mutual trust as powerful sources of strength within an organization that promote deep individual investments by individuals, often overcoming strong material disadvantages.[999] Boyd referenced Balck's experience to show that the Germans benefited from "Heavy reliance upon the moral instead of material superiority as a basis for cohesion and ultimate success."[1000] This was because "moral strength represents mental capacity to overcome menace, uncertainty and mistrust."[1001] The essence of Boyd's concept of moral conflict was creating, exploiting, and magnifying menace, uncertainty, and mistrust with the aim to "Destroy moral bonds that permit an organic whole to exist."[1002]

Boyd's explanation of moral conflict is the least clear of the three forms, even in the 1986 and 1989 transcripts. This is probably because while his historical narrative provided many clear examples highlighting the differences between attrition warfare and maneuver warfare, this was not the case for moral warfare. His discussion of moral conflict did make it clear that Boyd thought the central values of an organization or group were what gave it cohesion. If wide

[998] Boyd, "Patterns of Conflict," August 1980, slide 89A.
[999] Boyd, "Patterns of Conflict," August 1980, slides 90B-90D. For critics who see Boyd as a single-minded advocate of maneuver warfare, it is significant that Boyd read Falls in a very unique way which helped him appreciate the existence of moral warfare as a third mode. In Boyd's words he encountered Falls's book "about two or three weeks after I talked to Balck, so it really caused these passages leap out at me, these three pages." Boyd, "Patterns of Conflict," 1986 transcript, slide 119.
[1000] Boyd, "Patterns of Conflict," 1986 transcript, slide 118.
[1001] Boyd, "Patterns of Conflict," August 1980, slide 90D.
[1002] Boyd, "Patterns of Conflict," August 1980, slide 90F.

enough and durable enough, these values gave freedom of action to the individual members of the group. In this sense, values relate to the tension Boyd saw between centralized command and decentralized execution. A society with strong and durable morals, for example, could tolerate more freedom of action for its citizens, enabling greater adaptability than a society in which rigid enforcement of laws or policies was needed to preserve cohesion or ensure compliance.

Boyd explained that the way to engage in moral conflict was to create menace and uncertainty that fostered an "Atmosphere of doubt and suspicion that loosens human bonds among members of an organic whole or between organic wholes."[1003] Collectively, this would "surface fear, anxiety, and alienation in order to generate many non-cooperative centers of gravity thereby magnify [sic] internal friction."[1004] In this passage it is clear that many of the mechanisms which seemed so important for explaining maneuver conflict were also at work in moral conflict. The difference was that in maneuver conflict the idea was to create a rapid and turbulent situation to undermine an adversary's ability to cope, while moral conflict focused on presenting menace and pointing out the contradictions within a group, such as an inept leader's failure to live up to his responsibility for ensuring the group's security.

The role of physical destruction in each mode further highlighted the differences. The physical destruction or enemy forces and resources was the central defeat mechanism in attrition warfare. In maneuver conflict it was the fear of imminent physical destruction which created mental debilitation and shock. In moral conflict, the physical component was even more remote, creating doubt and mistrust to disrupt an adversary organization's cohesion and undermine its collective resolve. With this in mind, Boyd's concept of moral conflict does seem to fit the historical evidence that didn't cleanly fit in the other modes, such as the Mongol use of terror to

[1003] Boyd, "Patterns of Conflict," August 1980, slide 90F.
[1004] Boyd, "Patterns of Conflict," August 1980, slide 90F.

intimidate populations into submission. Boyd's conception of moral conflict also offers an explanation for modern terrorism, the sociopolitical elements of guerrilla warfare and revolutionary movements, and even the modern idea of information warfare.

As Boyd moved from attrition warfare though maneuver conflict and on to moral conflict, he was describing a progression, gradually deemphasizing physical destruction while more directly engaging and undermining the moral cohesion of an adversary. All three forms ultimately "destroy adversary's moral-mental-physical cohesion, produce paralysis, and bring about his collapse," with the aim to "annihilate adversary's capacity to function as an organic whole."[1005] They differ in their progressive shift away from physically destructive efforts towards direct engagement with moral sources of strength.

Boyd never explained why he adopted the term "maneuver conflict" rather than "maneuver warfare", but the preceding analysis offers one suggestion. Even before Boyd came up with the concept of moral conflict and incorporated attrition warfare as a category of conflict, Boyd had recognized that the destructive element of maneuver was lower than that of attrition. Liddell Hart and Sun Tzu had even suggested that maneuver could bring victory without battle, and "conflict" suggested battle less than "warfare." By placing maneuver in his categorization of three forms, and calling this middle form "conflict" rather than "warfare," Boyd further deemphasized the destructive element. He was representing maneuver as closer to moral conflict than attrition warfare, and helped highlight some of their common features that distinguished moral conflict and maneuver conflict from the attrition warfare that was all too familiar to Boyd's audiences.

[1005] Boyd, "Patterns of Conflict," April 1981," slide 106.

This study contests the claim that Boyd was an aggressive advocate focused on promoting maneuver warfare, so some final observations are warranted. Boyd's Categories of Conflict slides imply that maneuver conflict and moral conflict are superior to attrition warfare, but only because Boyd was so critical of attrition in the lengthy historical analysis which precedes this section. Boyd does not explicitly endorse any one category of conflict in this section. The same is true in the Pattern for Successful Operations which he explained afterwards. These observations are certainly at odds with analyses like Hammond's, which states "it was the consistent drumbeat of Boyd's briefings and ideas that slowly drew the U.S. military into step with maneuver warfare" and credit's Boyd with creating a "torrent of interest" in "this thing called maneuver warfare."[1006] Boyd may have promoted maneuver warfare, but it was part of a much larger agenda and body of ideas. One of the most important, yet least appreciated, portions of this body of ideas was the quartet of traits which ultimately displaced IQFC: Variety, Rapidity, Harmony, and Initiative.

**Variety, Rapidity, Harmony, and Initiative**

A key concept of "Patterns of Conflict" which is rarely mentioned even within scholarly analyses is the quartet concept of Variety, Rapidity, Harmony, and Initiative (VRHI). In wider discourse VRHI is completely eclipsed by the singular and hyper-reductionist focus on OODA. Chapter 4 and this chapter have already highlighted that error in several ways, including by showing that early in the development of "Patterns of Conflict" Boyd began arguing that organizations needed to develop inconspicuousness, quickness, fluidity, and cohesion (IQFC) if they were to successfully adapt and succeed in a zero-sum competitive environment. There is no

[1006] Grant T. Hammond, *The Mind of War: John Boyd and American Security* (Washington, D.C.: Smithsonian Books, 2001), 151, 154.

direct correlation or translation between the components of IQFC and VRHI, and VRHI was not a simple replacement for IQFC, though in the August 1981 version of "Patterns of Conflict" Boyd began incorporating VRHI as the capstone concept that would complement OODA. As was the case earlier with IQFC, Boyd couldn't tell his audiences to "do" OODA, but he could urge them to act with variety, rapidity, harmony and initiative. In order to understand why he adopted this new quartet of qualities as the central point of "Patterns of Conflict" it is important to look at the intellectual journey that brought him there.

Boyd's interest in the qualities that would lead an organization to success in competition were first manifest in the introduction of the proto-concept of IQFC in May 1977. This was very early in his development of "Patterns of Conflict," when the brief was less than a year old, and well before ODA became OODA. It was just after Boyd had spent several months focusing his study on Sun Tzu and the Taoist context of *The Art of War*. As Boyd increased the integration of IQFC in various parts of his brief, he also took an interest in the suggestions that biology and ecology might have for human conflict. In the transcript from May 1978, for example, Boyd discussed the disruptive effects of Blitzkrieg thrusts in anatomic terms. He explains,

> The idea is to start cutting those communications links between the enemy's forward strength… They start cutting those connections, then [sic] that previous strength just dissolves away into nothing. They shatter their adversary's cohesion. It would be the same thing if I came up to this gentleman and took some scissors and clipped some blood vessels, clipped his nervous system, and clipped his tendons, I would turn him into a bowl of jelly. What I am trying to tell you is that it is organic warfare or look at it as a biological organism. You start cutting those linkages—jelly.[1007]

At this point there were no works relating to biology or ecology on Boyd's "Patterns of Conflict" source list. Boyd's most detailed study of science had been in part of writing his 1976 essay "Destruction and Creation," but his sources for that essay were focused on physics,

[1007] Battelle Columbus Laboratories, *Proceedings of Seminar on Air Antitank Warfare (May 25-26, 1978)*, 31.

metacognition, and epistemology, with no titles relating specifically to biology or ecology. Although organic metaphors appear in some of the works of military history and theory that Boyd had been reading for "Patterns of Conflict," his studies focused on military topics until April 1981. In the next four months Boyd began to broaden his reading from military topics once again. During this period, he studied the nature of thought through Gregory Bateson's 1979 *Mind and Nature*, a 1977 translation of Konrad Lorenz's *Behind the Mirror*, and Will and Ariel Durant's 1968 *The Lessons of History*. Some of his sources made direct appeals to biology, such as Richard Dawkins's 1976 *The Selfish Gene*, and two recent books written by Jacob Bronowski, *The Identity of Man* (1971) and *A Sense of the Future: Essays in Natural Philosophy* (1977). One title even makes a direct attempt to explain human society through sociobiology, Harvard biologist Edward O. Wilson's 1978 *On Human Nature*. An organic metaphor was also central to an influential work on insurgency Boyd read in this period, Robert Taber's 1965 *The War of the Flea*. In that book, Taber famously states, "The guerrilla fights the war of the flea, and his military enemy suffers the dog's disadvantages: too much to defend; too small, ubiquitous, and agile an enemy to come to grips with."[1008]

The impact of these sources is immediately apparent in the August 1981 version of "Patterns of Conflict." In the Point of Departure section at the start of his brief, where he laid out his purpose and assumptions, a new slide appeared titled "Comment" that stated,

> In addressing any questions about conflict, survival, and conquest one is naturally led to the
> - Theory of Evolution by Natural Selection
>
> and
>
> - The Conduct of War
>
> Since both treat conflict, survival, and conquest in a very fundamental way.[1009]

[1008] Boyd, "Patterns of Conflict," August 1981, slides 13-14B.
[1009] Boyd, "Patterns of Conflict," August 1981, slide 12.

Boyd follows this with a listing all his sources, then a new slide providing an "Impression" in response to his earlier comment. There Boyd wrote,

- In examining a few sources on evolution by natural selection and the many sources on conflict (see sources) one is bombarded with the notion that:
  -- It is advantageous to possess a variety of responses that can be applied rapidly to gain sustenance, avoid danger, and deprive an adversary of his capacity for independent action.
  -- The simpler organisms—those that make-up man as well as man working with other men in a higher level context—must cooperate or, better yet, harmonize their activities in their efforts to survive as an organic synthesis.
  -- To shape and adapt to change one cannot be passive; instead one must take the initiative.
- Put more simply and directly: the above comments leave one with the impression that variety/rapidity/harmony/initiative (and their interaction) seem to be the key qualities that permit one to shape and adapt to an everchanging environment.
- With this impression in mind together with our notion of getting inside an adversary's O-O-D-A loop we will proceed in our historical investigation. [1010]

That final bullet introduces the 92 slides of Historical Investigation which follow. Though Boyd's new "Impression" slide at the start of his brief highlighted the interrelationship between VRHI and OODA, neither concept figured prominently in Boyd's historical discourse. Though variety, rapidity, harmony, and initiative are all words that appeared with lesser or greater frequency in his narrative, Boyd only came close to mentioning VRHI as a quartet of associated qualities once, in a modification of his summary of the common features of the 18th century theoreticians. Even then, while Napoleon "exploited these ideas of variety and rapidity with harmony" Boyd made no mention if initiative, which he still considered lacking in this era of massed firepower and centrally controlled large armies.[1011] VRHI does not appear in Boyd's 14-slide Categories of Conflict section either. Boyd's "Pattern for Successful Operations" slide in this version of the brief, likewise, continued to feature the importance of acting "more

[1010] Boyd, "Patterns of Conflict," August 1981, slide 15.
[1011] Boyd, "Patterns of Conflict," August 1981, slide 31A.

inconspicuously, more quickly, and with more irregularity (or fluidity)…"[1012] These three characteristics are also mentioned at the end of the Synthesis section, but not VRHI is not.[1013] VRHI is not mentioned in the Application section, but the revised five-slide Wrap Up, where Boyd distilled all of his work, does make the importance of this concept clear. The first slide of this section states,

> MESSAGE
>
> - He who is willing and able to take the initiative to exploit variety, rapidity, and harmony—as basis to create as well as adapt to the more indistinct – more irregular -quicker changes of rhythm and pattern, yet shape focus and direction of effort – survives and dominates
>
> or contrarywise
>
> - He who is unwilling or unable to take the initiative to exploit variety, rapidity, and harmony ... goes under or survives to be dominated.[1014]

The presence of "irregular," "indistinct," and "quicker" illustrates that the components of IQFC (inconspicuousness, quickness, fluidity, and cohesion) were never simply replaced by VRHI, but instead were retained as part of his explanation of this capstone concept. Instead, these were the ideas he drew from his studies and incorporated in his narrative explanation before presenting his new synthesis—VRHI. After some elaboration on the underlying ideas, the final slide of the Wrap Up highlighted the benefits of Boyd's four VRHI qualities, and their connection to the OODA loop, summarizing,

- Variety/Rapidity allow one to:
  Magnify adversary friction hence stretch-out his time to respond in a directed way.
- Harmony/Initiative permit one to:
  Diminish own friction hence compress own time to exploit variety/rapidity in a directed way.
- Altogether Variety/Rapidity/Harmony/Initiative enable one to:

[1012] Boyd, "Patterns of Conflict," August 1981, slide 109.
[1013] Boyd, "Patterns of Conflict," August 1981, slide 115.
[1014] Boyd, "Patterns of Conflict," August 1981, slide 150.

> Get inside adversary's observation-orientation-decision-action loops as a basis to destroy his cohesion or harmony.[1015]

This was the final slide of Boyd's argument. As within the Point of Departure Boyd used to introduce his brief, this capstone slide presented VRHI as the companion or complementary concept to OODA. In so doing, Boyd was pairing a central, descriptive element of Boyd's theory, OODA, with something that was to a degree actionable. VRHI would remain central through the entire remaining life of "Patterns of Conflict." Boyd never modified these slides again, though he would produce four more versions of his brief. In the latest transcript of Boyd presenting "Patterns of Conflict," from more than seven years later in 1989, this pairing of OODA and VRHI continued to figure prominently at the beginning and at the end. In his Point of Departure at the start of his brief, Boyd made the final destination of his argument clear, stating,

> So these are very important qualities: variety, rapidity, harmony, and initiative. So put more simply, if you can get that [gesturing towards VRHI towards the top of his slide], then that's going to permit you to do that gesturing towards OODA at the bottom of the slide], and later on I'll show you how we take these two things and throw them together, variety and initiative, OODA loop, and see how they play upon one another, how one works with the other… We'll be building up to that.[1016]

Boyd returned to this point in one of his final thoughts, after many hours of discussion, just before moving on to the Epilogue. He explained, "So if you glue all that together, variety, rapidity, harmony and initiative together, it allows you to get inside his OODA loop. Put uncertainty, doubt, mistrust, confusion, and all that stuff we've been talking about into his system, or fold himself [sic] back inside himself, so he can't cope with events as they start rolling over him, and just start scarfing him up."[1017]

---

[1015] Boyd, "Patterns of Conflict," August 1981, slide 152A.
[1016] Boyd, "Patterns of Conflict," 1986 transcript, slide 12.
[1017] Boyd, "A Discourse on Winning and Losing," 1989 transcript, 171 (slide 177).

As discussed earlier in this chapter, Boyd had appended his Epilogue to the end of his argument in October 1980 to make sure his audiences understood his fundamental point by contrasting the traditional approach to military theory and doctrine with his most central ideas. This was a seven-slide discussion meant to emphasize the fallacy of an understanding of war, or a doctrine, based on the principles of war, and emphasize the key concepts that Boyd was offering as an alternative. Consequently, Boyd modified the Epilogue in August 1981 to highlight VRHI. His new version concluded its critique of the principles of war for failing to "make evident the importance of variety/rapidity/harmony/initiative as a basis to shape and adopt to circumstances—a necessary requirement for success in the uncertain and everchanging environment of conflict or war."[1018] This last statement lays the ground work for the final three slides of his brief, where Boyd suggested to the viewer that there is an alternative to an approach based on Principles of War. Significant to the previous discussion, in the August 1981 version VRHI was incorporated in these final slides, but OODA was not for another three years. The common central emphasis in these slides is to "Generate decisive mismatches of effort in mind-time-space to splinter adversary organism and bring about his collapse."[1019] The fact that VRHI is mentioned as the set of vital qualities needed to accomplish this, but OODA remains unmentioned, speaks to the importance of this concept.

Boyd's OODA concept explained the central process through which one adversary gains decisive advantage over another, but VRHI suggested the qualities one needs to possess to be able to exploit that process. This is a vital point missed by those who summarize Boyd's theory

[1018] Boyd, "Patterns of Conflict," August 1981, slide 156; Boyd, "Patterns of Conflict, September 1981," slide 166; and Boyd, "Patterns of Conflict," 1986 transcript, slide 182.
[1019] Boyd, "Patterns of Conflict," August 1981, slides 158-159; Boyd, "Patterns of Conflict, September 1981," slides168-169 (quote from slide 169); and John R. Boyd, "Patterns of Conflict," October 1981, John R. Boyd Collection, Collection 2062, Box 6, Folder 6: Patterns of Conflict, October 1981, Marine Corps Archives, slide 159.

simply to be the OODA Loop. The following chapters will show the specific relevance of this to the other subjects of this study, the Marine Corps and the maneuver warfare movement. VRHI was not appreciated or incorporated by the maneuverists, who instead sought to exploit Boyd's OODA through more practical concepts.

**The Importance of August 1981**

The August 1981 version of "Patterns of Conflict" is an important milestone in this chapter for several reasons. First, Boyd would only make four more versions of "Patterns of Conflict" in the life of that project. He made two in the next two months (September and October 1981), one three years later in November 1984, and the final version two years after that, in December 1986. The changes over these five years were small, largely constituting refinements in expressions and emphasis. The brief grew only slightly over that period, from 174 slides to 194, an enlargement of only 11 percent. The graphical depiction of this in Figure 5 suggests a literal plateau, consistent with the argument that Boyd's ideas in this brief were no longer growing through major creation and synthesis, but were instead only being refined.

Most of the additions made to "Patterns of Conflict" after August 1981 were in Boyd's Historical Investigation, which he relabeled "Historical Snapshots." This change may have been a response to his academic critics, for he explained the adoption of "Snapshots" was because, "No matter how much history you read, there is always a lot you don't know, so you can only look at certain snapshots… and put it together and see what you think."[1020] Three years later he responded to a question as to why he focused on certain theorists by saying, "Since I can't look at the whole goddamn realm of military history, since you know I'd be dead before I ever do

[1020] Boyd, "Patterns of Conflict," 1986 transcript, slide 1.

that, I take snapshots of very key areas."[1021] The additional slides Boyd's added to his historical narrative to produce the final versions of "Patterns of Conflict" merely inserted Emil Schalk's interpretation of Jomini, and drew out Boyd's analysis of certain topics, especially guerilla warfare and moral conflict.[1022] The remaining changes to Boyd's historical narrative were minor refinements in argument and expression.

The other areas of the brief where Boyd made changes worth mentioning were in his Synthesis and his Epilogue. Boyd modified his Epilogue to include OODA in the basic set of concepts he suggested were a more valuable approach to conflict than the Principles of War.[1023] Three additional slides in the Synthesis invited his audience to reexamine his ideas from another viewpoint.[1024] Under the heading "Theme for Disintegration and Collapse," Boyd observed that in conflict "You synthesize these things: lethal efforts, and maneuver, and moral."[1025] These three elements correspond to Boyd's three categories of conflict, as the description of Lethal Effort aligns with Boyd's conception of Attrition Warfare, Maneuver aligns with Maneuver Conflict, and Moral aligns with Moral Conflict. While many of Boyd's audiences members might have begun to think of attrition warfare as the essentially destructive form of conflict because of its focus on physical destruction, Boyd emphasized that ultimately the idea of all three forms was to "Destroy adversary's moral-mental-physical harmony, produce paralysis, and

[1021] Boyd, "A Discourse on Winning and Losing," 1989 transcript, 6 (title slide).
[1022] John R. Boyd, "Patterns of Conflict," November 1984, John R. Boyd Collection, Collection 2062, Box 7, Folder 1: Patterns of Conflict, November 1984, Marine Corps Archives, slides 47, 91-92, 107.
[1023] Boyd, "Patterns of Conflict," November 1984, slide 183; and Boyd, "Patterns of Conflict," 1986 transcript, slides 184-185.
[1024] Boyd, "Patterns of Conflict," November 1984, slides 133, 135, 141.
[1025] Boyd, "Patterns of Conflict," 1986 transcript, slide 136. These three elements are first listed this way in Boyd, "Patterns of Conflict," November 1984, slide 134. This trio had first appeared three years earlier as "Destructive Effort," "Maneuver," and Moral" in the brief the first introduced Boyd's three Categories of Conflict. Boyd, "Patterns of Conflict," August 1980, slide 91.

collapse his will to resist."[1026] Boyd was reminding them that even if physical destruction was the defeat mechanisms in some forms, the ultimate aim of conflict was to persuade an enemy to abandon his goals and quit the fight.

From there Boyd shared the "Underlying Insight" that this required one to "penetrate [an] adversary's moral-mental-physical being, and sever those interacting bonds that permit him to exist as an organic whole," which serves to "Morally-mentally-physically isolate [that] adversary" from outside sources of strength and isolate his component elements from each other.[1027] As he told his audience in 1986, "The name of the game is really penetration and isolation. …If you look at this, and reflect on everything we have talked about today, go all the way back to Sun Tzu, the theme emerges again and again and again."[1028] This was not a major aspect of Boyd's argument in "Patterns of Conflict." The 1986 transcript indicates that Boyd spent only two and half minutes covering these slides and his discussion does not elaborate much on the text in the slides.[1029] As a result, the meaning of these additions to the end of his brief and his exact purpose is unclear, at least within the context of "Patterns of Conflict" itself. It is clear, however, that the theme of this section correlates with another brief Boyd began working on as early as 1984, and no later than 1986. In the "Strategic Game of ? and ?" Boyd ultimately ended by revealing that all conflict was a strategic contest of interaction and isolation. That brief and its argument are analyzed later in this chapter, but their significance to this discussion is that while Boyd was developing more sophisticated ideas in the period between September 1981 and the final version of "Patterns of Conflict" in December 1986, they did not dramatically reshape

[1026] Boyd, "Patterns of Conflict," November 1984, slide 134; and John R. Boyd, "Patterns of Conflict," December 1986, John R. Boyd Collection, Collection 2062, Box 7, Folder 2: Patterns of Conflict, December 1986, Marine Corps Archives, slide 137. Hereafter, "Boyd, 'Patterns of Conflict,' December 1986."
[1027] Boyd, "Patterns of Conflict," November 1984, slide 135; and Boyd, "Patterns of Conflict," December 1986, slide 137.
[1028] Boyd, "Patterns of Conflict," 1986 transcript, slide 137.
[1029] Boyd, "Patterns of Conflict," 1986 transcript, slides 137-139.

"Patterns of Conflict." In fact, Boyd's inclusion of these concepts in his final version of "Patterns of Conflict" was probably as a segue to "The Strategic Game of ? and ?". In summary, all of the important concepts that would ever be central to "Patterns of Conflict" had emerged by August 1981. This should not be interpreted as prematurely cutting Boyd's historical inquiry short. Indeed, though "Patterns of Conflict" had been the central effort in Boyd's life for five years to get to that point, over the next five years he added another 31 titles to his source list for "Patterns of Conflict," not to mention the works he was studying for his other projects.[1030] This indicates that Boyd's historical inquiry evolved, but continued, and what he found was consistent with the major ides he developed in "Patterns of Conflict" by August 1981, rather than presenting anomalies that would require major revisions.

Another reason August 1981 is important because, as chapter 7 will show, 1980 through 1985 was a critical period for developing practical concepts for implementing maneuver warfare, for testing those concepts in Marine Corps field exercises, and for capturing those concepts in a medium for wide circulation: William S. Lind's 1985 *Maneuver Warfare Handbook.* This chapter has established the full catalog of ideas through which Boyd may have influenced that process. It also shows that Boyd did not make substantive revisions to "Patterns of Conflict" based on the important accomplishments being made through the cooperative efforts of Lind and the Marines between 1980 and 1985. This supports the argument that Boyd's expansive brief on the nature of conflict was about much more than maneuver warfare, and Boyd's purpose was not to convince his audiences that maneuver warfare was the solution to the military's doctrinal problems, or to explain to them how to make maneuver warfare a reality in their operations. "Patterns of Conflict" provided the theoretical explanation for maneuver warfare by situating it

[1030] Boyd, "Patterns of Conflict," December 1986, slides 187-193.

within a broader comprehensive theory of conflict, and while Boyd continued to accept invitations from maneuver warfare advocates eager to spread these ideas over the next decade, Boyd's interests and personal research efforts turned to other projects. Figure 1 shows the period of time in which Boyd developed each of his major works, and while "Patterns of Conflict" was subject to minor revisions between August 1981 and December 1986, the bulk of Boyd's effort was devoted to two new briefs, each with a different purpose: his "Organic Design for Command and Control" begun close to the end of 1981, and his "Strategic Game of ? and ?" probably begun in 1984, but certainly no later than 1986, just as he was finalizing "Patterns of Conflict." This is an important development because just as maneuver warfare was finally gaining appeal within portions of the U.S. Marine Corps and was being developed into an actionable doctrine, Boyd was not taking an active part in this work, or even using it to refine his "Patterns of Conflict." Instead, he was turning to more abstract theoretical matters. These bear examination as they reveal more about Boyd's relationship with maneuver warfare.

### *A Discourse on Winning and Losing*

Over the years, Boyd frequently provided printed copies of his "Patterns of Conflict" briefing slides to influential people who took the time to sit through his brief, and other audience members who took special interest in his work. Indeed, these copies of his brief as it evolved over time have been important sources for understanding how his ideas evolved. At the end of 1986, when he completed his two latest projects, his "Organic Design for Command and Control" and his "Strategic Game of ? and ?," he was persuaded to package them with his other major works on the nature of conflict for limited publication. Those other works were his "Destruction and Creation" essay and "Patterns of Conflict" briefing slides, to which he added a short written introduction and one-slide coda known as the "Revelation." Indeed, Boyd's final

revision to “Patterns of Conflict” in December 1986 was probably designed to make sure it fit neatly into this larger compendium of ideas. The final project was a 316-page spiral-bound “briefing book” titled *A Discourse on Winning and Losing* reproduced at government expense in 1987 by one of Boyd’s Acolytes closely associated with the maneuver warfare movement, Colonel Michael Wyly. This work is sometimes referred to as “the Green Book” because of the color of its cover, and copies were provided to Marines and people of influence as a companion to the Boyd’s oral presentation, which by 1987 could take more than a full day of discussion.

Accounts which portray Boyd as the “father of maneuver warfare” or as an advocate highly focused on promoting maneuver warfare overemphasize his discussion of maneuver conflict in “Patterns of Conflict” and seldom consider the content of the other products in the *Discourse*. Situating “Patterns of Conflict” within this larger body of work is therefore important for understanding Boyd’s main argument, and his relationship with maneuver warfare. This must start with the two briefs which took up the bulk of Boyd’s attention and theoretical effort between 1982 and 1986, when the maneuver warfare movement was gathering traction within the Marine Corps: Boyd’s “Organic Design for Command and Control” and “Strategic Game of ? and ?”

There is much less evidence of the process through which Boyd developed “Organic Design for Command and Control” than is the case for “Patterns of Conflict.” The brief was developed over a shorter period of time, approximately one year rather than ten years. There are no transcripts of Boyd giving his “Organic Design” brief, and the only complete extant version of his slides is the final version. Other than some handwritten working notes in Boyd’s personal papers which resemble the ideas in the final slides, and which may suggest Boyd’s initial ideas

as he was envisioning those slides, interpretation of Boyd's ideas in the "Organic Design for Command and Control" are dependent on the final version as printed in the Green Book.

In his introduction to "A Discourse on Winning and Losing" Boyd explained that while "Patterns of Conflict" represented "a compendium of ideas and actions for winning and losing in a highly competitive world, his "Organic Design for Command and Control" brought to light "the implicit arrangements that permit cooperation in complex, competitive, fast moving [sic] situations."[1031] In abstract language, Boyd was explaining that this was an effort to dig deeper into a central question that he had wrestled with in "Patterns of Conflict": how military organizations could maintain focus and cohesion (harmonize) without becoming overcentralized, inhibiting variety, rapidity, and initiative.

"Organic Design for Command and Control" itself is 30 slides long, and Boyd opened by pointing out that the title was meant to provoke two questions: "Why the focus on command and control?" and "What do we mean by organic design?" Boyd's choice of these words in the title suggests much about his inquiry and sources. While he did not provide a source list for "Organic Design for Command and Control" some of the titles which appeared on his source list for "Patterns of Conflict" as he began working on this brief indicate that the was widening his research beyond strategic, military, and intelligence matters to consider the if his ideas were consistent with the latest ideas in the natural sciences. In August 1981 he added Gregory Bateson's 1971 *Mind and Nature*, and two works by Jacob Bronowski, a mathematician who turned to biology to study the nature of violence, his 1971 *The Identity of Man* and 1977 *A Sense of the Future*. Boyd was also investigating classic and recent works on evolution, to include

[1031] John R. Boyd, *A Discourse on Winning and Losing*. Edited and compiled by Grant T. Hammond (Maxwell AFB, Alabama: Air University Press, 2018), 15. Hereafter "Boyd, *A Discourse on Winning and Losing*, 2018 U.S. Air Force republication."

Richard Dawkins' revision to Charles Darwin's theory of evolution by natural selection, *The Selfish Gene* (1976).[1032] Boyd considered Darwin's basic theory sufficiently consistent with his own ideas for the "Organic Design for Command and Control" to be an expansion of Boyd's original synthesis in "Destruction and Creation" (that of Gödel, Newton and Heisenberg) to now include Clausewitz and Darwin.[1033] During this same time, Boyd's wider inquiry into competition in the natural world was paralleled by a renewed focus on the *Wehrmacht's* command style. He read Gunter Blumentritt's 1947 "Experience Gained from the History of War on the Subject of Command Technique," and Boyd's reform movement contacts provided him with copies of two recent studies produced by Martin Van Creveld for the Office of Net Assessment, "Fighting Power: German Military Performance, 1914-1945" and "Command."[1034] These studies were soon published on the commercial market as *Fighting Power: German and U.S. Army performance, 1939–1945* (1982) and *Command in War* (1985), and both earned critical acclaim.

In "Organic Design" Boyd picked up a critical theme of "Patterns of Conflict," one consistent with a central pillar of the Military Reform Movement. Boyd argued Americans had become overdependent on technology to improve military effectiveness, which he argued was more dependent on human factors. Boyd believed that recent U.S. military "fiascos," including

---

[1032] Boyd, "Patterns of Conflict," August 1981, slides 13-14B.

[1033] John R. Boyd, *A Discourse on Winning and Losing* (Unknown U.S. government agency, 1987), "Organic Design for Command and Control," 20. Because this compilation is not sequentially numbered, but instead uses the original slide numbers in each brief, the name of the brief is included in the citation. Hereafter, "Boyd, *A Discourse on Winning and Losing*, original 1987 Green Book."

[1034] Boyd, "Patterns of Conflict," September 1981, slides 170-173; Martin van Creveld, "Fighting Power: German Military Performance, 1914-1945," unpublished report produced by C&L Associates for the Office of Net Assessment, 1980. Copy annotated by John R. Boyd. John R. Boyd Collection, Collection 2062, box 17, folder 1: Martin van Creveld: Fighting Power: German Military Performance, 1914-1945. Marine Corps Archives; and Martin van Creveld, "Command," unpublished report for the Office of Net Assessment, circa 1982. Copy annotated by John R. Boyd. John R. Boyd Collection, Collection 2062, box 17, folder 2: Martin van Creveld: Command. Marine Corps Archives. The front cover of both books have notes in Boyd's handwriting. The note on "Fighting Power" states "Received from Steve Canby on 27/1/81" and the note on "Command" states "Received from Net Assessment on 25 Mar 82."

the evacuation of Saigon in 1975 and the failed Iran hostage rescue attempt in 1980, had evoked a habitual reaction by the U.S. military. He wrote,

> The institutional response for overcoming these fiascos is: more and better sensors, more communications, more and better computers, more and better display devices, more satellites, more and better fusion centers, etc.—all tied into one giant, fully informed, fully capable C&C [command and control] system. This way of thinking emphasizes hardware as the solution.[1035]

Boyd explained that his brief would argue for an alternative, stating, "I think there is a different way—a way that emphasizes the implicit nature of human beings. In this sense, the following discussion will uncover what we mean by both implicit nature and organic design."[1036]

Boyd returned to his primary argument in "Patterns of Conflict," that human organizations require Variety, Harmony, Rapidity, and Initiative (VHRI) to succeed in competitive environments. He stressed that it was difficult to achieve all four qualities simultaneously. As Boyd explained,

> • Variety/rapidity without harmony/initiative lead to confusion, disorder, and ultimately to chaos.
>
> on the other hand
>
> • Harmony/initiative without variety/rapidity lead to (rigid) uniformity, predictability, and ultimately to non-adaptability.
>
> <u>? — RAISES THE QUESTION — ?</u>
>
> • How do we generate harmony/initiative so that we can exploit variety/rapidity?
>
> <u>COMMENT</u>
>
> • We must uncover those interactions that foster harmony and initiative—yet do not destroy variety and rapidity.[1037]

[1035] Boyd, *A Discourse on Winning and Losing*, original 1987 Green Book, "Organic Design for Command and Control," 2.
[1036] Boyd, *A Discourse on Winning and Losing*, original 1987 Green Book, "Organic Design for Command and Control," 2.
[1037] Boyd, *A Discourse on Winning and Losing*, original 1987 Green Book, "Organic Design for Command and Control," 9.

By so stating, Boyd was making it clear that his discussion would focus on those interactions that promoted synergistic VHRI within an organization, particularly the way it made sense of a situation, decided on courses of action, and translated decisions into action. Within a military organization, such interactions all fall within its concept of command and control.

Boyd used the OODA loop he had introduced in "Pattens of Conflict" to explain these interactions, but he did this with greater emphasis on the second O, Orientation, than he had in the earlier brief.[1038] In "Organic Design" Boyd used seven slides to explicitly develop Orientation as the critical central activity of OODA, for "It shapes the way we interact with the environment…" by influencing "the way we observe, the way we decide, the way we act."[1039] Boyd was not speaking of Orientation as an individual activity, but as a collective activity within an organization, enabled by specific interactions such as radio communications, written communications, and sharing of intelligence in information centers. It also depended on less tangible activities like teamwork, making tradeoffs, and correlating ideas among multiple sources to create a vision of what actions were needed, and then changing that image over time.[1040]

Boyd argued that traditional command and control processes tended to be top-down. He explained the interaction with the outside environment and understanding of the outside world is developed at the top, with the commander. Typically, this leader's command and control was then internally focused, directing subordinates what to do and monitoring their actions to be certain those actions were responsive to commands and appropriate to the situation. In this

[1038] Boyd, *A Discourse on Winning and Losing*, original 1987 Green Book, "Organic Design for Command and Control," 10-16.
[1039] Boyd, *A Discourse on Winning and Losing*, original 1987 Green Book, "Organic Design for Command and Control," 16.
[1040] Boyd, *A Discourse on Winning and Losing*, original 1987 Green Book, "Organic Design for Command and Control," 10.

system, subordinates are forced to wait for direction from above, rather than reacting to outside circumstances, which stifles their ability to act with initiative and rapidly adapt to changing circumstances. Referencing Darwin, Boyd pointed out that this was a critical failing, for the "Ability or inability to interact and adapt to exigencies of [the] environment" mean that one is selected "in" for survival, or selected "out" to die and become extinct.[1041]

The alternative Boyd presented as a better approach was to "to emphasize implicit over explicit in order to gain a favorable mismatch in friction and time (i.e., ours lower than any adversary) for superiority in shaping and adapting to circumstances."[1042] By "implicit," Boyd meant that over time and collective experience the individuals within an organization could develop similar ways of interpreting events inside and outside an organization, so that "bonds of implicit communications and trust" would develop, along with a common orientation to promote "a harmony, or focus and direction, in operations."[1043] This represented a fundamental change, for according to Boyd the leaders of large organizations should not specifically direct the actions of their subordinates. To overcome this tendency, Boyd explained, they should,

> • Suppress tendency to build-up explicit internal arrangements that hinder interaction with external world.
>
> Instead
>
> • Arrange setting and circumstances so that leaders and subordinates alike are given opportunity to continuously interact with external world, and with each other, in order to more quickly make many-sided implicit cross-referencing projections, empathies, correlations, and rejections as well as create the similar images or impressions, hence a similar implicit orientation, needed to form an organic whole.[1044]

---

[1041] Boyd, *A Discourse on Winning and Losing*, original 1987 Green Book, "Organic Design for Command and Control," 20.
[1042] Boyd, *A Discourse on Winning and Losing*, original 1987 Green Book, "Organic Design for Command and Control," 22.
[1043] Boyd, *A Discourse on Winning and Losing*, original 1987 Green Book, "Organic Design for Command and Control," 18.
[1044] Boyd, *A Discourse on Winning and Losing*, original 1987 Green Book, "Organic Design for Command and Control," 23.

In other words, Boyd argued for developing a shared way of thinking that would promote a common understanding of the environment and what generally needed to be done, while allowing the various parts of an organization to adapt their actions to what was going on immediately around them. This would impart variety and rapidity to the collective actions of the entire organization, the organic whole.

Boyd concluded his brief by arguing that the very title of his brief, "Organic Design for Command and Control," was not appropriate for what he was describing because the very terms he drew from the military lexicon were part of the problem. In Boyd's words, "C[ommand] & C[ontrol] represents a top-down mentality applied in a rigid or mechanical (or electrical) way that ignores as well as stifles the implicit nature of human beings to deal with uncertainty, change, and stress."[1045]

Boyd's work on "Organic Design" therefore, should be looked at a companion project to "Patterns of Conflict." Where "Patterns" had concluded that Variety, Harmony, Rapidity, and Initiative were the decisive qualities in human conflict, "Organic Design" hypothesized a new approach to leading military organizations to allow them to exploit Variety, Harmony, Rapidity, and Initiative. It is of critical importance to this study that Boyd was developing new ideas on command and control through an expanding synthesis, one that was becoming more abstract, while the maneuverists were moving in the opposite direction. In this same period, chapter 7 will show, Lind and the Marines were developing techniques for mission command as the way to practice centralized command with decentralized control, to include specific techniques such as formats for combat orders which could effectively communicate a

[1045] Boyd, *A Discourse on Winning and Losing*, original 1987 Green Book, "Organic Design for Command and Control," 35. On the following slide Boyd revealed he believed "Appreciation and Leadership" to be a more appropriate title, and a more effective approach to harmonizing operations while also promoting variety, harmony, rapidity, and initiative.

commander's intent.

Though the final version of "Organic Design for Command and Control," the version in the Green Book, was dated May 1987, it appears that Boyd was substantially done with that project no later than 1984, when he turned to the final major component of *A Discourse on Winning and Losing*, "The Strategic Game of ? and ?" Boyd's ideas continued to become more generalized and abstract, even as the maneuverists in the Marine Corps were about to start to define maneuver warfare in doctrine, the most tangible and implementable form military theory can take.

Boyd began work on this next theoretical project, "The Strategic Game of ? and ?" no later than 1986, but probably much earlier, in 1984.[1046] Among other things, as explained earlier in this chapter, some of the central ideas in this brief began appearing at the very end of the penultimate version of "Patterns of Conflict," the version produced in November 1984. Indeed, that brief probably represents the point at which Boyd moved from "Organic Design" to "The Strategic Game, incorporating his insights from the former project in "Patterns of Conflict" along with the major themes he envisioned for the latter.

Boyd's abstract for *A Discourse on Winning and Losing* did not make the purpose or focus of the brief as clear as it did for his other works, stating only that "'The Strategic Game of ? and ?' emphasizes the mental twists and turns we undertake to surface schemes or designs for realizing our aims or purposes."[1047] Part of the reason for this vagueness may have been that the

[1046] Boyd's papers contain a handwritten list of his major works along with a date for each one, and these dates correspond with when he started work on each of the other briefs. 1986 is listed for "The Strategic Game." See John R. Boyd, untitled notes, circa 1987, John R. Boyd Collection, Collection #2062, box 17, folder 12: Miscellaneous Notes. Marine Corps Archives. Hereafter, "Boyd, untitled notes, circa 1987." His papers also contain a very complete set of handwritten slide drafts which resemble the final briefing slides for "The Strategic Game of ? and ?" published in *A Discourse on Winning and Losing*, and one of them is dated "OCT 1984." See John R. Boyd, untitled notes, circa August-September 1983, John R. Boyd Collection, Collection #2062, box 17, folder 7: New Ideas, August 1983, 22 September 1983. Marine Corps Archives.

[1047] Boyd, *A Discourse on Winning and Losing*, original 1987 Green Book, "Abstract," 1.

title for the brief was a device meant to capture the reader's attention; Boyd would reveal the two words signified by the question marks in the title toward the end of his brief, as he presented his argument. Notes Boyd wrote early in his development of the brief indicate that he was returning to address the common themes in "Patterns of Conflict" and "Organic Design for Command and Control" relating to the importance of shaping and adapting to circumstances.[1048] The subject of "The Strategic Game" was different, however, because where Boyd saw the other two briefs as analyzing the nature of conflict, this brief, as the title indicated, was about strategy.[1049] Boyd defined strategy not in the military sense, as the highest level of war, but in a more general sense, as "A mental scheme or design for harmonizing and focusing our efforts as a basis for realizing some aim or purpose in an unfolding and often unforeseen world of many bewildering events and many contending interests."[1050] Boyd was conceiving of strategy as the abstract process of envisioning goals and adapting actions in an ever-changing world so that individuals, groups, cultures, or nation-states can survive on their own terms.[1051]

Over the course of 59 slides Boyd presented his argument on the nature of strategy, using a variety of sources on philosophy, natural science, political science, and military theory, in addition to his own earlier work. He used these sources to show that living systems which close themselves off from interaction with the outside world die out, while those that interact with the outside world "to gain information for knowledge and understanding as well as matter and energy for sustenance" survive.[1052] From this, Boyd concluded "Interaction permits vitality and

[1048] John R. Boyd, untitled notes, circa September-December 1984, John R. Boyd Collection, Collection #2062, box 17, folder 8: New Ideas, Part II. Marine Corps Archives.
[1049] Boyd, untitled notes, circa 1987, not only lists a date for each of Boyd's works, but also labels it by subject, which is "Philo[sophy]" for "Destruction and Creation," "Conflict" for "Patterns of Conflict" and "Organic Design for Command and Control," and "Strategy" for "The Strategic Game."
[1050] Boyd, *A Discourse on Winning and Losing*, original 1987 Green Book, "The Strategic Game of ? and ?," 58.
[1051] Boyd, *A Discourse on Winning and Losing*, original 1987 Green Book, "The Strategic Game of ? and ?," 58.
[1052] Boyd, *A Discourse on Winning and Losing*, original 1987 Green Book, "The Strategic Game of ? and ?," 28.

growth while isolation leads to decay and disintegration" so that, in his words, the common theme of "Destruction and Creation," "Patterns of Conflict," and "Organic Design for Command and Control" is "one of Interaction and Isolation."[1053] Consequently, Boyd returns to his title, "The Strategic Game of ? and ?" and argues "The Strategic Game is one of Interaction and Isolation," where the essence of successful strategy is being able to "diminish [an] adversary's ability to communicate or interact with his environment while sustaining or improving ours."[1054] Boyd ends by suggesting ways in which one can foster healthy physical, mental, and moral interaction, and ways in which adversaries can be physically, mentally, and morally isolated.[1055]

For the sake of this study, the provenance and validity of the ideas Boyd argued in "The Strategic Game of ? and ?" are less relevant than the relationship of this work to ongoing developments in maneuver warfare. Chapter 7 will show that 1984 to 1986 were key years when Lind and individual Marines developed supporting concepts and detailed techniques for maneuver warfare. This effort was intense enough to generate the *Maneuver Warfare Handbook*, a quasi-doctrine for maneuver warfare Marines could study when the Marine Corps as a service turned away from embracing these ideas for a time. Boyd was not a part of this effort. Indeed, his interests turned back to broader and more abstract subjects, so that developments by the maneuver warfare advocates had no influence on his work.

Finishing "Organic Design" and "The Strategic Game" yielded a relatively complete body of ideas one that circled back to his original theory of cognition, his "Destruction and Creation" essay of 1976. As the product of a decade of focused effort, these ideas seemed complete and genuine enough that Boyd was persuaded to package them as *A Discourse on*

[1053] Boyd, *A Discourse on Winning and Losing*, original 1987 Green Book, "The Strategic Game of ? and ?," 29-30.
[1054] Boyd, *A Discourse on Winning and Losing*, original 1987 Green Book, "The Strategic Game of ? and ?," 33.
[1055] Boyd, *A Discourse on Winning and Losing*, original 1987 Green Book, "The Strategic Game of ? and ?," 46-50.

*Winning and Losing*. Where previously he had sometimes handed out copies of his briefing slides to select members of his audiences with the understanding that his brief was a work in progress, now his full catalog of briefs was taking more than a day to deliver. The Green Book provided its readers with a full catalog of Boyd's ideas. The slides full of dense text expressing abstract and unconventional ideas were not very useful without Boyd's accompanying discussions, but the Green Book gave his listeners access to at least a tangible, if not penetrable, compilation of his ideas.

The order of Boyd's briefs within *A Discourse* was important, as it was not strictly chronological. Boyd started with "Patterns of Conflict," then moved through "Organic Design" and "The Strategic Game" before returning to his original work, the 1976 essay "Destruction and Creation." Boyd's introduction to *A Discourse on Winning and Losing* makes his logic clear, writing

> …the discussion goes from the more concrete and obvious to the more abstract. In this sense, one will notice the rise away from many particular actions and ideas to fewer and more general concepts to account for these many actions and ideas. In this context, "Patterns" emphasizes historical readings, primarily military, as the backdrop for its discussion while the final four sections draw away from the historical framework and increasingly emphasize theory spread over a scientific backdrop as the medium for discussion.[1056]

The final section Boyd referred to was a one-slide "brief" titled "Revelation" in which he made the central message of all of his studies on conflict, strategy, competition, and cognition clear. In "The Strategic Game" Boyd had introduced the snowmobile as an important metaphor in his theory. There he challenged his learners to think about what the images of skiers, a motorboat, a bicycle, and a toy tank or tractor had in common. Then he related that the mechanical devices involved could be broken down into their constituent parts, and select parts (the skis, the

[1056] Boyd, *A Discourse on Winning and Losing*, original 1987 Green Book, "Abstract," 1-2.

outboard motor, the bicycle handlebars, and the tank tread) reassembled in a completely different and fundamentally new machine, the snowmobile.[1057] This same process applied to generating mental images of the world in the process of Orientation. Consistent with his 1976 "Destruction and Creation" essay, Boyd argued that it was critical to be able to deconstructively analyze events going on in the world from multiple perspectives, and then creatively synthesize a new understanding and plan of action from what had apparently been unrelated observations and ideas.[1058] In "Revelation" his one-slide coda added to complete *A Discourse on Winning and Losing* in 1987 to summarize his central conclusion to a decade-long investigation, Boyd summarized,

- A loser is someone is someone (individual or group) who cannot build snowmobiles when facing uncertainty and unpredictable change;

whereas,

- A winner is someone (individual or group) who can build snowmobiles, and employ them in an appropriate fashion, when facing uncertainty and unpredictable change.[1059]

Again, the primary value to this dissertation of Boyd's work as compiled in *A Discourse on Winning and Losing* is not the ideas it contained, but rather its relationship to maneuver warfare. While Boyd is generally understood as an aggressive advocate of maneuver warfare, and "Patterns of Conflict" as a device meant to persuade audiences of the merits of maneuver warfare over attrition warfare, "Patterns" was just a small part of the ideas Boyd was developing between 1976 and 1986. Throughout all of these projects Boyd was much more concerned with the general nature of human conflict and competition, and became more so even as the maneuver warfare advocates were making the greatest progress in translating Lind's initial concept of maneuver doctrine, augmented by some of Boyd's early ideas, into an actionable approach to

[1057] Boyd, *A Discourse on Winning and Losing*, original 1987 Green Book, "The Strategic Game of ? and ?," 6-9.
[1058] Boyd, *A Discourse on Winning and Losing*, original 1987 Green Book, "The Strategic Game of ? and ?," 10.
[1059] Boyd, *A Discourse on Winning and Losing*, original 1987 Green Book, "Revelation," 1.

warfare. Indeed, "Patterns of Conflict" was in Boyd's words a historical investigation which privileged military history, and merely provided the "backdrop" and "historical framework" for his larger ideas. [1060] Even within "Pattens of Conflict," this chapter has shown, maneuver conflict was but one form of conflict, not his main argument, and OODA was merely part of his descriptive explanation. Because "Patterns of Conflict" is so widely understood as an argument for maneuver warfare, however, this chapter should address both contemporary and recent critiques of Boyd's work, and can now do so fully informed by the analysis of Boyd's process, sources, and conclusions in this chapter and chapter 4.

**Contemporary Critiques of "Patterns of Conflict"**

Prior to completing the August 1981 version of "Patterns of Conflict" where the fundamental process, form, and messages of that work stabilized, Boyd was aware of at least two scholarly critiques of his brief. The first was written by Jay Luuvas a professor of military history at Allegany College in March 1981, who would soon accept an appointment to the Army War College.[1061] The second was written by Roger Spiller, a professor at the U.S. Army's Combat Studies Institute, after seeing Boyd give the brief to the faculty of the U.S. Army's Command and General Staff College, probably in May 1981.[1062] Brown provides a copy of Spiller's critique and Boyd's commentary as Annex C of *A New Conception of War* "to give the reader a flavor of Boyd's personality, but also to show how Boyd revealed his own insights as he

[1060] Boyd, *A Discourse on Winning and Losing*, original 1987 Green Book, "Abstract," 1-2.
[1061] Jay Luvaas, "Patterns of Conflict in History," unpublished essay, 9 March 1981. John R. Boyd Collection, Collection 2062, Box 7, Folder 5: Jay Luvaas Critique: Patterns of Conflict in History, 1981. Marine Corps Archives, 1. Luuvas joined the faculty of the Army War College in March 1981.
[1062] Roger Spiller, letter to John Boyd, undated. John R. Boyd Collection, Collection 2062, Box 7, Folder 6: Roger Spiller Critique: Patterns of Conflict. Marine Corps Archives. This letter is undated, and the enclosed critique itself states only that the brief was given on May 3. Brown, 283 places the date as sometime in 1981 based on sound analysis of Boyd's planning calendars and Boyd's reference to Luuvas's March 1981 critique in the margins.

fought back against misperceptions regarding his ideas from an early date."[1063] This dissertation has shown, however, that 1981 is not an early date in the progression of Boyd's ideas, but a late one. It is therefore appropriate to analyze these critiques and Boyd's responses, seeing what they reveal about his method, and determining any influence they may have had.

Luuvas's 14-page critique began with a sarcastic complement to Boyd for discovering a "sure-fire formula for success that in his view brings into question the doctrine embodied in FM 100-5." This sentence (highlighted by Boyd) set the tone for Luuvas's evaluation, which did not directly castigate Boyd, and essentially validated many aspects of Boyd's interpretation in a heavily end-noted discussion. Luuvas argued that the most influential works of theory in history had been produced by professional military men, while professional historians tended to avoid "tidy formulas."[1064] In so doing, Luuvas contrasted the influence of practitioners' theories with the validity of professional historians' work. He presumably placed Boyd in the former camp, as Boyd was a career military officer with no graduate training in history, and only recent interest in military history and theory. In view of what Boyd actually argued, it is clear that he was closer to the latter group, for his practical experience was confined to aviation matters, and he patently rejected formulaic approaches to theory. Luuvas should have recognized this, for he observed of "Patterns of Conflict,"

> The emphasis is not on tactical schemes as such beyond "a steady flanking attack and a determined commander," but on the variations introduced by the individual commanders to organize and deploy their resources. It is an approach that would have appealed to Napoleon, the practical practitioner, and Clausewitz, the philosophical theorist on war, both of whom focused attention on the commander rather than any fixed system of Military Commandments.[1065]

[1063] Brown, 282.
[1064] Luuvas, 3.
[1065] Luuvas, 3.

Luuvas also saw parallels between Boyd's approach to theory and that of Liddell-Hart, and summarized Boyd's Historical Investigation by pointing out similarities to Liddell Hart. In this discussion, Luuvas began to reveal that he was ultimately critical of Boyd, for in comparing him to Liddell Hart, Luuvas remarked that there could be no comparison between Boyd's "intensified—an often indiscriminate—reading of history" and Liddell Hart's lifetime of study and writing "based on systematic reading" and "respect for the canons of historical scholarship, productivity or influence."[1066] Both Boyd and Liddell Hart, in Luuvas's evaluation "looked to history to confirm their respective theories," but, "The inherent weakness in Boyd's approach is his insistence of forcing history into convenient patterns."[1067] Luuvas even invoked Clausewitz, quoting the Prussian at length in his admonition not to attempt to derive theory from faulty historical examples. This led Luuvas to indict Boyd for using historical examples out of context.[1068] Luuvas went on to cite recent scholarship to show that Boyd's interpretation of Napoleon's rise and defeat were wrong, and pointed out that Boyd failed to distinguish between conventional guerrilla warfare and "the more recent doctrine of Revolutionary warfare."[1069] Ultimately, Luuvas believed this catalog of faults would lead academics to reject Boyd's analysis out of hand, and suggested that Boyd's work deserved to be evaluated on more practical criteria.

With regard to practical value, Luuvas judged that Frederick the Great, Napoleon, and Liddell Hart would recognize Boyd's discovery of the OODA loop as nothing more than "20th century jargon" for the ideas they had already adopted, and in Liddell Hart's case, preached.[1070] Careful to warn his readers that he was not accusing Boyd of being a charlatan, Luuvas

[1066] Luuvas, 5.
[1067] Luuvs 5-6.
[1068] Luuvas, 7-8.
[1069] Luuvas, 10.
[1070] Luuvas, 12-13.

concluded that there is danger that military men, being ignorant of history, might be taken in by Boyd's argument. In the end, Luuvas saw "Patterns of Conflict" as Boyd's well-intentioned but misguided attempt to use history to prove something that was really very simple and intuitively obvious. Boyd obviously felt he was not making a simple argument, and his briefs highlighted the fallacy of developing any system of fixed principles. This suggests why one of the few comments Boyd's made on Luuvas's critique summarized it as an "incoherent diatribe."[1071]

Notably, Luuvas did not make the mistake of seeing Boyd's entire theory as simply a historical illustration of a concept derived from fighter combat. Luuvas mentioned that "Boyd started from a basic tactical problem, that of a modern fighter pilot trying to get inside his opponent's maneuver space in order 'to generate a mismatch between what the enemy perceives and reality'," and later explains, "…Boyd's exposure to blitzkrieg tactics helped him to formulate his Observation, Orientation, Decision, Action timecycle."[1072] This observation, of course, supports one of the major arguments of chapter 4, showing that at least one contemporary observer understood that Boyd's OODA concept was informed by his study of history, and did not predate it.

Spiller's critique attempted to narrate the key elements of Boyd's brief for a correspondent who was unable to attend the presentation itself. His narration is rife with misunderstandings, starting with the assertion that "the foundation the OODA Loop is to be found in the aerial combat of the Korean War between the Mig-15 and F-86." Boyd rejected this assertion in a marginal comment on his copy.[1073] Early on in Spiller's discussion it is clear that

[1071] Spiller, 3.
[1072] Luuvas, 3-4.
[1073] Spiller, 2. Of interest, Boyd responds, "No—OODA loop came from work and anomalies associated with evaluation and flight tests of YF-16/17." This is the only place where Boyd's own words appear to somewhat contradict my argument that the origin of OODA was in Boyd's historical studies, informed by insights gained from his aviation expertise.

he recognized that Boyd was unlikely to agree with him, as "Boyd would argue that this [Spiller's] interpretation places entirely too much weight upon his own history, that he has risen above this pre-conditioning by virtue of his more recent studies."[1074] Even if Spiller was stipulating that Boyd's historical inquiry could be a genuine effort, he considered it at least subconsciously driven by Boyd's previous experiences and agenda, and therefore never considered the possibility that Boyd had gained real insight from history. Instead, Spiller wrote, "my impression was that the OODA Loop was the point of the lecture, and that history was marshalled to its support, or discarded if it did not support the Loop. Boyd has categorically rejected this criticism, arguing that the OODA Loop was merely a starting point, not meant to establish an overarching theme into which selected historical examples were made to fit."[1075] Spiller argues,

> Boyd says that he is not a historian. By this he means to say that he has not been classically trained, and that he is largely self-taught. On one hand, he appears to regard this as a liability that affects his credibility when he uses history in his lecturers. He seems to assign greater weight than is reasonable to the tendency of professional historians to close ranks against those who are not part of the club. On the other hand, he prides himself on his independence from the preconceptions that blind professional historians. I have no patience with the ethic that makes history an exclusive society in which the sole price of admission is classical training. That is the view of a narrow mind, grasping for imaginary virtue where no other kind is available. Many in this country study military history with varying degrees of success.[1076]

Spiller seems critical of Boyd for pointing out the limitations of the discipline, which Boyd would have said applied to any profession. Spiller also seems critical of Boyd for being aware that his lack of credentials would affect his credibility with professional historians, as if Boyd saw this as an excuse to be careless with history. Spiller considered Boyd to be very influential among military men, and pointed out that this meant Boyd carried the "the most serious

[1074] Spiller 3.
[1075] Spiller, 3-4.
[1076] Spiller, 4.

obligation of the most serious historian."[1077] Boyd obviously felt he was making a serious historical inquiry despite his lack of professional credentials in that field. Ultimately, Spiller, like Luuvas, condemned Boyd for looking for simplistic answers in history, ignoring Boyd's constant stress on the evolution of ideas, avoidance of fixed schemes, and rejection of principles of war. Spiller also failed to appreciate Boyd's emphasis on avoiding battle, summarizing, "Boyd is the latest in a long line of military theorists (mostly in the modern period) who have employed military history in a search for the Rosetta Stone of battle."[1078]

Boyd considered Spiller's critique evidence of scholarly sloppiness, and therefore, undoubtedly, hypocritical and uncredible. Where Spiller wrote, "Boyd is particularly interested in Clausewitz's remarks on friction, remarks which take about three pages in about six hundred, a proportion which suggests what Clausewitz thought about the subject," Boyd felt compelled to respond.[1079] Boyd, of course saw that friction was a serious concern for Clausewitz, and responded in the margins of Spiller's critique "Totally incorrect -- He has <u>many</u> <u>more</u> pages…"[1080] Boyd was correct. Friction is, indeed, mentioned on 15 pages of *On War*. It is also the subject of its own chapter, and a fundamental concept within Clausewitz's theory. Boyd must have felt comfortably superior to Spiller, a professional historian who hypocritically ended his critique, "Boyd's influence places him above the general run of historians (maybe all historians, in fact), but at the same time that influence carries with it all the obligations of the most professional of historians—the obligation to scholarship as best he can practice it."[1081]

[1077] Spiller, 5.
[1078] Spiller 5.
[1079] Spiller, 11.
[1080] Spiller, 11.
[1081] Spiller, 17.

In the end, these two contemporary critiques share an element of recent critiques of Boyd. Hearing Boyd's mention of OODA in the opening slides of his brief and noting his lack of professional training, they assume that Boyd forced history to prove his model. They did not entertain the possibility that his historical inquiry was genuine or worthwhile. It is also worth noting that neither Luuvas nor Spiller perceived Boyd to be a strong advocate of maneuver warfare. Relative to doctrine, Luuvas only recognized that Boyd was critical of the approach in FM 100-5, and did not even mention Boyd's treatment of maneuver conflict.[1082] Spiller saw Boyd as devoted "to the mental and physical idioms of maneuver warfare," but recognized that his brief could only be perceived as endorsement of that style by implication, since Boyd had not argued for any of it to be adopted.[1083] These views support another important finding of this chapter, that contrary to recent narratives, Boyd was not an aggressive advocate pushing for the adoption of maneuver warfare by the U.S. Marines, or anyone else.

**Recent Critiques**

This entire chapter has been devoted to developing a deeper understanding of Boyd's ideas as they were expressed in "Patterns of Conflict" during the period when the maneuver warfare movement would be most ripe for them. Chapter 7 will show this was especially true for the Marine Corps. Chapter 4 began by pointing out that Boyd's ideas have only received limited attention from those with the time and training to properly trace their development. This begs the question as to why this is so. Part of the problem, as pointed out at the beginning of that chapter, is that Boyd's ideas were not captured in a durable form that was widely available, until recently. Another obstacle is the difficulty of interpreting his slides without having Boyd present

[1082] Luuvas, 1.
[1083] Spiller, 14.

to provide his explanation, a condition also mitigated by copies of "Patterns of conflict" now available on the internet. A third obstacle remains. Some academics echo Luuvas and Spiller, considering Boyd's ideas suspect because of his lack of academic training. This deserves consideration.

Boyd was an anti-establishment by his very nature. He took great delight in challenging and deflating the egos of generals and intellectuals when he could catch them on the wrong side of a debate in subjects where they were incorrectly regarded to be experts. Despite being critical of the academy, Boyd was aware of the value of formal education, and made use of it when it met his needs. Sensing that many of his questions about the nature of fighter tactics were unanswered even by his own cutting-edge explanation in 1960, he sought an engineering degree. This was critical to his most significant intellectual contribution while on active duty: Energy-maneuverability theory. Later in life, as he began his historical inquiry into the nature of conflict, he was drawing from such a wide array of philosophical, scientific, and historical works that it is unlikely an advanced course of studies in any one discipline would have satisfied him. Most important, Boyd's greatest syntheses were all made possible only because he was crossing the boundaries, unfettered by the patterns of meaning that defined each discipline. As Martin Van Creveld points out, allowance must be made for genius to be a critical factor in the generation of remarkable new ideas, and the most remarkable theorists have been those who approached a topic from a philosophical perspective.[1084] This is the essence of Osinga's assessment of Boyd,

> Critique is warranted, up to a point. Boyd certainly was not a trained political science researcher or historian, but most definitely a serious scholar of war and warfare. His work may not stand up to the standards of social science, yet it is rather solidly grounded in history and a host of other scientific disciplines. His use of history was biased, but also

[1084] Martin van Creveld, *A History of Strategy: From Sun Tzu to William S. Lind* (Kouvola, Finland: Castalia House, 2015), 57.

> more comprehensive and less preconceived than that of Basil Liddell Hart, for instance. He may have applied insights from epistemology, biology, physics, or mathematics that seem improper, but in doing so at the time, he was merely following in the footsteps of intellectual giants such as Werner Heisenberg and Ludwig von Bertalanffy, Nobel Prize winners Ilya Prigogine and Murray Gell Mann, and accomplished economists Kenneth Arrow and Brian Arthur, and many others (including contemporary social scientists, historians, and leading management consultants).[1085]

Boyd may not have commanded the respect of professional historians in his day or even now, but his ideas merit evaluation on their own terms. The critiques of his specific ideas that have been lodged to date are based on gross misinterpretations, such as the notion that Boyd was forcing history to prove a simple model he derived from aerial tactics. Such claims also show an ignorance of his process. If Boyd's critics are unwilling to admit to the value of interdisciplinary studies and the possibility for uncredentialed genius, and find these chapters unpersuasive, they should certainly establish that Boyd's critics owe greater attention to his work.

**Conclusion**

This chapter has focused on the development of Boyd's ideas in the focal period between 1978 and 1986 as expressed in "Patterns of Conflict" and the other projects that would make up A Discourse on Wining and Losing. It has shown that the ideas Boyd developed in this period were based on a genuine and broad inquiry into military history and theory, as well as many other subjects, one that drew upon the best sources available at the time. This chapter has shown that Boyd did incorporate an explanation of maneuver into his narrative until two years after William S. Lind publicly argued that maneuver doctrine and attrition/firepower doctrine constituted a dichotomy. Though Boyd's conception of maneuver conflict was similar to what Lind and the Marines ultimately referred to as maneuver warfare, Boyd never argued the

[1085] Frans Osinga, "'Getting' *A Discourse on Winning and Losing*: A Primer on Boyd's 'Theory of Intellectual Evolution'," *Contemporary Security Policy* 34, no. 3 (2013), 621.

existence of that dichotomy, and never argued for the adoption of maneuver warfare as a central point of his works. Indeed, as much as Boyd has incorrectly become known for developing maneuver warfare, what he did instead was provide an overarching theory of conflict within which maneuver warfare could be fit. Further, as time went on, though Boyd was happy to share his ideas with the maneuverists, his interests turned towards even more abstract subjects, even as the maneuverists were developing Lind's ideas into an actionable approach to warfare. This work is the subject of the next chapter.

# Chapter 7: William S. Lind's Collaboration with the Marines

In the fall of 1984 First Lieutenant Timothy Jackson, U.S. Marine Corps was a platoon commander in an infantry unit at Camp Lejeune, the Marine Corps' largest base on the eastern seaboard, located on the North Carolina coast. Though Jackson was an officer of 1st Battalion, 2nd Marine Regiment, at this time he was temporarily assigned as an observer for a large exercise being conducted by the 2d Marine Division, the parent command for his regiment. For the previous two years the division had been experimenting with a new style of operating known as maneuver warfare under the leadership of Major General Alfred M Gray, Jr. This three-day field operation was another phase in that effort, pitting two of the division's regiments against one another in a free-play exercise.

This was Jackson's first exposure to maneuver warfare. He had joined his battalion a year earlier, and though General Gray's division had been experimenting with the concept for about a year at that point, soon after Jackson arrived his unit had started a period of extended absence in a series of training deployments and a six-month operational deployment to Okinawa, Japan. He therefore had not spent much time at Camp Lejeune itself, and had missed much of the second year of maneuver warfare exercises. Jackson, a very junior officer, was also unaware of the on-going debate about maneuver warfare in the pages of the *Marine Corps Gazette*.

On the last day of the exercise the unit Jackson was observing halted in Combat Town, Camp Lejeune's urban combat training area. Jackson took a seat to see what would come next. While he was waiting, a jeep drove up, and from it emerged General Gray, along with a "big tall civilian" wearing a non-regulation military uniform, hair sticking out from under his cap, which appeared to be from some foreign military service. In contrast to the Marines around him with lean physiques and shaven heads, this man stuck out. Jackson said, "He didn't look military at

all, he had a little bit of a gut on him."[1086] Jackson's interest was piqued, wondering, "Who the heck is that guy?" The lieutenant watched from a distance as the general and his strange guest walked about and engaged various Marines in conversation about the exercise.

Later that day, all the officers involved in the exercise gathered in the large open space of a base gymnasium to discuss how it had played out. The senior officers, probably the colonels and lieutenant colonels in command of the regiments and battalions, were seated on a stage at the front of the gym. Last to arrive was General Gray and his odd civilian companion. The debriefing began with each of the battalion commanders recounting what had happened. In Jackson's words, however, "They really don't say anything instructive. You know, they are not going to publicly criticize their enemy or criticize themselves. Kind of, as we joked later, the standard Marine Corps, 'Everybody did great, but comm[unications] sucked.'" As junior officers in the back of the room heard nothing of interest and began to nod off, the microphone was handed off to the regimental commanders for more of the same. When General Gray was finally given the mike, he said in his typically gruff manner, "Well, I've heard everything you have to say, but I brought my own guy here for a critique." Turning to his civilian guest, he said, "Bill, why don't you come up and given them a critique?" Lind took center stage and launched into a lengthy analysis stressing missed opportunities. He highlighted commanders who had failed to appreciate the changing tactical situations going on around them. The younger officers began to sit up and pay close attention. Jackson had never heard such a meaningful and interesting critique of a Marine exercise, and was impressed that the speaker "didn't pull punches." At the end of the discussion Gray had nothing to add, but his displeasure with the division's performance was obvious.

[1086] Timothy J. Jackson, interview by Shawn P. Callahan, 11 September 2019, digital recording. Oral Histories Collection, Marine Corps Archives, History Division, Marine Corps University, Quantico, Virginia.

The outlandish civilian who General Gray invited to speak on his behalf at the debrief was William S. Lind. Looking back on the event years later, Jackson was sure that Lind tied his critical comments about the exercise into the concepts of maneuver warfare, but these meant nothing to Jackson at the time. Though other lieutenants, who had been present for and participated in the extensive experimentation with maneuver warfare concepts, had learned to frame their post-exercise discussions in those terms, these ideas simply didn't register to Jackson, who had no exposure to maneuver warfare.

This event is particularly relevant to the development of the concept of maneuver warfare for two reasons. First, it shows that the very concept, and the supporting techniques needed to make it an actionable approach to war, were not easy to figure out and practice. Not only did Gray's division struggle to maintain its capability to conduct maneuver warfare, but the very terms and ideas it entailed did not register to those who hadn't been deeply involved in the experiments. Second, it shows that Gray and his Marines worked very closely with an outsider, William S. Lind, to develop and promote the practice of maneuver warfare within the 2nd Marine Division.

As discussed at the beginning of Chapter 5, the existing scholarship on the development of maneuver warfare elides Lind's importance. The account which assigns him the greatest role holds him as merely its "civilian product champion" without recognizing his intellectual contributions.[1087] Several studies recognize that Lind was an important voice in the debates over maneuver warfare but still mischaracterize the most critical ideas as products of John Boyd's genius.[1088] Others hold Lind to be little more than a poor interpreter of Boyd, "Boyd's Best and

[1087] Terry C. Pierce, *Warfighting and Disruptive Technologies: Disguising Innovation* (New York: Frank Cass, 2004), 85.
[1088] Terry Terriff, "'Innovate or die': Organizational culture and the origins of maneuver warfare in the United States Marine Corps," *Journal of Strategic Studies* 29, vol. 3 (August 2006), 496-498; and Fideleon Damian, "The Road to

Worst Promoter" who watered down Boyd's most insightful ideas.[1089] This chapter continues the intervention begun in Chapter 5, showing that Lind was not a mere promoter, but was deeply and actively involved in the development of the concept of maneuver warfare. Indeed, he was more intimately involved than any other person from the beginning to the end. Chapter 5 detailed Lind's inception of the idea of maneuver doctrine, his efforts to impel the Army and Marine Corps to experiment with mechanization, his realization that Marines failed to understand the basic concepts involved, and his initial efforts to define what maneuver warfare was. This chapter focuses on Lind's efforts to work with individual Marines, and two units within the Marine Corps where Marine leaders acted on their own initiative, to develop maneuver warfare into an actionable body of concepts by 1985, even if they were not to be encoded in doctrine until 1989.

This latter aspect, detailing Lind's close engagement with Marines, is not about allocating credit for the ideas behind maneuver warfare--it is about process. What it shows is that the Marines profited from regular collaboration with an outside intellect with a comprehensive view of what need to be done, and with whom they could work out how to do it. The corollary is that Lind depended on his engagement with Marines to make his vision a practical reality. It was only through his interactions with those Marines that Lind could find ways to express the important ideas relating to maneuver warfare that made sense and appealed to military professionals. It was only through their efforts to actually put these concepts into practice in field exercises that they could then work out the techniques that would make maneuver warfare an effective approach to fighting, a practical reality. This constitutes another important

FMFM1: The United States Marine Corps and Maneuver Warfare Doctrine, 1979-1989" (Master's Thesis, Kansas State University, 2008), 28-30, 34.

[1089] Ian Brown, *A New Conception of War: John Boyd, The U.S. Marines, and Maneuver Warfare* (Quantico, VA: Marine Corps University Press, 2018), 83, 118n80, 124, 145-147, 151-153.

intervention in the historiography. Though existing accounts do address the work in Marine organizations, particularly the Amphibious Warfare School and 2d Marine Division, they tend to depict these efforts as helping Marines understand Boyd's ideas and persuading them to adopt these ideas. By showing that important developments occurred in close cooperation with Lind, and with relatively little involvement by Boyd, this chapter will show that this wasn't just a matter of Marines recognizing and adopting Boyd's genius, but also that the Marines played a critical role in the development of maneuver warfare. They were as important to this effort as Lind, the originator, and Boyd, the man who developed the explanatory theory. This chapter begins that effort by detailing those developments that critically depended on the involvement of Marines.

**Collaboration with Michael Wyly and the Amphibious Warfare School**

Where Chapter 5 discussed Lind's interaction with the Marine Corps, this chapter instead addresses his interaction with Marines. The difference between these two is more than semantic. The end of the Phase III Mechanized Task Force experiments in June 1979, as Lind would discover within a few months, was in many ways also the end of the boldest deliberate effort sanctioned by Headquarters Marine Corps to explore mechanization and the associated concepts recommended by the Haynes Board. This contributed to 1979 becoming a critical year for the development of maneuver warfare because this is when a shift occurred from its supporters thinking largely along the lines of promoting mechanization, to the development and promotion of a more universal concept. This is why Miller's *Gazette* articles have attracted so much attention, as well as Lind's March 1980 article "Defining maneuver warfare for the Marine Corps," which actually reflected an eight-month effort to find the needed explanation for how maneuver warfare worked. Despite this progress, it would be an overstatement to say that the

Marine Corps itself continued to be the laboratory for maneuver warfare, as Lind had described it in February 1979. Under the next two commandants, General Robert H. Barrow and General P.X. Kelley, between July 1979 and July 1987 Headquarters Marine Corps did not sanction significant efforts along those lines. While the Marine Corps made no service-level efforts to embrace or even explore the new ideas, there were several Marine Corps organizations where bold experimentation would continue. These efforts were not made at the direction, or even with the sanction, of the Commandant. Instead, they fell within the authority of Marine leaders in these organizations whose positions gave them the latitude to explore new ways of fighting. Two were particularly significant to the process of developing maneuver warfare. The first occurred at the Amphibious Warfare School (AWS) led by the head of Tactics there, Lieutenant Colonel Michael Wyly between 1979 and 1982. The second occurred later, at the 2d Marine Division under its commander, Major General Alfred M. Gray, from 1981 to 1984. Lind was an integral part of these efforts, though his interaction was closest at AWS. It is significant that the start of Lind's relationship with Wyly, in the fall of 1979, coincided with the Marine Corps' abandonment of its experiments in mechanization under its new commandant, General Barrow, and the maneuverists' turn towards defining and promoting the broader concept of maneuver warfare.

Michael Wyly is one of the two most prominent Marines involved in the maneuver warfare movement. As a veteran of the Vietnam War, Wyly had become disenchanted with the way the war was fought, and even more so with the failure of the Marine Corps to adapt its training as a result of its experiences in the war. As a result, Wyly dedicated himself to finding new ways of thinking about fighting and preparing for war, and was intrigued by the ideas Lind had begun to express. Wyly's initiative and potential was recognized by the Commanding

General of the Education Center in Quantico, Brigadier General Bernard Trainor, who personally arranged for Wyly to be ordered to the Amphibious Warfare School in 1979. AWS was a nine-month program designed to broaden the professionalism of captains, who had typically served in the Marine Corps for between five and ten years and were soon to be assigned to command companies. Trainor understood that Wyly's seniority as a lieutenant colonel on a faculty mostly composed of majors, as well as his combat experience as an infantry company commander in Vietnam, made him ideal for appointment as Head of Tactics. This position made Wyly second in authority only to the director of the entire school in curricular matters, and the person who would have closest control of the material taught on a lesson-to-lesson basis. Trainor sent Wyly to AWS with instructions to revise the way tactics were being taught.[1090]

Wyly immediately began implementing changes. For example, after reading a lecture used by his predecessor, Wyly asked that officer why it made specific reference to Napoleon at the Battle of Austerlitz in 1805 to illustrate a point. When it became clear that the previous lecturer knew nothing about the history of the battle, and was merely repeating a phrase passed on to him by his own predecessor several years earlier, Wyly began to study the battle in detail. When Wyly took the stage, the entire lecture was transformed into a discussion of Austerlitz and the lessons to be learned from it.[1091]

Wyly had already begun to think and talk about war in unorthodox ways, at least within the AWS curriculum. Lind's congressional tours and speaking engagements around Quantico, Camp Lejeune, Camp Pendleton, and Twentynine Palms had brought him into contact with Marines like Wyly who were interested in his ideas.[1092] It is not clear precisely what brought

[1090] Michael Wyly, interview by Linda Magleby, tape recording, Quantico, Virginia, 3 July 1996. Oral and Video History Section, History Division, Marine Corps University, Quantico, Virginia, 3-4.
[1091] Wyly, interview, 4.
[1092] Lind, "Talk to Major Leach's Officers' School, Headquarters, Marine Corps, Feb. 14, 1979," 1.

these two men together. In an unrecorded telephone interview of Wyly in 2017, Wyly related that Trainor ordered him to get in contact with Lind to show the abrasive Congressional staffer that real changes were underway at AWS.[1093] Two decades earlier, in 1996, Wyly told an interviewer he came to the attention of reformers like Boyd and Lind because of an article he wrote in the *Marine Corps Gazette* titled, "Victory or Attrition: Which Are We Fighting For?" but no article of that name or on a similar topic was published under Wyly's name in this time period.[1094] Either way, at some point, Wyly recounted calling Lind to say, "I've read some of your stuff and I've read [unintelligible]. You and I are obviously opposed to the same thing. What do you think we're for?"[1095] All indications are that this first contact probably occurred in the fall of 1979, several months after he started teaching at AWS, and during the critical period when Lind was working with the Airborne officers searching for and developing a conceptual explanation for maneuver warfare, one that would first be widely published in the critically important March 1980 *Gazette* article "Defining maneuver warfare for the Marine Corps." Indeed, Wyly's conversation with Lind may have helped precipitate that article or some of its ideas.

The first documentary evidence of collaboration between Lind and Wyly does not appear for almost a year after that first telephone conversation. With Wyly's portion of the AWS curriculum, tactics, focused in the early part of the academic year, their mutual acquaintance may have come too late in the fall, and there would have been less urgency to collaborate until the next AWS class began the following summer. When that happened, Wyly gave Lind a feature role. In September 1980 Lind provided a lecture to the Amphibious Warfare School explaining

[1093] Brown, 157.
[1094] Wyly, interview, 4.
[1095] Wyly, interview, 5.

the difference between attrition warfare and maneuver warfare, the historical origins of maneuver warfare, and why the Marine Corps needed to adopt maneuver warfare. In many respects it was an elaboration and consolidation of his previous arguments in articles such as "Defining Maneuver Warfare for the Marines Corps" and "Bureaucratic Tactics." In Lind's conclusion, however, he emphasized, "Much development work needs to be done – and captains can do it as well as anyone, here and later in [the] field."[1096] Indeed, Lind would come to assert that captains were the perfect audience. In his mind, AWS was the right place to focus because captains were still thinking outward about war, not inward about their careers and their service's bureaucracies. They were also more malleable. In a 2020 interview Lind elaborated,

> …to be blunt about it, by the time they are major, they are pretty much lost causes. Most have bought into the system, and they are just looking to make the system work for them. The best rank to work with is captain, from my [] experience. Lieutenant is still somewhat starry-eyed, generally. He is still in the process of figuring out how much of what he was sold by the Marine Corps is bullshit. The major is buying into the system, and trying to make it work for him. It's at the rank of major that Marines are expected to transition from an outward to inward focus, in other words from focusing on war to internal budget promotion and politics…
>
> Captain is the ideal rank, because they have figured out how much of what they were sold on is bullshit, but they haven't bought into the system. So it's not accidental that this whole maneuver warfare movement in the Marine Corps has been about captains. And that, by the way, was of course uncomfortable for a lot of brass, because this has been very much a bottom-up, not a top-down, effort.[1097]

Lind's comments to the students of Amphibious Warfare School in September 1980 about the need for much developmental work foreshadowed the close interaction Lind would have with them to flesh out ideas on maneuver warfare, and the continuation of those efforts in the 2d Marine Division.

[1096] William S. Lind, "Speech to Amphibious Warfare School, September 18, 1980," lecture notes, 18 September 1980. William S. Lind Papers, Collection 4939, Box 25, no folder. Marine Corps Archives, Quantico, Virginia, 6.
[1097] William S. Lind, interview by Shawn P. Callahan, 29 January 2020, digital recording. Oral Histories Collection, Marine Corps Archives, History Division, Marine Corps University, Quantico, Virginia.

Earlier in the same lecture Lind had traced the history behind maneuver warfare, and mentioned Boyd to provide an example of a new development, then explained some new insights. The first of these was "combined arms." Lind was referring to a maneuver warfare concept he had defined a little over a month earlier in a single-page working paper. Although the audience for this memo is not stated, the subject "Combined Arms and Supporting Arms: Definitions" suggests that it was a person or persons very much oriented on the practical aspects of fighting. In view of Lind's growing collaboration with Wyly on these topics, it is likely Wyly was at least one of the people with whom Lind would share this working paper. Lind's brief memo posited two definitions:

> COMBINED ARMS is hitting an opponent with two or more arms or weapons simultaneously in such a manner that the actions he must take to avoid one make him more vulnerable to another.
>
> SUPPORTING ARMS, in contrast, is hitting an opponent with two or more arms or weapons in succession, or if simultaneously, then in such a manner that the actions he must take to avoid one are also effective against the other(s).[1098]

The distinction between the two terms, spelled out nowhere in the literature prior to this point, would become a central concept for maneuver warfare as it clarified the role of destruction. Both supporting arms and combined arms refer to the use of the heavy firepower, most often in the form of artillery, mortars, and aircraft, in the support of units on the ground seeking to close with the enemy. While the use of such inherently destructive resources is commonly, and perhaps habitually, considered to be valuable because they destroy the enemy to reduce the risk and cost for the infantry about to engage them in close combat, Lind did not explain their use in those terms. Lind made a key distinction in advocating combined arms as the use of such fires synergistically, presenting the enemy with dilemma, rather than simply applying firepower to

[1098] William S. Lind, "Combined Arms and Supporting Arms: Definitions," unpublished notes, 4 August 1980. William S. Lind Papers, Collection 4939, Box 18, Folder 2. Marine Corps Archives, Quantico, Virginia.

destroy that enemy. In April of the following spring Lind elaborated on these definitions in a *Marine Corps Gazette* article, making the distinction even more clear: "Combined arms puts the enemy on the horns of a dilemma, and is thus qualitatively different. It not only increases his physical problems, it also pulls him apart psychologically."[1099] Lind's distinction is that combined arms applies firepower not to destroy him, but to present him with an insoluble problem. Supporting arms could be countered, such as by taking cover, but in combined arms, firepower was applied in support of maneuver; to take cover might nullify the effects of the fire, but it also made the enemy unable to prevent friendly forces from maneuvering on his flanks. This refinement to how supporting arms could be used instead as combined arms, appeared only after another collaborative effort Lind undertook with Amphibious warfare School: his Maneuver Warfare seminar.

AWS had a program of electives, and Wyly invited Lind to develop and instruct an elective on maneuver warfare. The seminar was populated with 13 student officers personally selected by Wyly.[1100] The seminar began in October 1980 and lasted through most of the rest of the academic year. Unlike other elective seminars, which were held at the school in Quantico, Lind's maneuver warfare seminar met at his own home in Alexandria, saving him the time it would take to commute to Quantico each week.[1101]

At least with regard to the development of concepts, Lind's maneuver warfare seminar has largely been a black box to historians, for the memories of the participants have faded in the intervening four decades. For example, although the first event listed in the course structure is

[1099] G.I. Wilson, Michael D. Wyly, William S. Lind, and Bernard E. Trainor, "The 'Maneuver Warfare' Concept," *Marine Corps Gazette* 65, no. 4 (April 1981), 54. This source is actually a collection of independent letters on the subject.
[1100] Jeff D. Grelson, interview by Shawn P. Callahan, 27 January 2020, digital recording. Oral Histories Collection, Marine Corps Archives, History Division, Marine Corps University, Quantico, Virginia.
[1101] Lind, interview, 29 January 2020.

"Boyd Briefing," the two participants interviewed cannot remember if Boyd ever actually briefed the group.[1102] The archive does shed some light on the interior of the black box.

First, Lind's papers contain a course outline. This includes a reading list whose works were central to Lind and Boyd, including Liddell Hart's *Strategy*, Rommel's *Infantry Attacks*, Dupuy's *A Genius for War*, Manstein's *Lost Victories*, and Guderian's *Panzer Leader*. This list indicates that a Lind's canon of maneuver warfare was taking shape. The reading list also mentions a reading packet supplied to AWS by Lind, presumably some of the more important articles published in professional journals such as the *Gazette*. The list also includes "TBS papers on company tactics." This suggests that Lind or Wyly was also engaging with The Basic School nearby, a course for new Marine lieutenants. Whether these papers on company tactics were written by the student lieutenants or the captains who taught them, Lind was mining the products from the ongoing tactics instruction there for worthwhile ideas.[1103]

Though Lind later described the subject of the seminar to be the German Army from the Scharnhorst reforms (begun in 1807) up through World War II "because that is where it is all coming from"[1104] the course outline indicates that there were three other major subjects covered: "Theory – Boyd," "Current Foreign Practice," and, most critical to this dissertation, "How to Do It." This last section listed a series of practical sub-topics the seminar would investigate, such as small and large unit tactics, officer education, wargaming, structuring field exercises, mechanized tactics, and combined arms. Little else is known about the conduct of the seminars, except from Lind's recollection in a 2020 interview. As Lind explained,

[1102] William S. Lind, "Maneuver Warfare Course, October 24, 1980 Meeting: Items for Discussion." William S. Lind Papers, Collection 4939, Box 26, No folder. Marine Corps Archives. Quantico, Virginia, 1; Lind, interview, 29 January 2020; and Grelson, interview, 27 January 2020.
[1103] Lind, "Maneuver Warfare Course, October 24, 1980 Meeting: Items for Discussion," 1-2.
[1104] Lind, interview, 29 January 2020.

> This is definitely a collegial process. I am learning a lot from the Marines. Not, obviously, learning a lot about the Germans from the Marines, but what I am learning about is the Marine Corps. …I had never been in it, and they were intimately familiar with what the Marine Corps was doing, because they were in it. And that was critical to being able to translate maneuver warfare from the German army to the U.S. Marine Corps, for obviously these were two very different institutions. And, so the Marine involvement was absolutely critical in all of this.

In Lind's memory, these were not classes in which he was expostulating ideas to his students. Instead, he saw the seminar effort as developing ideas with the Marines, and refining existing ideas through his interactions with them.

Though little else can be known from this evidence about the interior operations of the seminar, another way of shedding light on what happened there is to consider the outputs of that black box. The Lind papers contain a 19-page paper written by one of the student participants, Captain Anthony M. Coroalles, and this is a critical source for pinning down some specific ideas which were being generated within. Coroalles was a U.S. Army officer attending the Marine Amphibious Warfare School, and wrote "Maneuver to Win: A Realistic Alternative For the Army of the 1980s." In many respects, this paper is simply a repackaging of many of the basic concepts Lind had described in his 1980 article, and in his lecture at the beginning of the year. When one bears in mind that Lind was completely rebuffed by the Army after his creation of the attrition/maneuver dichotomy in response to its Active Defense doctrine in 1976, Lind must have been pleased to see his ideas annunciated by an Army officer arguing for his service to adopt maneuver warfare. For the sake of this study, the most interesting aspect is the portion of the paper titled, "Some Working Concepts in Maneuver Tactics." One of the ideas Coroalles discussed in this section is an approach to command and control known as "Mission Tactics" and later as Mission Orders or Mission Orders Tactics. This was an expansion of a topic Lind had only briefly mentioned in his July 1979 trip report after visiting the Mechanized Task Force in

Twentynine Palms, and in his March 1980 *Gazette* article.[1105] Lind was obviously still trying to figure out what mission orders meant in practice and how to describe it, however. In Lind's articles and speeches over the rest of 1980 he focused less on the approach to command and control, and more on the flexibility it was meant to engender, by discussing "opportunity tactics."[1106] In March 1981, after five months of participating in Lind's seminar, Coroalles provided the most through explanation of mission orders tactics to date, writing,

> Mission Tactics: In most military organizations command is exercised through orders from higher to lower echelons. These orders are executed successfully or unsuccessfully, and new orders are issued according to these results.
>
> We have already observed that the more quickly orders are given and executed, the greater the OODA loop advantage. It should also be noted that the party which can consistently operate the longest without new orders will inevitably have a great advantage over an opponent awaiting orders for every action.
>
> The goal, therefore, is to have subordinates operate within the intent of their superiors and to execute without order what their superiors would have ordered. This method of operation requires that all subordinates have an in-depth understanding of the "why" behind a mission, thereby enabling them, when confronted with a fluid, changing situation, to take the appropriate action.
>
> The Germans call this concept "Aufstragstaktik" or mission tactics. The essence of this concept is that the subordinate commander is responsible for endeavoring at all times to carry out the mission concept of this superior, whether he has orders or not. It also means that he should act contrary to orders if these don't seem to be consistent with the developing situation. It is a concept built on a superior's trust in his subordinates' judgement and ability, whereby small unit initiative is reinforced progressively up the chain of command into an increasingly greater success.[1107]

Within this definition Coralles mentions the goal of operating "within the intent of superiors," foreshadowing another important technique that would later be developed by the maneuverists

---

[1105] William S. Lind, "Report on Trip to Marine Corps Base 29 Palms, May 30 – June 1, 1979," Memorandum to Senator Hart. Undated. William S. Lind Papers, Collection 4939, Box 25, no folder. Marine Corps Archives, 4; and William S. Lind, "Defining maneuver warfare for the Marine Corps, " *Marine Corps Gazette* 64, no. 3 (March 1980), 58.

[1106] William S. Lind, "Talk to Marine Corps Reserve Officers Association National Conference, May 24, 1980, Maneuver Warfare: Train to Win." Lecture notes. William S. Lind Papers, Collection 4939, Box 26, No folder. Marine Corps Archives, 2; and William S. Lind, "Speech to Amphibious Warfare School, September 18, 1980," 4.

[1107] Anthony M. Coroalles, "Maneuver to Win: A Realistic Alternative For the Army of the 1980s," Student paper, Amphibious Warfare School, 1981. William S. Lind Papers, Collection 4939, Box 21, third unnumbered folder. Marine Corps Archives, Quantico, Virginia, 7-8.

and incorporated into doctrine, the inclusion of an explicit statement of Commander's Intent within a combat order. Coroalles's explanation therefore shows that during Lind's AWS seminars this important idea was getting increased attention, definition, and practical explanation in terms comfortable to military leaders. Lind's intellectual mentorship certainly contributed to this progress, as this portion of Coroalles's paper refers to Trevor Dupuy's *A Genius for War*, which Lind had highlighted in his speeches and had put on the reading list for their seminar.[1108]

A second working term which Coroalles introduced is completely novel: Focus of Main Effort. This is a term which appears nowhere else in the literature prior to this paper. Coroalles began his discussion,

> Focus of Main Effort: On the surface it would seem that the high degree of decentralization necessary in maneuver tactics could easily lead to chaos and contradiction. This freedom of action would seem also to preclude coordination and thus concentration of effort which is always essential for decisive success. However, this is not so, since independent action at all levels is harmonized by the common understanding of the "focus of main effort." This focus of main effort, whether on the defense or offense, serves to concentrate the combat power and logistical support of a unit at the decisive time and place.[1109]

Coroalles went on to explain that in a combat order a command should designate one of its subordinate units and its assigned objective as the focus of main effort. This would help make all other units in that organization aware that their function is to support the success of the decisive bid for victory. If the situation changes and new opportunities arise elsewhere, Coroalles explained, the higher echelon of command can designate another subordinate unit and its task as the focus of main effort, and "Immediately all units are made aware of the change an act accordingly to support the new FME [Focus of Main Effort]."[1110] This concept, a product of

[1108] William S. Lind, "Talk to 25th Marine Regiment, Ft. Devens, March 1, 1980." Lecture notes. William S. Lind Papers, Collection 4939, Box 26, No folder. Marine Corps Archives, 3; and Lind, "Maneuver Warfare Course, October 24, 1980 Meeting: Items for Discussion," 2.
[1109] Coroalles, 8-9.
[1110] Coroalles, 9.

Lind's seminar, was a step towards resolving a fundamental contradiction some believed existed in maneuver warfare, arguing that decentralization of decision-making would result in unproductive chaos. Coroalles described the Focus of Main Effort as a tool that commanders could use to bring cohesion to their units, while not dictating the actions of their subordinates. Without such a concept, ideas like mission orders tactics were abstract. This was a concrete tool, one commanders could use to communicate and make decisive action possible within decentralized command. Coroalles cited an unpublished paper by Stephen Canby, another reading prescribed for the seminar by Lind, and his explanation of the need for focus of main effort as a harmonizing agent speaks to the influence of Boyd's ideas. [1111]

Since October 1977 Boyd had featured the German concept of *Schwerpunkt* in "Patterns of Conflict," which roughly translates to the "heavy point" or "main focus" of a military operation. Boyd saw it as a harmonizing of a military organization's effort towards a decisive blow, pairing it with the *ch'i* stroke of Sun Tzu's *cheng* and *ch'i* deception and maneuver concept.[1112] In Boyd's next version of the brief, produced in February 1978, before he ever adopted the concept of maneuver conflict, Boyd had begun to stress that the Pattern for Successful Operations required acting, "more inconspicuously, more quickly, and with more fluidity, without losing cohesion of overall effort, as basis to repeatedly and unexpectedly *focus main effort* [emphasis added] against weakness…"[1113] Lind, a scholar of German military history, was undoubtedly aware of the concept of *Schwerpunkt* and what it meant long before Coroalles defined the Focus of Main Effort in March 1981. Curiously, though, Lind did not

[1111] Coroalles, 9; and Lind, "Maneuver Warfare Course, October 24, 1980 Meeting: Items for Discussion," 2.
[1112] John R. Boyd, "Patterns of Conflict, Warp XI," October 12, 1977, John R. Boyd Collection, Collection 2062, Box 4, Folder 10: Warp XI: Patterns of Conflict—12 October 1977, Marine Corps Archives, slide 1.
[1113] John R. Boyd, "Patterns of Conflict, Warp XII," February 2, 1978, John R. Boyd Collection, Collection 2062, Box 5, Folder 5: Warp XII: Patterns of Conflict, 2 February 1978, Marine Corps Archives, slides 6, 58.

begin to use the term *Schwerpunkt* in writing and lecturing about maneuver warfare until six months later, and when he did, he equated it with a military unit's "focus of effort."[1114] What Coroalles did, after reading Canby's work, and likely after hearing Boyd use the term, was describe an English-language adaptation of the German concept of *Schwerpunkt* for a military audience. Lind saw the value of this, and began using the term in his own explanations. Designating a Focus of Main Effort quickly became a staple technique of maneuver warfare.

It is not important whether Coroalles actually came up with these definitions of mission orders tactics and focus of main effort himself. It is indeed unlikely. The source list for Coroalles's paper does not suggest he embarked on much original research beyond the readings and lectures Lind scheduled into the course, and at least one of those sources, Boyd, had at least begun to make the connections. The significance of Coroalles's paper, then, is that it shows the AWS seminar was bringing practitioners of war together with reputable academic sources, Lind's overarching explanation of maneuver warfare, and some very basic supporting concepts, all under Lind's tutelage. The results of all this was an expansion and improved definition of those supporting concepts, articulated by practitioners in a language which made the larger concept of maneuver warfare both more understandable and actionable.

Lind was also learning how to present his ideas. For example, later, in a September 1981 *Marine Corps Gazette* article, "Tactics in Maneuver Warfare," Lind described that Marines had a tendency to interpret maneuver warfare as "just a different tactical formula" getting into an enemy's flank and rear instead of attacking frontally. He explained that while these techniques were more likely to be practiced in maneuver warfare, "maneuver warfare is not a new formula, but a *replacement for formulas* [emphasis in the original]."[1115] He elaborated that maneuver

[1114] Lind, "Tactics in Maneuver Warfare," 39.
[1115] William S. Lind, "Tactics in Maneuver Warfare," *Marine Corps Gazette* 65, no. 9 (September 1981), 36.

warfare requires creating unpredictable situations, and therefore must avoid formulaic tactics. Lind then offered a definition of tactics in maneuver warfare as,

> A process of combing two elements, techniques and education, through three mental 'filters' or reference points—mission-type order, the search for enemy surfaces and gaps, and the focus of our own main effort—with the object of producing a unique approach for the specific enemy, time, and place.[1116]

Lind admitted that this was a very abstract definition, which may be why it did not reappear in his later writings, or in other places in the literature, but it does reveal his thinking. Rather than developing maneuver warfare as a set of particular actions, Lind insisted on focusing Marines on a new way of thinking. Lind believed that the essential process of tactics in maneuver warfare was applying creativity and imagination as developed through education and training, with these three filters shaping Marines' understanding of a situation and how they might take appropriate actions.

Lind's first filter, mission-type orders, has already been discussed. His explanation of it in September 1981 is significant, however, because he seems to have chosen this, the way orders are written, rather than older exploratory terms like mission tactics and opportunity tactics, as the best means of affecting thinking about how units could act to exploit initiative and decentralization. In this discussion, Lind mentioned commander's intent for the first time. In time this became a central concept of maneuver warfare, which is why it is significant when Lind first mentioned it, even if in a very superficial way. Lind stated,

> The commander does not expect or attempt to control every action of his subordinates. Nor does he attempt to foresee and plan for every event which will take place. Rather, he determines his *intent*—what he wants to have happen to the enemy. He makes certain that his intent is consistent with the intent of his superiors, and he communicates it clearly to his subordinates."[1117]

[1116] Lind, "Tactics in Maneuver Warfare," 36-37.
[1117] Lind, "Tactics in Maneuver Warfare," 37-38.

Later in his discussion, Lind opined that maybe "intent orders" might be a better term for the concept than mission-type orders.[1118] The idea was that a tool such as a clearly expressed commander's intent is a vital component of effective command and control of combat operations, and later chapters will show that this was eventually recognized as a central tenet of maneuver warfare. Indeed, expressing commander's intent would become an essential component of every order, a specific activity Marines could do and teach that was intended to promote maneuverist thinking.

The second of Lind's three filters was "The search for enemy surfaces and gaps." As chapter 6 showed, the tactics of surfaces and gaps was a concept Boyd had been aware of since at least May 1978, but never included as a central feature of "Patterns of Conflict." Two years later, however, Lind began to take a special interest in this concept. In a presentation he gave in March of that year, he discussed "Soft Spot Tactics," making reference to the 1939 book *Infantry in Battle*, a project first begun by the U.S. Army Infantry School after World War I to capture some lessons from that war.[1119] Within two months Lind began referring to "the tactics of surfaces and gaps," which he saw as deriving from the German *die Lücken un Flächentaktik*.[1120] In his critical *Marine Corps Gazette* article of September 1981 Lind explained, "Maneuver warfare seeks to avoid enemy strengths—surfaces—and throw maximum strength against enemy weaknesses—gaps" which he related to German infiltration tactics in 1918, *Blitzkrieg*, and Israeli

[1118] Lind, "Tactics in Maneuver Warfare," 38.
[1119] Lind, "Talk to 25th Marine Regiment," 3.
[1120] William S. Lind, "Paper for the 1980 New York Militia Association Convention: Maneuver Warfare." William S. Lind Papers, Collection 4939, Box 18, folder 2. Marine Corps Archives, 7; Lind, "Talk to Marine Corps Reserve Officers Association National Conference," 3; Lind, "Speech to Amphibious Warfare School, September 18, 1980," 4, and Anonymous, "Insert I," unpublished notes, undated. William S. Lind Papers, Collection 4939, box 25, n folder. Marine Corps Archives. Although this final source from the Lind papers is not definitively identified as Lind's work, its style, typeface, and content closely resemble the notes he developed for the AWS seminar and *Maneuver Warfare Handbook* between 1980 and 1985.
Anonymous, "Insert I"

successes against Arab states in the 1950s.[1121] Lind cautioned that this could not be allowed to become a formulaic pattern of behavior (such as always looking for a gap close to an enemy flank), but had to always be considered relative to the strengths and weaknesses of a particular opponent.[1122] Surfaces and Gaps is significant in this analysis for three reasons. First, it would become a central feature of Marine *Warfighting* doctrine in time. Second, while Boyd had been aware of the concept for several years, but never saw great value in it, Lind took acute interest in it starting in 1980, and was the first to promote it as an important device for understanding and practicing maneuver warfare. Third, this idea became important because it was at this moment, during Lind's collaboration with AWS, that he began emphasizing this concept as a way of shaping Marine thinking, while also avoiding a formulaic prescription for maneuver warfare that would miss the point.

The third of the three filters Lind identified in September 1981 was focus of effort. Essentially, this was the same concept one of his seminar students had written about a few months earlier. Lind explained that it was common for *Schwerpunkt*, "point of main effort," to be misunderstood as a point on a map, a focus of combat power in space. Refining Coroalles's discussion, Lind described,

> The focus of effort is a unit, not a geographic point or direction. …The Schwerpunkt is a conceptual focus of effort which each subordinate commander uses to link his actions, through the intent of his superior, to the actions of those around him. It is the 'glue' which permits mission orders to allow initiative without losing cohesion.[1123]

It is not clear the degree to which Coroalles and Lind may been influenced by Boyd's own special interest in *Schwerpunkt*, but over time it became a key technique of combat orders issued in the maneuverist style to include designation of a focus of effort, or main effort, to help

[1121] Lind, "Tactics in Maneuver Warfare," 38-39.
[1122] Lind, "Tactics in Maneuver Warfare," 38.
[1123] Lind, "Tactics in Maneuver Warfare," 39.

subordinate units understand how to prioritize and harmonize their actions. Again, the exact meaning is not as important to this discussion as the fact that Lind was identifying a set of practical concepts that would shape the way Marines approached tactical problems. He was deliberately avoiding prescribing specific actions that would lead to stereotyped patterns of behavior, in other words, predictable tactics which were anathema to the spirit and theory undergirding maneuver warfare. As if to underscore that point, Lind concluded, "Maneuver warfare is not a way of moving but a way of thinking."[1124]

Together these three filters represented tools for effecting a new way of thinking. This shift away from trying to define how to execute maneuver warfare was a key achievement of Lind's collaboration with AWS. These practical concepts cannot be isolated as products of Lind's after-hours seminar, however. Another major component of Lind's collaboration with AWS in this period was the tactics curriculum Lieutenant Colonel Wyly was teaching during the same period, and Wyly's combat experience and perspective as an infantry officer must have been as important an influence on the ideas they produced as Lind's historical knowledge.

As with Lind's seminars, the development of Wyly's ideas during this time is largely a black box, for the only evidence of what he was teaching is copies of the final set of lectures Wyly gave as part of his tactics instruction in the fall of 1981. It is clear Lind saw great value in these lectures, for when he published his *Maneuver Warfare Handbook* four years later, the lectures were included as an appendix. To call them an appendix in fact grossly understates their importance to that work, for they filled 63 pages of the book, compared to the 70 pages Lind wrote.[1125] While the lectures offer little help to definitely solve the questions of exactly when the

[1124] Lind, "Tactics in Maneuver Warfare," 39.
[1125] Michael D. Wyly, "Appendix: Fundamentals of Tactics," in William S. Lind, *Maneuver Warfare Handbook* (Boulder, Colorado: Westview Press, Inc., 1985), 71-133.

new concepts appeared and who invented them, they do show just how rich the development of ideas at AWS was between 1979 and 1982.

Wyly's tactics instruction was centered on a set of five lectures and practical exercises he compiled in a course titled "Fundamentals of Tactics." He presented this material early in AWS's academic year, and intended it as a "precursor to more complex work that was to come."[1126] Each of the Fundamentals was the subject of its own lecture and supporting exercise, with the series progressing through "Surfaces and Gaps," "Mission Tactics," "The Main Effort," "The Concept of the Objective", and, finally, "The Concept of the Reserve." The first three lectures were given to the entire class, while the last two, which were shorter than the others, were only presented to one of the school's many conference groups, the one Wyly superintended. As such, the first three can be viewed as the most important topics, which Wyly was able to persuade the school director should be mandatory for all students, while the last two Wyly was only able to implement for those students under his direct tutelage. Significantly, the most important three fundamentals, the ones presented to the entire class (Surfaces and Gaps, Mission Tactics, and The Main Effort), correspond to the three filters Lind identified in his "Tactics in Maneuver Warfare" article being published at the same time. This suggests a high degree of collaboration. Likewise, describing respectively them as "fundamentals" and "filters" indicates a like-minded approach between Wyly and Lind. They were each using supporting concepts to shape how Marines approached tactics rather than simply describing actions that would allow them to "do" maneuver warfare.

Wyly's discussion of Surfaces and Gaps, the first of his three Fundamentals, explicitly tied the concept back to *Flaechen und Luekentaktik* and Liddell Hart's expanding torrent tactic,

[1126] Wyly, "Appendix: Fundamentals of Tactics," 71.

before explaining that the alternative is "slower moving forms of combat, where strength is thrown against strength."[1127] Wyly tied in the concept of reconnaissance pull, meaning reconnaissance by front-line forces to identify actionable enemy weak points to their immediate front, rather than special deep reconnaissance forces gathering intelligence to inform targeting or decisions by higher levels of command. Wyly also discussed leading from the front, the idea that a commander should get as close to the point of contact with the enemy as could be prudent. Wyly went on to explain how gaps can sometimes be created, and how strongpoints should be handled, ideally by passing them or suppressing them. Further, he discussed the employment of lateral thrusts off a main penetration if the opportunity presents itself, which he explicitly explained by using the German term for the concept, *Aufrollen*.[1128] Finally, Wyly's lecture on Surfaces and Gaps explained the Soviet "fire sack defense" as a way of making Lind's abstract warning against stereotyped exploitation of gaps real. This was a tactic by which Soviet doctrine called for them to leave a gap in their lines to entice NATO forces to move forward, into exposed positions which the Soviets had surrounded with heavy supporting arms. Once inside the "sack," American units would be destroyed by fires from three sides.[1129] Wyly was illustrating that bold maneuver had to bet tempered with an assessment of the risks presented by each situation, otherwise aggressive penetrations would become dangerous habits the Soviets could be counted upon to exploit.

Wyly's second discussion, that of Mission Tactics, explained the value of subordinate initiative for "getting the most appropriate decision made on the spot and acted on more rapidly than the enemy can respond to your actions."[1130] His subsequent discussion emphasized that the

[1127] Wyly, "Appendix: Fundamentals of Tactics," 75.
[1128] Wyly, "Appendix: Fundamentals of Tactics," 78.
[1129] Wyly, "Appendix: Fundamentals of Tactics," 78-79.
[1130] Wyly, "Appendix: Fundamentals of Tactics," 91

ultimate aim is to give operations a rapid tempo because it will change a situation faster than the enemy is able to act or even anticipate.[1131] Although he did not use the explicit phrase "Commander's Intent," Wyly did stress the importance of stating a commander's "intent or – in John Boyd's words – the 'output' desired by the commander and a mission."[1132] Wyly provided some sense of the historical origins for these ideas by discussing the Prussian emphasis on intelligent subordinates who did not blindly follow orders in the face of changing situations, resulting in tactical blunders. Wyly was aware that this was changing the very nature of orders, which would now explain the desired results of subordinates'' decisions and actions rather than specifying what actions they needed to take. Understanding that this would be a major conceptual leap, Wyly devoted the bulk of this lecture to a hypothetical tactical problem that would illustrate the new approach in concrete terms. This forced the students to exercise these new ideas, contrasting a mission order to an "order that is more typical of slower moving forms of combat."[1133] The old-style, stereotypical order Wyly provided was essentially a set of three tasks,

> (1) At H hour attack and seize Objective A.
> (2) On order, continue to attack and seize Objective B.
> (3) Establish blocking position to deny the enemy use of Route 6 West of the Muddy River.[1134]

The mission order for the same tactical problem was expressed as a single sentence,

> Seize control of Route 6 West of the Muddy River, in order to destroy enemy forces attempting to escape from Company B's zone of action.[1135]

[1131] Wyly, "Appendix: Fundamentals of Tactics," 91.
[1132] Wyly, "Appendix: Fundamentals of Tactics," 91.
[1133] Wyly, "Appendix: Fundamentals of Tactics," 92.
[1134] Wyly, "Appendix: Fundamentals of Tactics," 93.
[1135] Wyly, "Appendix: Fundamentals of Tactics," 93.

Wyly then explained how the mission order provides a wider array of choices to accomplish the same mission, and allows a subordinate to act more quickly, and with greater initiative. In his discussion Wyly explained the phrase "in order to" as an important communication tool for highlighting the purpose of a mission, and something that will give an order more life as time goes on and a situation begins to change. Wyly criticized the current Marine Corps doctrine on order writing, FMFM 3-1. This specified that a proper mission statement must contain "the who, where, when and so much of the why as necessary for intelligence coordination and cooperation," and Wyly considered it overly prescriptive in its emphasis on the format of the order.[1136] As a contrast, he provided examples of effective orders from German military history, noteworthy for their terseness and latitude they provided to subordinates.

In his lecture on Mission Tactics, Wyly was careful to explain that giving subordinates increased freedom of action was not a panacea. Mission orders placed an increased burden of responsibility on commanders to communicate their intentions clearly, and create a unit culture which was tolerant of mistakes, fostering trust. Mission orders also placed an increased burden on subordinates to be thinking leaders, rather than agents merely enacting specific orders. Wyly advised that a good rule of thumb for any leader in such a culture is to understand the intentions of commanders two levels up in the chain of command, and always be aware of what the main effort is.[1137] This was a segue to his next lecture.

Wyly's third lecture, the Main Effort, was his most specific. Following the pattern he set in the other lectures, he explained the concept of the Main Effort, then provided some historical examples and a hypothetical problem to illustrate the concept. This showed its importance, and highlighted that it should be employed flexibly, shifting quickly when necessary. Wyly stated

[1136] Wyly, "Appendix: Fundamentals of Tactics," 94.
[1137] Wyly, "Appendix: Fundamentals of Tactics," 94-97.

that a Main Effort "should always be clearly stated in paragraph 3a" of the typical five-paragraph order format, where the Concept of Operations was explained.[1138] While this concept was largely associated with helping the leaders of adjacent units understand how their different missions contributed to their collective success, Wyly even went so far as to explain the implications of designating a main effort for supporting arms like artillery, getting into technical nuances of order writing, such as the definitions of different support relationships.[1139] Wyly's unequivocal statement that a Main Effort should be designated in every operations order is significant, for even in his discussion of intent he was careful to avoid being prescriptive and formulaic. There he stated that while "in order to" was "a very important phrase and usually ought to go in the mission order," there was no rule requiring it, and many situations would make such a statement superfluous.[1140] Wyly placed greater emphasis on the Main Effort, concluding,

> If I were asked to select any of these concepts as most important, the main effort, Schwerpunkt, is that which I would select. Von Hindenburg made the statement: 'Battle without a Schwerpunkt is like a man without character.' The main effort is the most important element and the only element that givens the battle focus.[1141]

Wyly's fourth lecture, the first of the two supplements to the three major fundamentals, focused on the Concept of the Objective. This was a novel conversation because this topic does not appear anywhere else in the literature prior to this. Wyly began with a critique of joint doctrine (that which applies universally to all U.S military services), Army doctrine, and Marine Corps doctrine for generally describing the objective of a military operation as a piece of terrain, rather than an enemy organization. Wyly explained that this tends to lead friendly units to focus on a specific location, rather than the enemy, and as a consequence, "we automatically build

[1138] Wyly, "Appendix: Fundamentals of Tactics," 107.
[1139] Wyly, "Appendix: Fundamentals of Tactics," 107-112.
[1140] Wyly, "Appendix: Fundamentals of Tactics," 93.
[1141] Wyly, "Appendix: Fundamentals of Tactics," 112.

rigidity into our operations" and "we seem to be guided towards a set-piece battle in which we are to seize and control terrain rather than go out and defeat the enemy."[1142] He contrasted this with Liddell Hart's statement that "The only real objective is the enemy," which Wyly felt explained keeps the focus on the real problem of any military operation, the enemy.[1143] Wyly used three German terms, *Objektiv, Angriffsziel,* and *Objekt* to illustrate more sophisticated ways of looking at the concept of an objective, and explained that a more suitable English definition would be "the physical end towards which our efforts are directed."[1144] Objective was different than mission, in Wyly's explanation, because the objective "will often be selected by subordinate commanders on their own within the concept of the mission assignment," and subordinates needed the latitude to change objectives to accomplish a mission even as circumstances changed.[1145] By stressing that commanders should assign missions, while subordinates flexibly choose objectives for accomplishing those missions, Wyly was reinforcing the idea of flexible command and control within mission tactics. He ended this lecture by highlighting a negative example,

> Any time you find yourself using the phrase "seize and hold" think twice. You are fixing your operations on terrain. Sometimes it is appropriate to do so. But often it is not and it deprives our operations of the fluidity they may require in order to outfight the enemy. "Seize and hold" appears in thousands of example operations orders used over the past decades in Marine Corps schools and exercises.[1146]

Hearing this, the captains in Wyly's audience would recognize a common practice from their careers, and understand how simple things like how orders were expressed were in fact obstacles preventing the Marine Corps back from adopting a more effective way of fighting.

[1142] Wyly, "Appendix: Fundamentals of Tactics," 124.
[1143] Wyly, "Appendix: Fundamentals of Tactics," 123.
[1144] Wyly, "Appendix: Fundamentals of Tactics," 125.
[1145] Wyly, "Appendix: Fundamentals of Tactics," 125.
[1146] Wyly, "Appendix: Fundamentals of Tactics," 128.

Wyly's final lecture, The Concept of the Reserve, addressed another very new topic in the larger conversation about maneuver warfare, being mentioned only four times in the literature prior to this point. The first was in Wyly's first *Marine Corps Gazette* article, published in December 1979. The second was in Lind's lecture to AWS in September 1980, and the last two were in products written by Lind's seminar students in March and April of 1981.[1147] As such, Wyly's lecture on the purpose of a reserve probably represents an idea that had germinated around the time of his early interactions with Lind and Boyd, and flourished in the intellectual fertility of AWS during its collaboration with Lind. The idea of a reserve was not new. Throughout history commanders have held a portion of their forces back from the initial stages of engagements, with the intent of using that force to react to unforeseen developments. This portion of the force is generally referred to as "the reserve." In Wyly's very first *Marine Corps Gazette* article, published about six months after joining the faculty of AWS, he discussed the concept of the reserve in light of the Marine Corps' recent reorganization of its infantry battalions. Wyly argued that "the *reserve's function is to achieve decision*. Commanders should *plan to commit the reserve to win*. Committing the reserve is an opportunity [emphasis in the original]."[1148] This article was written at about the same time that Wyly became acquainted with Lind, and subsequently, Boyd, but it showed no awareness of the dichotomous concept of firepower/attrition warfare and maneuver warfare, or other maneuver warfare concepts. Indeed, these were the first months when Lind and Captain Stephen Miller first introduced the concept of maneuver warfare in the pages of the *Gazette*, so it is no surprise that Wyly had not become a

[1147] Lind, "Speech to Amphibious Warfare School, September 18, 1980," 4; Coroalles, 13; and Wilson, G.I.; Wyly, Michael D.; Lind, William S.; and Trainor, Bernard E. "The 'Maneuver Warfare' Concept," *Marine Corps Gazette* 65, no. 4 (April 1981): 49.
[1148] M. D. Wyly, "Its two up and one back again or is it three up and ? back?" *Marine Corps Gazette* 63, no. 12 (December 1979), 17.

maneuverist yet. Over the next two years, however, that would change, and so would his concept of the reserve, which was reversed. His AWS lecture argued that while common practice had been to position two companies or battalions forward to engage the enemy, while a third was kept in reserve. He thought a "useful guideline" was "to keep approximately two thirds of your force in reserve whenever possible. This would dictate, then, a change of thinking from 'two up and one back' to 'one up and two back.'"[1149] Wyly explained that keeping the majority of one's force in reserve until after contact has been made with the enemy makes it harder for that enemy to understand one's intentions, and provides a commander with greater flexibility. In terms evoking Boyd, Wyly said, "It also puts you in a position of being ready for the unexpected, an essential thing to be ready for in war, realizing that the unexpected is the common experience in war."[1150] In addition to these rules of thumb, Wyly provided some very specific guidance on the employment of the reserve. He observed that when assigning a mission to a unit in reserve it had become a common mistake to order it to "be prepared to assume the mission of" another unit. To do so, he explained, is to assume that one will use the reserve where another unit has failed, and would merely be "reinforcing failure." Wyly illustrated the dangers and costs of reinforcing failure with a historical example where one Marine battalion after another had been committed to a failed attack, such that the first battalion's tragic loss of life with no gain to show for it was repeated twice over. The better alternative, Wyly admonished, was to "Use your reserve to seize on opportunities. Use the reserve in case of success, to exploit success, even if the appearance of success has surprised you. Commitment of your reserve is your bid for victory."[1151] Wyly explained that the most appropriate missions to

[1149] Wyly, "Appendix: Fundamentals of Tactics," 129.
[1150] Wyly, "Appendix: Fundamentals of Tactics," 130.
[1151] Wyly, "Appendix: Fundamentals of Tactics," 131.

assign a reserve would come from thinking ahead about what actions one's enemy might take. By thinking through several eventualities, and assigning the reserve missions suited to them, one would encourage the subordinate placed in immediate command of the reserve to think about possible uses it might be committed to. Wyly spent the rest of the lecture discussing various concepts relating to the reserve. These included whether the reserve should be committed as a whole force or piecemeal, and how fast it should be reconstituted. In the end, however, he emphasized it would be unwise to develop written rules rather than assessing each situation according to its particular circumstances. Wyly ended his discussion of the reserve with a remark about the significance of what he was proposing, observing,

> In field exercises that have been conducted in Marine battalions over the last several decades, it is generally the least aggressive, the least experienced or least competent commander who is assigned the mission of the reserve. It is time that this thinking changed. The reserve is being saved for the decisive moment and very likely it should be the most competent of the commanders because it is the reserve commander who is going to be called upon to win the battle.[1152]

In ending his lecture on this note, it is clear that Wyly was invoking his authority as an experienced infantry officer. Indeed, his audience for these lectures was particularly attuned to hear Wyly's opinion on tactical matters. The group contained may young officers expecting to become rifle company commanders in their next assignments, and they were aware that Wyly was a veteran of two tours in Vietnam, most recently as an infantry company commander.

The value of Wyly's lectures to the development of maneuver warfare goes beyond his explanation of the three "filters" or "foundations" of mission orders, surfaces and gaps, and main effort; or even that he added discussions of the objective or the purpose of a reserve. Wyly did all these things, but he intertwined them with other interrelated concepts, and some specific rules of thumb and techniques for communicating those concepts in orders. He explained them in the

[1152] Wyly, "Appendix: Fundamentals of Tactics," 132-133.

context of actual debates about the difficulties and dangers of these techniques, and he illustrated them in practical exercises. This was a significant step in taking maneuver warfare beyond being an abstract conceptual alternative to attrition warfare. Wyly was making it an actionable way of thinking and acting in war, couched in the culture and processes of the Marine Corps, and given enhanced credibility by an experienced combat veteran.

The previous discussion of Wyly's tactics lectures might seem out of place in a chapter devoted to Lind's role in developing maneuver warfare concepts. Indeed, Lind's mention of some of these concepts in his September 1981 article, "Tactics and Maneuver Warfare," and the appearance of these ideas in the spring 1981 writings of his seminar students, makes it very unclear where these ideas actually came from. That is a regrettable consequence of the paucity of evidence, but the lack of clarity on the specific origins of these ideas matters little to this study. Regardless of whether these ideas came from Lind or Wyly (or even Boyd, as the following pages will show), the main value of analyzing these "outputs" of this period of collaboration at AWS from 1979 to 1982 is that it shows Lind's overarching concept of maneuver warfare was being fleshed out into something more readily understood, taught, and potentially exercised by practitioners. Lind, to a much greater degree than Boyd, was very much concerned with making the concept of maneuver warfare actionable, and his collaboration with Wyly and the AWS students was a necessary step for understanding how maneuver warfare could be truly understood by practitioners, how its concepts could be communicated more successfully, and how it could be translated into a real way of fighting through practical supporting concepts.

In the spring of 1982, the promotion of maneuver warfare at AWS came to an end. Wyly was abruptly fired from the faculty of the Amphibious Warfare School. In his recollection, it

was because many of the other senior Marines at the school did not understand what he was teaching and felt threatened by it.[1153] There was an unusually-timed change in the leadership of AWS that spring, in which the Director, Colonel Frederic Vanous, was temporarily replaced with a lieutenant colonel, pending the appointment of another full colonel at the end of the academic year. A year earlier, General Trainor, who had originally arranged Wyly's appointment to the job in 1979, had been routinely reassigned from his position at the head of Education Command. From his new post on the staff of HQMC in Arlington, Trainor was unable to protect Wyly's job as the Head of Tactics, but he was able to affect where Wyly was reassigned, to the Office of the Secretary of Defense.[1154] It was not as easy for reactionary elements at AWS to abruptly end an after-hours seminar led by a Congressional staffer of Lind's prominence within the defense community. The maneuver warfare seminar Lind already had underway continued as planned in the spring of 1982. Lind's publication of the article "Tactics and Maneuver Warfare" that September therefore represented a kind of brief summation of the fruits of what has been produced at AWS over the preceding two years, until the 1985 *Maneuver Warfare Handbook* presented an opportunity to make the entire compendium of supporting concepts developed at AWS publicly available in Wyly's appendix. It was, indeed, an important achievement, as those lectures are still considered an important resource for people attempting to understand maneuver warfare today, forty years later.

**Increased Collaboration with Boyd**

Lind's involvement in AWS was one of two projects that brought renewed contact with John Boyd. When Lind began the maneuver warfare seminar there in October 1980 the first

[1153] Wyly, interview, 5.
[1154] Wyly, interview, 5.

event in the course was a briefing by John Boyd, and his was probably the first time Lind had heard "Patterns of Conflict" in 28 months.[1155] Though Boyd had expanded his ODA concept into OODA two years prior, there is no evidence of OODA in Lind's work until after this seminar, in his "The 'Maneuver Warfare' Concept" *Gazette* article published in April 1981.[1156] Lind's adoption of OODA at this particular time is significant, as it is consistent with how Chapter 5 has shown that contact between Lind and Boyd must have been infrequent between 1976 and 1980. This chapter has shown frequent mention of Boyd, Boyd's ideas, or phrases that evoked Boyd's explanations during the development of concepts at AWS starting in 1980. Wyly credits Lind with introducing him to Boyd during this period, and Wyly came to collaborate closely with Boyd—so much so that ultimately he would be known as one of Boyd's six Acolytes. Boyd and Wyly certainly developed a very close relationship, talking for hours on the telephone late at night, and this probably had as much to do with Wyly's value to Boyd as Boyd's value to Wyly. Of Boyd's six Acolytes, only two came from the ground-oriented Army or the Marine Corps, and only Wyly had actual combat experience. As show in the preceding section, Wyly's lectures from the fall of 1981 indicate that he was explaining critical ideas in Boydian terms, and he directly attributed ideas to Boyd. Before the notion of Commander's Intent was developed into a doctrine-ready concept, Wyly explained it as a commander expressing his desired "output," with explicit credit to Boyd as the originator of this phrase.[1157] Just as Wyly's work reflected Boyd's ideas, after 1980 Lind began to incorporate some as well. For example, Lind's April 1981 article explained that when an enemy is attacked with combined

[1155] Lind, "Maneuver Warfare Course, October 24, 1980 Meeting: Items for Discussion,", 1.
[1156] Wilson, et al., "The 'Maneuver Warfare' Concept," 53. Interestingly, in this same collection of letters, Lind's student, G.I. Wilson, refers only to ODA.
[1157] Wyly, "Appendix: Fundamentals of Tactics," 91.

arms, it "pulls him apart" psychologically, a unique phrase Boyd used frequently throughout "Patterns of Conflict."[1158]

The other project that brought Lind and Boyd into closer collaboration at this time was the Military Reform Movement. After Ronald Reagan was elected president, political interest in military reform grew significantly. Lind was a key agent in the formation of the Congressional Military Reform Caucus in 1981, and led its think-tank, the Military Reform Institute, which counted Boyd among its six members. It is certainly possible that this collaboration put Lind and Boyd into direct conversation about maneuver warfare, but it is unlikely that they would have been talking about the kind of tactical and technical details that Wyly was developing when they were focused on much larger projects, such as in the development of an information brief that could be used to explain the objectives of the Caucus, and over technical matters relating to the expensive weapons programs the Caucus opposed. It is certain that the two men viewed each other as close allies in these efforts. An interview of the members of the MRI after the Caucus was dissolved in 1989 shows that Lind and Boyd were warm comrades who had fond memories of the work they did together.[1159]

This discussion complicates the narrative of Boyd's involvement in the development of maneuver warfare. It is a central argument of this dissertation that Boyd cannot be viewed as the originator of the concept of maneuver warfare. That being said, it is important not to erase his influence in these developing ideas. The development of maneuver concepts at AWS benefited from some degree of infusion of his ideas, most notably Lind's recognition that the Boyd cycle provided the overarching theoretical explanation for how maneuver warfare worked. At AWS,

[1158] Wilson, et al., "The 'Maneuver Warfare' Concept," 54.
[1159] U.S. Congress, Center for Legislative Archives and Historical Office, U.S. House of Representatives, "Military Reform Caucus Oral History Seminar," unpublished draft transcript, 27 June 1992. William S. Lind Papers, Collection 4939, box 31, no folder. Marine Corps Archives, 7.

some of Boyd's ideas were being heard by the right people for the first time. This was certainly the case with some of Lind's seminar students, and perhaps even Wyly. Other ideas were heard by individuals who had been exposed to them before, but were now primed to understand them in deeper ways. Such is probably the case with Lind himself. It is certain that some of these ideas also benefited from the addition of Wyly as another critical and creative mind, one with actual experience in ground combat. Boyd profited from the exposure as well. As Chapter 6 showed, Boyd's ideas as expressed in "Patterns of Conflict" were continually evolving, but it was a year before Boyd first briefed the after-hours seminar from AWS that he included a new section the brief titled "Categories of Conflict." It was this new section where Boyd posited three forms of conflict: Attrition Warfare, Maneuver Conflict, and Moral Conflict.[1160] This was the closest Boyd would come to incorporating Lind's dichotomy of firepower/attrition warfare and maneuver warfare. Boyd had discussed attrition as a counterproductive mode of fighting prior to this point, but August 1980 was the first time he defined it as a distinct category of conflict, and there are very strong similarities in how Boyd and Lind explained attrition warfare and contrasted it with maneuver.[1161] This shows at least a degree of convergence in their thinking after following remarkably parallel paths for the previous four years. The context for this convergence was that this was a period of active collaboration between the two men on two projects: the Military Reform Movement and the development of ideas on maneuver warfare at AWS with a critical third collaborator, Lieutenant Colonel Michael Wyly.

[1160] John R. Boyd, "Patterns of Conflict," August 1980, John R. Boyd Collection, Collection 2062, Box 6, Folder 2: Patterns of Conflict, August 1980, Marine Corps Archives, slides 89-91.
[1161] John R. Boyd, "Patterns of Conflict, September 1981," September 1981, John R. Boyd Collection, Collection 2062, Box 5, Folder 3: Patterns of Conflict—Sept. 1981, Marine Corps Archives, slides 99-114.

**Collaboration with the Second Marine Division**

While the fall of 1981 seemed so promising for Lind and Wyly at the Amphibious Warfare School, their opportunities were foreclosed by reactionary elements the next spring, leading to Wyly's reassignment and no further invitations for Lind to teach another maneuver warfare seminar. Fortunately, some of the most important conceptual work had already been accomplished, and a new opportunity was already underway. During the three years while General Trainor was the Commanding General of Education Command in Quantico, the leader of its partner organization, Development Command, was Brigadier General Alfred M. Gray, Jr. General Gray had already associated with Lind on a number of projects during this time, and had received Boyd's briefing.[1162] In the summer of 1981 Gray was promoted to Major General and assumed command of the 2nd Marine Division at Camp Lejeune, North Carolina, one of the three major ground combat units in the active duty forces of the U.S. Marine Corps. This was a key step, for it placed a senior officer with an acute interest in the new ideas behind maneuver warfare, and a passion for reforming the professionalism of Marine leaders, into a key position for enacting change.

General Gray certainly brought a maneuverist agenda to his command, declaring,

> Realizing that many of our potential enemies could bring superior numbers of men and good equipment to bear against us in a distant theater, it would be foolhardy to think about engaging them in firepower-attrition duels. Historically, maneuver warfare has been the means by which smaller but more intelligently led forces have achieved victory. It is, therefore, my intention to have us improve upon our understanding of the concepts behind maneuver warfare theory and to train our units in their practical application.[1163]

[1162] Lind, interview, 29 January 2020.
[1163] U.S. Marine Corps, "Maneuver Warfare," newsletter, undated. Camp Lejeune, North Carolina: 2d Marine Division Maneuver Warfare Board. William S. Lind Papers, Collection 4939. Box 15, Folder 6. Marine Corps Archives, 1. Hereafter, "2d Marine Division Maneuver Warfare Board, 'Maneuver Warfare' newsletter."

Gray understood maneuver warfare to be a historical style practiced most successfully by the Germans and Israelis, but which would need to be studied and adapted if it was to be practiced by the Marine Corps, with its unique mission and force structure. Consequently, Division correspondence reported, "the Commanding General has tasked his unit commanders to experiment with maneuver warfare concepts in order to find the ideas and techniques best suited for our organization."[1164] To assist with this process, Gray established a staff organization outside the direct, hierarchical chain of command. This was the Maneuver Warfare Board, a focused group of officers who would analyze the division's attempts to practice maneuver warfare and "publish lessons learned during maneuver warfare exercises."[1165] Its purpose, reported the *Marine Corps Gazette*, was "to improve the understanding of maneuver warfare concepts and encourage their refinement and test in field exercises."[1166] Gray invited the commanding generals of the two major units his division depended upon for support, the 2d Marine Aircraft Wing and 2d Force Service Support Group, to join him as an executive steering committee to oversee the activities of the board.[1167]

Lind's AWS seminars served a vital function in preparing a set of practical concepts for making maneuver warfare practical, as well as a core group of officers who understood the concepts and could assist Gray in that effort. The division was receiving its annual summer influx of officers, and among them were many graduates of the Amphibious Warfare School primed to assume command of the division's companies. Within this group were several officers who had participated in Lind's seminar. One of them, Captain G.I. Wilson, even continued to

[1164] 2d Marine Division Maneuver Warfare Board, "Maneuver Warfare" newsletter, 1.
[1165] 2d Marine Division Maneuver Warfare Board, "Maneuver Warfare" newsletter, 1.
[1166] Anonymous, "Maneuver Warfare Board at Lejeune," *Marine Corps Gazette* 65, no. 10 (October 1981), 6.
[1167] Anonymous, "Maneuver Warfare Board at Lejeune," 6.

participate in Lind's 1981-1982 seminar while in this new assignment, making the seven-hour drive from Camp Lejeune to Alexandria many Fridays. As Lind later summarized,

> It was in those seminars over those two academic years that we did the intellectual work that was then all ready for General Gray when he took over 2nd Marine Division, as to how you apply maneuver warfare theory specifically to the United States Marine Corps, and to what units of the Marine Corps would do that would be different from what they were doing. Things like free-play training, for example, which is right at the head of the list of things that you want to do if you want to shift from attrition warfare to maneuver warfare. ...This work was essentially done in those two years' seminars, right here in this living room, and then a lot of those people who were in those seminars went to General Gray's Maneuver Warfare Board when he took over at Lejeune, but also the Junior Officers' Tactical Warfare Symposium out at the 1st Marine [Division].[1168]

While the participants in Lind's first seminar went to many different bases after they graduated AWS, it is clear that Lind saw Gray's 2d Marine Division as the place where the greatest opportunity existed, and this became his new focus of effort. As he recounted in maneuverist terms, "…the *Schwerpunkt* shifted to Camp Lejeune and to the Maneuver Warfare Board…"[1169]

Lind's influence with Gray in these efforts is obvious in the composition of the board, which was mostly composed of recent graduates of his seminar, and older officers who Lind had become familiar with, including Captain Greg Newbold and the board's president, Lieutenant Colonel Sean Leach.[1170] Lind even described himself as an official member of the board, and the only non-Marine member, though he admitted his participation was episodic due to the distance between Washington and Camp Lejeune.[1171] It must be remembered that Lind had also recently established the Military Reform Institute, and the Congressional Military Reform Caucus was taking shape, meaning that he was reaching the apex of his influence within Congress. Despite

[1168] Lind, interview, 29 January 2020.
[1169] Lind, interview, 29 January 2020.
[1170] Lind, interview, 29 January 2020.
[1171] Lind, interview, 29 January 2020.

the pressing demands that went along with this, Lind made frequent trips to Lejeune, especially for the exercises, where General Gray often gave him a leading role in the critique.[1172]

The Maneuver Warfare Board published a newsletter for the division which defined key terms associated with maneuver warfare. It also notified the readers that the board had reproduced a set of four reading packets that were being distributed among the division's component units. These reading packets contained important articles written by Lind and his former students and associates for the *Marine Corps Gazette.* It also included articles written for *Armour*, excerpts from books such as *Infantry Battle* and *Infantry in Battle*, and analyses of German documents and military history produced by the U.S. Army. Finally, it listed some titles for a "beginner's library" on maneuver warfare, which featured German military history. This list included many of the works Lind and Boyd had studied, such as Rommel's *Attacks,* Liddell-Hart's *Strategy*, Mikshe's *Attacks*, Mellenthin's *Panzer Battles*, Guderian's *Panzer Leaders,* and even Griffith's translation of Sun Tzu's *The Art of War*.[1173]

Part of the value of the first Maneuver Warfare Board newsletter is that it substantiates the anecdotal evidence and chronology suggesting the 2d Marine Division had a good selection of maneuver warfare concepts to start with. For example, the first newsletter included specific definitions for firepower-attrition warfare, maneuver warfare, recon-pull tactics, surfaces and gaps, mission order tactics, and point of main effort.[1174] This indeed proves that these ideas had indeed become central to the thinking of General Gray and his Maneuver Warfare Board at its inception, before the division began its practical experimentation.

[1172] Lind, interview, 29 January 2020.
[1173] 2d Marine Division Maneuver Warfare Board, "Maneuver Warfare" newsletter, 2-5.
[1174] 2d Marine Division Maneuver Warfare Board, "Maneuver Warfare" newsletter, 2-3.

By September the division, along with elements of its supporting units, deployed to Fort Pickett, Virginia. While there, away from the administrative distractions that occupied daily work at their home base at Camp Lejeune, the participants could focus on tactics. Officers received classroom training, and each participating battalion went through a full week of mechanized training, facilitated by the 110 tanks and amphibious tractors they brought along. The exercise ended with a three-day force-on-force exercise, pitting portions of the division against each other in free play.[1175] The next month, various leadership elements of the division conducted a command post exercise, while other parts of the division worked on bridging and river crossing techniques, and General Gray experimented with a more mobile version of his division command post.

One of the ways these exercises helped the division flesh out the concept of maneuver warfare was by giving them experience with fire support in maneuver warfare. Previous discussion had centered on abstract ideas, such as the distinction between combined arms and supporting arms, but the fidelity gained through these exercises is clear in a January 1982 *Gazette* article. This was written by Wilson, who was not only a graduate of Lind's AWS seminar and member of the 2d Marine Division Maneuver Warfare Board, but also a participant in the exercises. Wilson stressed that "The use of artillery within the maneuver warfare concept requires that it be highly mobile and possess the capability to move in close proximity to the assault forces."[1176] This meant that being able to frequently and rapidly displace was as important as being able to deliver accurate fires. Understanding the limits of the Marine Corps' current artillery, which depended on trucks to tow the cannons, Wilson argued that the Marine

[1175] Anonymous, "Maneuver Warfare Training," *Marine Corps Gazette* 65, no. 11 (November 1981), 14.
[1176] G.I. Wilson, "Maneuver/Fluid Warfare: A Review of the Concepts," *Marine Corps Gazette* 66, no. 1 (January 1982), 59.

Corps need to take a close look at acquiring a "lightweight and mobile rocket launcher system to augment our artillery."[1177] Though his rationale was not explained, rocket systems have longer range than artillery, and a result they would have to spend less time moving to keep with a mobile advance, and could therefore provide more continuous and flexible coverage. Wilson went further, describing artillery tactics that conformed well to the principles of maneuver warfare. He argued artillery should not be unimaginatively to bombard an enemy position about to be attacked. Instead, it could be carefully concealed close to the assault forces, and refrain from firing until after the enemy began firing and revealed the location of his own heavy fire support. Marine artillery could then fire to suppress enemy batteries, ambushing the enemy with fire to facilitate the success of a more flexible main effort in the assault, one that might also be shifted in response to discoveries about enemy surfaces and gaps. Wilson's discussion of artillery employed in this way concluded with, "The artillery has simply been held in reserve. This is not a new idea, but one that is essential to maneuver warfare."[1178] This clearly reflects Wyly's teaching at AWS on the concept of the reserve in maneuver warfare, which called for it to be used not to reinforce failure, but as a decisive bid for success.

Another example of the concepts fleshed out as a result of the 2d Marine Division exercises was logistics. Though the conceptual discussion of maneuver warfare prior to this point identified that this more mobile form of warfare would require "flexible logistics," such matters had generally not been incorporated as a major variable in field problems. Instead, field exercises, which focused on combat units, tended to depend on the existing logistical infrastructure of a unit's home base, its garrison logistics.[1179] From the start, as the 2d Marine

[1177] G.I. Wilson, "Maneuver/Fluid Warfare: A Review of the Concepts," 59.
[1178] G.I. Wilson, "Maneuver/Fluid Warfare: A Review of the Concepts," 59.
[1179] P.R. Puckett, "MCCRES," *Marine Corps Gazette* 65, no. 12 (December 1981), 13.

Division conducted field exercises to experiment with and refine maneuver warfare concepts, it didn't hold them on the division's home base, Camp Lejeune, where the supply warehouses, mess halls, and workshops were just a few miles away. They were conducted on Army bases several hours away from Lejeune that made routine garrison support impossible.

From the start, the division also experimented with forming mobile logistics elements of the type that it expected to depend upon in combat.[1180] The longest section of Wilson's January 1982 article was devoted to elaborating on the concept of "Flexible Logistics Systems." He made a key distinction between logistics in the attritional mode of fighting and that of maneuver warfare by stating, "Flexible logistics will not be achieved by simply piling on more equipment and creating an even larger logistics tail. The pile-it-on mentality will serve only to impede the logistics effort associated with the maneuver style of warfare."[1181] Essentially, Wilson was arguing for a constant forward momentum in supply rather than building up a massive logistical tail that would tie combat units down and make them more predictable. This would be accomplished by avoiding the buildup of static supply dumps, and giving logistics units increased mobility to support the combat units near where they were fighting, rather than expecting combat units to pause operations to return to a fuel dump or repair facility. A premium would need to be placed on developing mobile teams capable of supporting damaged vehicles and refueling as far forward as possible, for in Wilson's words, "the further forward a vehicle or weapons system is repaired or refueled, the sooner it can return to the fight."[1182] Wilson described this as a "fuel-it-fix-it-forward" way of thinking that could be accomplished by integrating mobile support elements with the units in contact with the enemy and with the

[1180] Anonymous, "Maneuver Warfare Training," 14.
[1181] G.I. Wilson, "Maneuver/Fluid Warfare: A Review of the Concepts," 61.
[1182] G.I. Wilson, "Maneuver/Fluid Warfare: A Review of the Concepts," 61.

reserve. Wilson advised that in maneuver warfare, logistics should continue even at night, when the pace of operations typically slowed. This would provide the added benefit of concealing logistical activities, and therefore reduce the chance of revealing the Marines' main effort to the enemy. All of this signified not just new ways of thinking, but new relationships between combat leaders and logisticians. Rather than logisticians being those who merely arranged support for combat units, Wilson argued "The logistician cannot divorce himself from tactics and the tactician cannot divorce himself from logistics."[1183] Maneuver warfare wouldn't work if it was only the combat arms officers who were developing new ways of thinking. The 2d Marine Division exercises also helped logisticians develop new ways of thinking, along with new techniques they could use to translate the concepts into an actionable doctrine.

Another article about logistics in maneuver warfare appeared in the same issue of the *Gazette* as Wilson's piece. Based on Captain P.J. Klepper II's, title, "Food Service and Maneuver Warfare," many Marines must have begun reading this article under the assumption that it was a satirical jab at the frenzy of articles discussing various aspect of maneuver warfare, since the cooks in the mess halls were so far removed from actual combat. If this was the case, as these Marines read further they found that the author was quite serious. Klepper opened, "Currently the Marine Corps does not have a food service concept that can meet the flexibility required to support maneuver tactics against a Soviet-style threat. …A static mentality has evolved during the last decade in regards to food service support…"[1184] Klepper explained that leaders had come to assume that in combat they would depend on prepackaged field rations to feed their Marines. On short field exercises this was certainly tolerable, but Klepper pointed out that commanders were starting to realize that this would not sustain the health and morale of

[1183] G.I. Wilson, "Maneuver/Fluid Warfare: A Review of the Concepts," 60.
[1184] P.J. Klepper II, "Food Service and Maneuver Warfare," *Marine Corps Gazette* 66, no. 1 (January 1982), 26.

their Marines for long, especially in adverse weather and terrain. In contrast, the Soviets had outfitted their forces with extensive, mobile field kitchens, so that they depended on combat rations "only when actually engaged with the enemy or where normal resupply is precluded."[1185] Klepper called for development of a "versatile, mobile food service concept" and made specific recommendations to include requiring all battalions to exercise their field kitchens at least four times a year, developing mobile field kitchens with appropriate vehicle support, discouraging the use of garrison dining facilities to support field exercises, and restricting the use of prepackaged rations to exercises less than three days long.[1186] This article shows that thinking about the practical implications of maneuver warfare was truly pervasive during this time.

Another key development from the 2d Marine Division's efforts was learning more about how the Corps habitual training approaches needed to change if they were to foster maneuver warfare. Gray's first division field exercise for the purposes of working out the details of maneuver warfare ended with a three-day force-on-force free-play. This provided his Marines with the opportunity to interact with a free-thinking, adapting adversary rather than a scripted enemy that might allow them to practices certain specific tactics, techniques, and procedures. Just as important, allowing these interactions to play out over time would place a premium on adaptation and counter-adaptation, and learning how to out-think and adversary. This was no small change. As Lind later recounted, "…a lot of things could be worked out like, 'How do you do a free play exercise?' Remember, no Marines had seen free play training. This was a purely theoretical construct to them. So we had to work out how do you actually do that. They had to learn how to critique…"[1187] Lind was stressing that the value of an exercise depended, in part,

[1185] Klepper, 26.
[1186] Klepper, 27.
[1187] Lind, interview, 29 January 2020.

on a debrief, a post-exercise reconstruction of events and critique of the actions taken. Such events were critical for helping all participants, each of whom understood events only through their own experiences and those of a limited number of other participants, understand the larger picture. Post-exercise critiques helped all those involved see how events developed, leading one side to gain advantages and eventually secure victory. Only with a debrief could the organization as a whole become fully aware of how errors in communication in one place might contribute to major mistakes, and where opportunities were missed, or recognized and taken advantage of. As practiced within the 2d Marine Division, these critiques were truly all-encompassing. As one participant later recounted,

> It was not uncommon to see platoon commanders and even squad leaders called upon by the commanding general to stand up and explain what the regimental or battalion commander's intent was, where the point of main effort was, how they accomplished their mission, or why they did not. The zero defects mentality was absent, and the training made people think. Most participants were enthusiastic about its results.[1188]

Lind was a vital part of helping the Marines of Gray's division develop greater insights from these exercises. Though he could not be present in Camp Lejeune for many of the Maneuver Warfare Board's activities, he made a point to be at the field exercises and their critiques. As recounted in the vignette at the beginning of this chapter, Marines were intrigued to see a portly civilian accompanying their Commanding General as he visited various units in the field. They were surprised to see Lind then given a prominent speaking role when the officers of the division were gathered in an auditorium or gymnasium at the end of the exercise. Gray, with Lind's assistance, refused to allow these after-action discussions to devolve into what they had typically been, remarks by the most senior participants generally extolling the performance of their own units.[1189] Lind was critical, incisive, and unconcerned with embarrassing officers,

[1188] R.C. Funk, "America Can Win," *Marine Corps Gazette* 70, no. 8 (August 1986), 68.
[1189] Jackson, interview, 11 September 2019.

regardless of their rank. He was able to express himself this way because he enjoyed a new level of access. He was no longer just a congressional staffer showing up to collect information and perhaps pontificate to captive audiences. Now Lind was a personal guest of the Commanding General, invited to see almost everything Gray saw. While Lind's thinking was about what he saw was undoubtedly shaped by the observations Gray made as they traveled together, Lind's keen intellect and deep knowledge of German military history provided an unusual perspective, seeing events through the eyes of German military culture.

To many Marines, a debrief that featured Lind was both eye-opening and intriguing. Instead of being forced to sit and listen to senior officers focusing on the events that reflected positively on their own performance, the younger officers were hearing sharp critiques and felt they were learning about war. Lind was helping Marines make sense of what maneuver warfare was really all about, and the fundamental changes that it would require. He was so effective at this role that in the later years of these exercises Gray would simply make an introduction and turn the microphone over to Lind for almost the entire debrief.[1190] These opportunities to see the 2d Marine Division experiments in the new concepts close up were, of course, particularly valuable to Lind. They provided him with the opportunity to see how his concepts actually played out in the field, and how they might be implemented in the training and education of Fleet Marine Force units.

For Lind the promotion of maneuver warfare had always been about encouraging officers to be thinking members of their profession. This was as important to Lind, if not more important, than developing a particular style of warfare. The specific concepts for enacting maneuver warfare developed during this period are therefore also significant because they are

[1190] Jackson, interview, 11 September 2019.

evidence of Marines becoming much more active in thinking about their profession. They show Marine officers were invested in reforming how they would approach fighting, training, and leadership, and what they thought was to be expected of an officer. Lind saw this as an era of real intellectual vibrancy within the officer corps, particularly among junior officers, observing,

> …at this point there is quite a ferment going on, among young officers… …there was a real intellectual life within the Marine Corps at the junior officer level at this point. I mean, when I would go down to Lejeune, or Twentynine Palms, or Pendleton, back then the [officers'] clubs were very lively scenes on Friday nights, because most officers weren't married. …those were very important venues, actually, for us, because a lot of what was going on was actually intellectual discussion, and we deliberately fed that. There was a real intellectual life at this point… In other words, it spread beyond formal bounds, like formal seminars and schools and so on. It's becoming a leavening throughout the organization.[1191]

Lind's observations are consistent with the debates going on in the pages of the *Marine Corps Gazette*. Chapter 5 analyzed some of the debate before this period of experimentation, and the next chapter will subject the debate of the 1980s to closer examination.

While the 2d Marine Division's experience was critical for convincing Marines that maneuver warfare was a practical and effective approach to fighting, it was also important because it validated these ideas to Lind. The next chapters will show these weren't the only places where maneuver warfare was being experimented with and developed, but what happened at Camp Lejeune was by far the most important. Lind had formed the dichotomous concept maneuver warfare and firepower/attrition warfare back in 1976, as a way of helping the American military see that German military history provided a better model to help the Americans fight outnumbered and win. His interactions with the Army and with Marines told him the Marine Corps offered the greatest prospect for getting maneuver warfare adopted by a large segment of the U.S. military. Lind's interactions with the Mechanized Task Force helped

[1191] Lind, interview, 29 January 2020.

him see that Maines needed a deeper understanding of what maneuver warfare actually was. After infusing some of Boyd's theory to help do this, the efforts at the Amphibious Warfare School and 2d Marine Division helped develop the supporting concepts and actual techniques and practices that would be necessary to make the maneuver style of fighting a reality. In essence, the 2d Marine division developed a local doctrine for maneuver warfare. The next step was to work toward Corps-wide adoption of the concept in doctrine. Consequently, Lind turned to a new project—assembling his ideas in a coherent, doctrine-ready form that could be widely shared, a project that was to become the *Maneuver Warfare Handbook*.

**The *Maneuver Warfare Handbook***

In a 2020 interview Lind attributed the origin of the *Maneuver Warfare Handbook* to an unnamed Marine captain. This officer asked him to coauthor such a book, but ultimately decided when they arranged for publication that he did not want his name on it.[1192] Lind's papers contain correspondence from Captain Scott Moore between May and September 1982, and among the enclosures is an outline dated February 8, 1982 for a lengthy project titled, "Maneuver Warfare and the Marine Corps."[1193] It is not clear how Lind came to associate with Moore. He may have been one of the members Lind's AWS seminars who subsequently joined the 2d Marine Division and its Maneuver Warfare Board. The timing of the first draft outline, coincident with Wilson's *Marine Corps Gazette* articles fleshing out concepts such as logistics and fire support, suggests that it was a product of the fermentation going on in Camp Lejeune at the time. The draft outlines included with Moore's letters are also filled with marginal comments written by several

[1192] Lind, interview, 29 January 2020.
[1193] Scott Moore, letter to William S. Lind, 28 May 1982, William S. Lind Papers, Collection 4939, Box 29, no folder. Marine Corps Archives. Quantico, Virginia; and Scott Moore, memorandum to William S. Lind, "Maneuver Warfare Outline," 17 September 1982, William S. Lind Papers, Collection 4939, Box 29, no folder. Marine Corps Archives. Quantico, Virginia.

other hands, including that of Captain William Woods, who had been a member of both Lind's seminar and the 2d Marine Division Maneuver Warfare Board.[1194] Though the final book published in 1985 was printed solely under Lind's name, its chapter structure clearly reflects Moore's 1982 outlines. Lind credits John Boyd, Colonel Michael D. Wyly, Major Kenneth Estes, and Major William Woods, as well as retired Colonel John C. Studt, with helping review the drafts.[1195] The fact that Lind's actual coauthor, probably Captain Moore, chose to remain anonymous, speaks to the controversy over maneuver warfare within the Marine Corps in the mid-1980s, which is a central subject of the next chapter.

Lind chose a publisher who could expedite the process of getting the new ideas in print. Westview Press, a subsidiary of Frederick A. Praeger, printed the book as a part of its Westview Special Studies in Military Affairs. This series was devoted to help get important works of high academic quality quickly into print by accepting only print-ready manuscripts, bypassing the lengthy and market-driven process by which academic presses select, edit, and vet manuscripts.[1196] It is not clear exactly how long it took the multiple-contributor project to generate a print-ready manuscript, but it is possible it existed in a draft form as the "2d Marine Division *Maneuver Warfare Handbook*" by June on 1984. This suggests it was compendium of ideas about maneuver warfare developed while General Gray was in command of the division, produced before he was promoted to the next higher command in the summer of 1984.[1197] About a year later, in August 1985, the first privately printed version of a *Maneuver Warfare Handbook* was printed by Westview Press under Lind's name.

---

[1194] Moore, letter to William S. Lind, 2-9.
[1195] William S. Lind, *Maneuver Warfare Handbook* (Boulder, Colorado: Westview Press, Inc., 1985), ix.
[1196] Lind, *Maneuver Warfare Handbook*, ii.
[1197] S.A. Raub, "A Marine Corps Perspective: Command, Control, and Communications Countermeasures" *Marine Corps Gazette* 68, no. 6 (June 1984), 61.

If the next step in Lind's promotion of maneuver warfare was to take everything learned and developed up to this point and translate it into doctrine, that exactly how many perceived this project. The book's anonymously-written "About the Book and Author" stated, "The author translates concepts—too often vaguely stated in discussions of maneuver warfare—into concrete doctrine."[1198] Lind, like many Marines, believed that Gray's 2d Marine Division had essentially adopted maneuver warfare as division-level doctrine.[1199] Lacking a common reference point in the larger Marine Corps, however, the intense discussion of maneuver warfare had resulted in much confusion, for "Terms such as mission-type orders, reconnaissance pull, surfaces and gaps, and Schwerpunkt are thrown around with little understanding of their meaning or significance."[1200] What the Marines lacked was a doctrinal manual to focus and bring collective coherence to their understanding of maneuver warfare. It is clear that this coherence is what Lind was attempting to initiate through publishing the *Maneuver Warfare Handbook*, opening with "Although this book has been written to be helpful to anyone interested in land warfare, it is addressed primarily to Marines."[1201] He continued with the explanation,

> The purpose of this handbook is to try to clear up the confusion. It has been written as a ready reference for field Marines, not an academic monograph. It seeks to define and explain the basic concepts and terminology of maneuver warfare; to show some practical ways to apply maneuver theory; and to spur further thinking, reading and writing on the subject by Marines.[1202]

This statement makes it clear that Lind did not view the *Handbook* as a finished product, merely ready for conversion to doctrine, but instead as a body of ideas that would shape ongoing thinking and conversation among Marines. Put another way, Lind knew the Marines needed a

[1198] Lind, *Maneuver Warfare Handbook*, iii.
[1199] Lind, *Maneuver Warfare Handbook*, 1.
[1200] Lind, *Maneuver Warfare Handbook*, 1-2.
[1201] Lind, *Maneuver Warfare Handbook*, 1.
[1202] Lind, *Maneuver Warfare Handbook*, 2.

maneuver warfare doctrine, but he also understood that the effort would be more successful if he prompted them to develop it themselves, as a reflection of a new collective understanding, rather than handing them a ready-made product, and then trying to convert them to that new doctrine. Lind was promoting doctrine-making as a process of change, rather than doctrine as a product that would define a new mode of behavior. This is consistent with his aim for maneuver warfare to be more than just a new way for the U.S. military to fight, but also part of a larger reform to shape the military services as professional organizations. To Lind, these two objectives, changing the culture of the military and changing the way it fought, were inextricably linked.

Though Lind's goals for the Marine Corps were broad, the *Maneuver Warfare Handbook* was more explicitly focused on tactical doctrine than organizational change. The first four chapters dealt with "those aspects of maneuver warfare platoon, company, and battalion commanders need to understand,"[1203] and only the last chapter, "Education and Training", and the conclusion dealt with larger institutional issues. Thirty-seven pages were devoted to the tactical subjects, while only twelve were devoted to the larger institutional issues. Lind understood that Marines would not be attracted to an abstract concept. Interest and buy-in would only come from offering them something concrete.

This is reflected in the length of the first chapter, "The Theory of Maneuver Warfare." Just five pages long, its brevity reflects both the relatively unimportant role Lind assigned to theory in supporting his agenda for maneuver warfare, and his assertion that the *Maneuver Warfare Handbook* was not meant to be an academic product. In many ways, this chapter reflects Boyd's approach to the subject. It provides a long list of decisive military successes going back to the battle of Leuctra in 371 B.C. and concluding "The theory of maneuver warfare

[1203] Lind, *Maneuver Warfare Handbook*, 49.

must answer the question: What was the essence of success in all of these cases?"[1204] Lind then introduces Boyd. The way Lind describes Boyd's development and ideas is significant. Lind spends a page explaining Boyd's experiences, starting with "Colonel Boyd's development of the theory of maneuver warfare began, not with ground battles, but with a study of some mock air-to-air combat exercises (conducted at Nellis Air Force Base in 1974) that led him back to the study of air-to-air combat during the Korean war."[1205] The half-page discussion of the differences between the F-86 and Mig-15 clearly reflect Boyd's "Aerial Attack Study," probably as Lind heard it explained in "Patterns of Conflict,"

> Later Colonel Boyd began studying ground combat to see if there were situations similar to that he found in the air war over Korea he found that in battles, campaigns and wars like Leuctra, Vicksburg and France in 1940, a similar thing seemed to have happened…"
> Colonel Boyd asked himself, what did all these cases have in common? His answer was what is now called the Boyd Theory, which is the theory of maneuver warfare."[1206]

Lind explains that "at the cost of missing some of the subtleties and the supporting historical evidence" in "Patterns of Conflict," which was then over five hours long, he will provide a summary.[1207] Lind provides an explanation of the OODA loop that emphasizes speed, summarizing,

> The Boyd Theory defines what is meant by the word 'maneuver' in the term 'maneuver warfare.' Maneuver means Boyd Cycling the enemy, being consistently faster through however many OODA Loops it takes until the enemy loses his cohesion—until he can longer fight as an effective, organized force.[1208]

---

[1204] Lind, *Maneuver Warfare Handbook*, 4.
[1205] Lind, *Maneuver Warfare Handbook*, 4.
[1206] Lind, *Maneuver Warfare Handbook*, 5. As Chapter 3 showed, this explanation was incorporated in the "Point of Departure" section of Boyd's brief starting in January 1977, and remained a common feature throughout the life of "Pattens of Conflict." This has led to some common erroneously misperceptions, such as the idea that OODA was derived from Boyd's experience and study of aerial combat, and that Boyd read history backwards looking for insights.
[1207] Lind, *Maneuver Warfare Handbook*, 5.
[1208] Lind, *Maneuver Warfare Handbook*, 6.

Lind then explains that much of the rest of the book is an effort to address the question, "If the object in maneuver warfare is to move through OODA Loops faster than the enemy, what do you need to do?"[1209] In drawing these specific concepts from Boyd's theory as expressed in "Patterns of Conflict" and explaining them in this way, in what would become a seminal publication and reference point for further ideas on maneuver warfare, Lind reinforces several misperceptions which persist to this day. These include the impression that Boyd was the sole mastermind behind maneuver warfare and the idea that Boyd was highly focused on promoting that style of fighting. Lind also promoted the notion that Boyd's ideas were derived from his aviation experience, and the idea that Boyd's theory was all about the OODA Loop, where victory depended solely on speed.

In Chapter 1 Lind complements his explanation of Boyd's ideas with other important concepts, such as, "Only a decentralized military can have a fast OODA Loop." He also makes it clear that maneuver warfare means not only accepting confusion and disorder but also generating confusion and disorder. Finally, Lind stressed, "All patterns, recipes, and formulas are to be avoided."[1210]

Chapter 2 of the *Maneuver Warfare Handbook*, "Tactics and Operations," begins by answering the question Lind knew his readers must have been wondering about at the end of the previous chapter: "If maneuver warfare cannot be done by formulas and recipes, how can it be done?"[1211] He delivers the answer in Boyd's style, inviting the reader to consider three pictures drawn from theory and historical events: Liddell-Hart's explanation of the expanding torrent, the German adoption of defense in depth tactics in 1917, and German offensive tactics on the

[1209] Lind, *Maneuver Warfare Handbook*, 6.
[1210] Lind, *Maneuver Warfare Handbook*, 6-7.
[1211] Lind, *Maneuver Warfare Handbook*, 8.

Eastern Front in 1942. Each of these descriptions, largely in the words of primary sources, provides the reader with an image of what maneuver warfare looks like in practice. Lind then defines tactics in much the same way he had in his September 1981 *Gazette* article, as a process of combining techniques and education through the three mental filters: mission-type orders, focus of effort, and the search for enemy surfaces and gaps.[1212] Lind discusses each of these "filters" using the elaborating concepts that had already been introduced in earlier articles, such as commander's intent and *Schwerpunkt*, though these discussions are richly illustrated with specific historical examples. In this respect, Lind seems to be drawing upon Wyly's technique for making abstract concepts real to practitioners. Similarly, Lind addressed common misconceptions, such as "A mission-type order just tells you to defeat the enemy" and "Mission-type orders mean you can do whatever you want."[1213] After addressing the three "filters," Lind spends several pages discussing misconceptions about the role of firepower in maneuver warfare. Though he depends on existing definitions of terms such as combined arms, he again introduces more historical and hypothetical examples to help the reader understand "What changes in maneuver warfare is not the importance of firepower, but the purposes for which it is used."[1214] Lind goes on to discuss how the counterattack and reserve should be understood differently in maneuver warfare, as well as command and control. The only new term he inserts in this chapter is "trust tactics," the idea that mission orders tactics essentially required a fundamental trust between a commander and his subordinates.[1215] Lind ends this lengthy section by reminding his readers that all the pictures, definitions, filters, and tools described are not merely a "how to" for

[1212] Lind, *Maneuver Warfare Handbook*, 9-12.
[1213] Lind, *Maneuver Warfare Handbook*, 12-14.
[1214] Lind, *Maneuver Warfare Handbook*, 19-21. Quote drawn from 19.
[1215] Lind, *Maneuver Warfare Handbook*, 22-23.

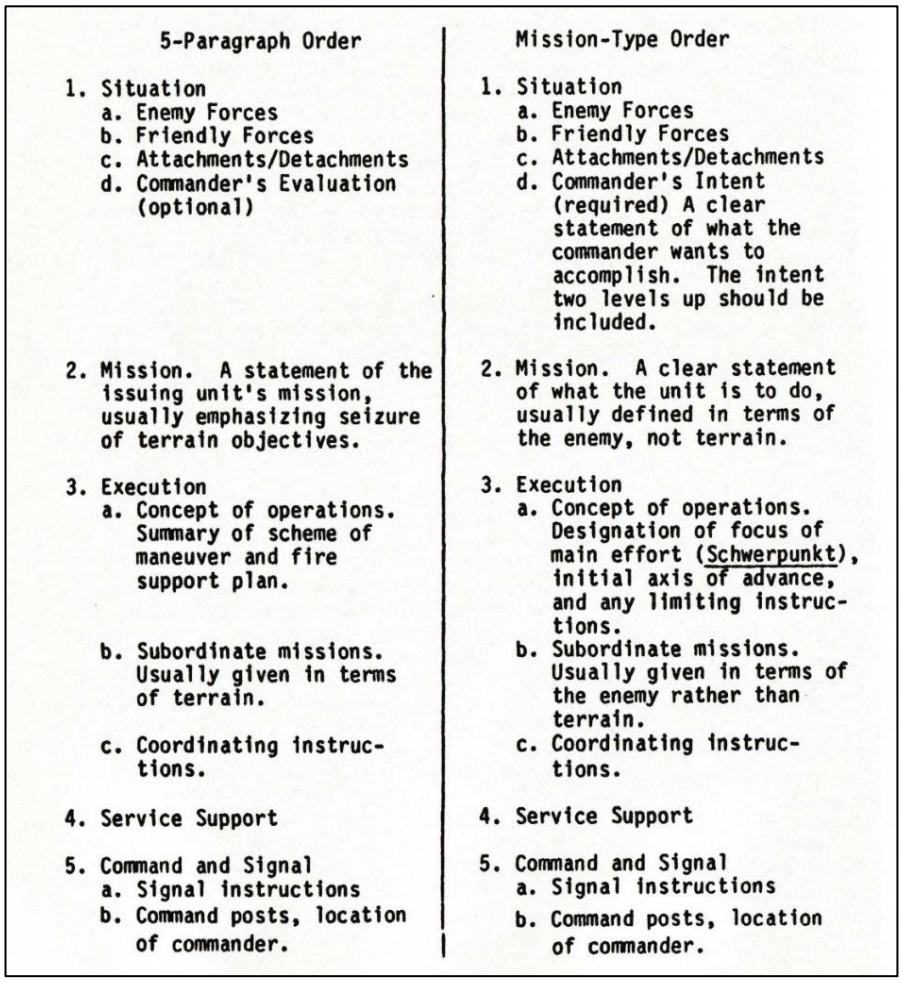
executing maneuver warfare, but present a new way of thinking that engenders maneuver warfare.[1216]

Lind begins Chapter 3, "Techniques and Organization," by asserting that while formulas are anathema to maneuver warfare, some techniques are helpful, and these are formulaic. He explains that while some of the techniques in the chapter are new, most are existing techniques that Marines had simply failed to learn well. Despite this explanation, the emphasis on techniques in this chapter is an odd counterpoint to Lind's general suspicion about that topic, and it suggests another author was responsible. Indeed, Lind openly acknowledged that much of the material in the chapter was provided by Captain Moore. This chapter begins by relating many of the concepts to the Marine Rifle Squad, which it describes as a unit previously neglected in Marine tactical thinking because of its small size. The German *Stosstruppen* experience, however, showed the importance of the infantry squad.[1217] Expanding the discussion to the infantry battalion and higher levels, the discussion centers on two techniques: command from the front and mission-type orders. The chapter goes so far as to provide a side-by-side comparison between the existing Marine Corps five-paragraph order format and a new version incorporating the concepts of maneuver warfare, in essence adapting it to become a Mission-Type Order (Figure 8). This is significant because it showed, for the first time in publicly-available print, exactly how some of the concepts discussed in earlier articles could be integrated into the existing orders format, facilitating a more maneuverist approach to command. It also specifically shows where Commander's Intent, expressed as a proper noun for the first time, could be expressed. Other key features of the Mission-Type Order are an emphasis on defining

[1216] Lind, *Maneuver Warfare Handbook*, 23.
[1217] Lind, *Maneuver Warfare Handbook*, 25-29.

missions in terms of changing the enemy situation, rather than accomplishing a terrain-oriented objective.[1218] This chapter goes on to recommend

specific techniques for employing fire support, tanks and mechanized infantry, engineers, and combat service support. It ends with an appeal to the reader to remember that "…translating the ideas into practice takes people with combat experience, with opportunities to test ideas in the field, and with direct personal experience with friction. That means you."[1219]



| 5-Paragraph Order | Mission-Type Order |
|---|---|
| 1. Situation<br>a. Enemy Forces<br>b. Friendly Forces<br>c. Attachments/Detachments<br>d. Commander's Evaluation (optional) | 1. Situation<br>a. Enemy Forces<br>b. Friendly Forces<br>c. Attachments/Detachments<br>d. Commander's Intent (required) A clear statement of what the commander wants to accomplish. The intent two levels up should be included. |
| 2. Mission. A statement of the issuing unit's mission, usually emphasizing seizure of terrain objectives. | 2. Mission. A clear statement of what the unit is to do, usually defined in terms of the enemy, not terrain. |
| 3. Execution<br>a. Concept of operations. Summary of scheme of maneuver and fire support plan.<br>b. Subordinate missions. Usually given in terms of terrain.<br>c. Coordinating instructions. | 3. Execution<br>a. Concept of operations. Designation of focus of main effort (Schwerpunkt), initial axis of advance, and any limiting instructions.<br>b. Subordinate missions. Usually given in terms of the enemy rather than terrain.<br>c. Coordinating instructions. |
| 4. Service Support | 4. Service Support |
| 5. Command and Signal<br>a. Signal instructions<br>b. Command posts, location of commander. | 5. Command and Signal<br>a. Signal instructions<br>b. Command posts, location of commander. |

Figure 8. Comparison of typical Marine Corps Five-Paragraph Order and Mission-Type Order in the *Maneuver Warfare Handbook*.

[1218] Lind, *Maneuver Warfare Handbook*, 30.
[1219] Lind, *Maneuver Warfare Handbook*, 35.

Chapter 4, "Amphibious Operations" is also explicitly attributed to Captain Moore, largely based on an article he wrote for the *Naval War College Review* in 1984.[1220] Indeed, a chapter about amphibious operations had been on Moore's outline from the start, in 1982.[1221] The chapter essentially argues that maneuver warfare, usually thought of as an approach to fighting on land, also offers ways to revitalize amphibious doctrine, which was being challenged by new technologies and approaches to warfare. The essence of Moore's argument rejects the current practice of focusing on seizing a foothold, which meant devoting immense resources to trying to win a battle for a beachhead under highly disadvantageous terms. Instead, he explained, landing forces needed to be used with much greater flexibility, finding gaps in enemy coastal defenses, and then moving quickly ashore to inland objectives. By avoiding battle at the water's edge, Moore is arguing for the avoidance of predictable fights in favor of a dynamism which made it harder for the enemy to anticipate a landing, and then gaining the ultimate objective more quickly. This meant applying "maneuver warfare and amphibious warfare at the operational, rather than the technical or tactical level."[1222] In this argument, Moore anticipates by more than a decade the Corps' 1993 *Operational Maneuver from the Sea*, an operational application possible only after maneuver warfare became philosophical and tactical doctrine in FMFM-1, *Warfighting*, of 1989.

Lind's last chapter, "Education and Training," is a critical examination of the way the Marine Corps prepared for war. Here Lind justifies his argument that tactics consists of combining education with techniques by explaining,

> Military education is basic to the definition of maneuver warfare and is an integral component of tactics and the operational art. Without military education, tactics and

[1220] Lind, *Maneuver Warfare Handbook*, 56.
[1221] Moore, letter to William S. Lind, 19-20. Pages 16-21 of this letter are copies of the outline with the earliest date, February 8, 1982.
[1222] Lind, *Maneuver Warfare Handbook*, 40.

> operations become little more than applied checklists. True education removes the need for checklists and 'school solutions,' enabling commanders to approach each problem equipped with a large array of possible solutions, placing the problem in a larger context and evolving innovative answers.[1223]

In his supporting argument, Lind returns to some of the same themes he initiated in his *Gazette* articles of the late 1970s, when his collaboration with the Marine Corps was just beginning. He argues for the integrated study of military theory, history, and tactics and operations. He argues for reforms in the selection process for schools, and for the incorporation of free-play wargaming in school curricula, referencing the German military experience.[1224] Lind argues that training, the application of education, can be thought of as having four different aspects. In addition to basic techniques and advanced techniques, training should be building initiative and imagination among junior leaders, and "Teaching leaders at all levels to live with friction."[1225] Lind emphasizes the importance of free-play training to develop the latter aspects, and decries the lack of such training in most Marine units. Finally, Lind discusses the importance of learning how to critique. All of these ideas had been introduced in his earlier writings, though some, such as the importance of a thorough critique, became even more apparent only over time. Lind admonishes his audience to remember that they didn't have to wait for the Marine Corps to institutionalize these changes; many of these reforms could be adopted by individuals for themselves and within their own local units. It is significant that Lind chose education and training as the subject of the last chapter, for the brief conclusion which follows is essentially a call to action. There Lind states that additional reforms are required, including in promotions and the assignments process, professionalizing the NCO corps, and decreasing emphasis on administrative requirements and

[1223] Lind, *Maneuver Warfare Handbook*, 42.
[1224] Lind, *Maneuver Warfare Handbook*, 43-44.
[1225] Lind, *Maneuver Warfare Handbook*, 44-46.

garrison concerns.[1226] By ending this way, Lind is reminding any reader not to mistake maneuver warfare as simply a new combat doctrine to be followed; adopting a new fighting doctrine was really a small part of the changes needed. It is clear that Lind was seeking comprehensive reform of the U.S. Marine Corps on the German model.

In addition to the basic content in the main chapters, the *Maneuver Warfare Handbook* contains some important annexes and appendices. First, the basic text is supported by citations to end notes, so readers could subject its ideas to further study by consulting their sources. While citations were used in products produced by and for Army institutions at this time, and in the works of defense analysts in various forums, it was extremely unusual for a document written for Marines and about their field operations. The idea that the handbook was not only a resource for shaping action, but also deeper study, is also supported by the inclusion of an annotated bibliography, a list of works which was becoming a canon for maneuverists. For each work on the list, Lind provides a summary and remarks about its value to help a young officer pick a good place to start.[1227] Finally, the last half of the book was devoted to providing copies of Wyly's five tactics lectures from Amphibious Warfare School in the fall of 1981, including the supporting practical exercises and Wyly's discussion of solutions to these problems.[1228]

The importance of Lind's *Maneuver Warfare Handbook* as a key milestone and important document in the development and promotion of maneuver warfare has generally not been recognized. Coram's popular biography of Boyd features Boyd's relationship with the Marine Corps, where he "changed the art of war," but barely mentions Lind and makes no mention of the *Handbook*. Ian Brown's *A New Conception of War*, the most thorough treatment of Boyd's

[1226] Lind, *Maneuver Warfare Handbook*, 49-50.
[1227] Lind, *Maneuver Warfare Handbook*, 58-66.
[1228] Lind, *Maneuver Warfare Handbook*, 67-133.

ideas and their influence on maneuver warfare, mentions Lind's *Handbook,* but the deepest analysis is in a footnote pointing out that Lind focused too exclusively on OODA at the expense of Boyd's larger ideas.[1229] Pierce provides the only treatment to remark upon the importance of the *Handbook* as a needed "intellectual step," but does not analyze is content. Pierce also elides Lind's role, stating "Although Lind is credited as its author, two Marines, Colonel Mike Wyly and Captain Scott Moore, translated his maneuver warfare concepts into tactics and procedures."[1230] This chapter provides the most thorough analysis of the *Maneuver Warfare Handbook* to date, and does it in the context of Lind's long-term contributions and interactions, showing that the *Maneuver Warfare Handbook* is significant for three reasons. First, though this book interjected very little new into the conversation, it consolidated an important part of the seven-year dialog in the Marine Corps about maneuver warfare into the longest exposition to date. It was a book in which the ideas were well integrated to give its readers a sense for why maneuver warfare was needed, what it actually looked like in practice, what its important supporting concepts were, and how it might be done. Second, as will be shown in the next chapter, Lind's publication of this work in 1985 provided a readily-distributed handbook at the time when the maneuver warfare movement in the Marine Corps was at its nadir, serving to help spread the ideas at a time when they were facing their greatest suppression within the Corps. Finally, as will also be shown in the final chapter, in some respects the *Maneuver Warfare Handbook* set a precedent. Its form and many of its ideas were reflected in another critical document, Fleet Marine Force Manual 1, *Warfighting*.

[1229] Brown, 118.
[1230] Pierce, 90.

## Conclusion

This chapter has continued to show, contrary to the conventional narratives which discount William S. Lind's contributions as a mere promoter of John Boyd's ideas, that Lind was the central figure in the development of the concept of maneuver warfare. Chapter 5 showed Lind was the originator of the concept of maneuver warfare as a style of fighting exemplified by the German army, and an appropriate model to reform the U.S. military after the Vietnam War to prepare for a future war with the Warsaw Pact, where it would have to "Fight Outnumbered and Win." Chapter 5 further showed Lind found the Marine Corps to be the most profitable target for his reforms, which would require a new concept of professionalism and significant institutional changes in addition to adopting a new doctrine for fighting. Lind used his Congressional influence to pressure the Marine Corps to initiate the Mechanized Task Force experiments, but found progress hampered by an inadequate conceptual understanding of maneuver warfare. This prompted Lind to infuse Boyd's ideas into his advocacy, including the OODA concept, though the way Lind did this led to misunderstandings about Boyd's ideas and Boyd's role. This chapter resumes the narrative of Lind's involvement, showing how he worked with Marines at the Amphibious Warfare School and in the Second Marine Division, most notably the students of his after-hours AWS seminar, Lieutenant Colonel Michael Wyly, and Major General Alfred M. Gray, Jr. With their active participation, what had been an abstract dichotomous alternative to firepower/attrition warfare was fleshed out with supporting concepts, and eventually specific techniques to make this an actionable approach to fighting. Almost a decade after Lind first wrote about maneuver doctrine in 1976, a critical product of all this interaction was Lind's *Maneuver Warfare Handbook*.

It must be stressed that this process was not solely Lind's. Early on, interactions between Bill Lind and John Boyd were few because their interests in maneuver warfare were different. Lind was very focused on practical concerns, promoting the Prussian example of professionalism and German mode of fighting as a model for U.S. military reform. Boyd's interests were more abstract, seeking an explanation for how a wide spectrum of human conflict worked. Maneuver warfare was just one form human conflict could take. As Lind became more involved with the Marines, and later, as the Congressional Military Reform Caucus was formed, his interaction with Boyd increased, and some of their interests and ideas converged. The way that Lind incorporated some of Boyd's ideas, particularly his description of OODA, emphasis on speed, and pronouncement that "The Boyd's Theory is the theory of maneuver warfare," helps explain why some of Boyd's ideas are so fundamentally misunderstood today.

Marines also had agency in this process. Lind, and sometimes Boyd, interacted with a number of different Marines, most notably with Lieutenant Colonel (later Colonel) Michael Wyly, to develop the initial ideas about maneuver warfare into actionable concepts. This chapter has shown the critical involvement of Marines in the development of these ideas, and it would have been impossible for the concept of maneuver warfare to be advanced without their vital contribution. Their increasing agency in this process will be further highlighted in the next two chapters. It must be remembered, though, that their efforts were conducted largely under Lind's mentorship, and with the benefit of his historical expertise and political support. William S. Lind remains the most constant thread throughout the story of the Marine Corps' adoption of maneuver warfare, from the origination of the concept, until the institutionalization of those ideas.

# Chapter 8: The Marine Corps Maneuver Warfare Movement

In the fall of 1981 Captain John Valentin, a 28-year old Marine infantry officer, sat in his seat in the massive classroom of Geiger Hall, home of the Amphibious Warfare School on Marine Corps Base Quantico, Virginia.[1231] Geiger Hall sat on a wooded hill, relatively isolated from the rest of the base office buildings and Marine Corps schools. The faculty and students were happy to have their own little world focused on tactics and winning wars, apart from all the mundane problems involving budgets, administration, and doctrine being dealt with on a daily basis elsewhere on the base. The classroom was filled with long tables behind which the 250 student officers sat, making it a multipurpose space, suitable for anything from lectures to examinations. Little did Valentin and his peers suspect, they were about to experience both.

This was the first day of the Tactics block of instruction, which would focus on battalion-level operations. The Head of Tactics, Lieutenant Colonel Michael Wyly, was known to be a decorated combat veteran. The students had also been told by the majors leading their small group seminars, that "He was different. You guys are going to enjoy him," but the sarcastic tone with which this was communicated led them to believe it meant "This guy is a little odd."[1232] The students had also been given a reading assignment the night before, which was itself unusual. Valentin had been confused by the reading, which had something to do with a battle between the Germans and French, with the Germans somehow winning even though there was no real fight. It didn't seem pertinent to their previous discussions in tactics, which related to the ranges of artillery and other fire support systems an infantry unit might need to call upon, and

[1231] John Valentin, interview by Shawn P. Callahan, 9 July 2019, digital recording. Oral Histories Collection, Marine Corps Archives, History Division, Marine Corps University, Quantico, Virginia.
[1232] Valentin, interview.

how to request that support.[1233] In combination, these clues gave Valentin and his classmates further reason to suspect something out of the ordinary might happen. If they did, they surely had no idea how right they were.

The first indication was the music playing over the room's speakers. Valentin and his classmates were used to hearing country western music or a hard rock music piped in as they filed to their seats, personally selected by the major in charge of that lesson. The instructor would eventually stop the music and start the class, often with some sort of off-color joke, before launching into a prosaic lecture on some sort of encyclopedic knowledge or procedure to be learned. On this day, however, classical music was playing. Valentin and his peers assumed this was some sort novel joke.

At the appointed time for class to begin a lieutenant colonel equipped with a log wooden pointer (who they correctly suspected to be Wyly) marched from the back of the room down the center aisle. Positioning himself in front of the class, he made a quick signal, the music abruptly stopped and some enlisted Marines, administrative assistants assigned to the school who were waiting at the rear of the room, sprang into action. These Marines began handing out a single sheet of paper to each captain. Some of the students surely suspected by this point that they were about to get a surprise quiz on the previous night's reading assignment. Again, they had no idea how right they were.

Before the captains had time to read the single paragraph printed at the top of the page, Wyly began a disquisition on the classical music piece they had just heard, emphasizing the crescendo and the harmonization of different instruments. Lost, Valentine read the paragraph on his paper, which presented a tactical problem based on an encounter between some Germans and

[1233] Valentin, interview.

come French, and required him to explain how crescendo and harmonization applied to that problem. Valentin later recalled, "And I have not the slightest idea of what he is talking about, or what he wants."[1234] It defied comprehension that there could be some connection between classic music and the reading, let alone with tactics, the essence of fighting and winning battles. He did his best to put down something the instructor might find acceptable, though he had no idea what that might be. After a few minutes the essays were collected (they would get them back with Wyly's comments later), and Wyly launched into his tactics lecture, most likely "Lecture I: Surfaces and Gaps" that later appeared in William S. Lind's *Maneuver Warfare Handbook*. The content of the lecture is unclear because all Valentin remembers taking away from the experience was the idea that it was foolhardy to engage in a frontal attack, rather than trying to hit the enemy in a place where he doesn't expect to be attacked, and is therefore not prepared to defend.[1235]

It is likely that some of the student officers were excited to learn more from an officer who could make connections between classical music and combat, and argue for an alternative to costly assaults on enemy strongpoints. These are the types that would likely find themselves in Lind's after-hours maneuver warfare seminar a few weeks later. Certainly, there were many officers who had decided, before he ever entered the classroom, that Wyly didn't fit the mold of a senior officer they should be learning anything from. Certainly others saw his unconventional approach to teaching and strange ideas as further evidence he had little to say that was worth listening to. Probably most, like Valentin, were in the middle, so off balance from Wyly's strange methods and novel ideas that it took time to recognize that these might be sound new ideas for tactics, and not see they represented an entirely bold new approach to fighting until

[1234] Valentin, interview.
[1235] Valentin, interview.

those ideas became Marine Corps doctrine in 1989. These officers, like Valentin, were generally unaware of the debate over maneuver warfare that had begun in the pages of the *Marine Corps Gazette* the previous year, and in most cases would remain on the sidelines of that debate until the publication of Fleet Marine Force Manual-1, *Warfighting*, made maneuver warfare an unavoidable truth in their professional lives.[1236]

The story of Captain John Valentin's introduction to Lieutenant Colonel Wyly and the new concepts of maneuver warfare illustrates what a jarring and dissonant experience it could be to encounter the maneuver warfare movement. The advocates of maneuver warfare understood themselves to be the promoters of revolutionary ideas trying to create revolutionary changes, and some took revolutionary actions to do so. As with any radical change, there were tensions and reactions. This chapter is about the ideas and attitudes of the Marines who were contesting the established ways, and also those who rejected the new approach. As chapters 4 through 7 focused on the interests and contributions of John Boyd and William S. Lind, this one focuses on the interests and contributions of Marines, but not the Marine Corps. It is about individual motives and efforts, or those taken by individual initiative within the scope of one's job, not officially sanctioned, deliberate efforts. Because these were not official efforts by the Marine Corps as an organization, but rather the collective efforts of individual Marines to remake the Marine Corps into a better fighting organization, to reform it, they constituted a reform movement geared around the central concept of a new way of fighting: the Marine maneuver warfare movement. As with political, social, and intellectual movements, the efforts of these Marines were not carefully planned, centrally organized, or cohesively bonded by a precise agenda. As with these other forms of movements, the leaders, such as they were, were not

[1236] Valentin, interview.

imbued with formal authority to lead, and as such their own ideas, agendas, and efforts did not directly translate to those of the larger group. As with these other forms of movements, it is necessary to examine the individual ideas, agendas, and efforts of the many constituents to understand the larger, albeit amorphous whole.

**Professional Activism as a Military Movement**

The first historical treatment to describe the professional reform efforts in the Marine Corps in the 1980s as a movement was Grant Hammond in *The Mind of War: John Boyd and American Security* (2001), where he wrote,

> …the Marine Corps adopted maneuver warfare in its Fleet Marine Force Manual (FMFM-1: Warfighting) document of March 1989. What had started out as Friday-night discussions at Bill Lind's townhouse in Alexandria and was leavened with Wednesday night meetings at the officer's [sic] club At Fort Meyers (which continue to this day among Boyd followers) became a movement. More formal aspects included lectures at tactics courses and war colleges and briefings on "Patterns of Conflict" shopped around town endlessly to anyone who was interested. All created a torrent of interest. Suddenly, hundreds of people—politicians, journalists, military officers, scholars—became interested in this thing called maneuver warfare, the concept of an OODA loop or Boyd cycle, and continued discussion of what it meant for the American military.[1237]

Hammond's depiction, rife with inaccuracies, is most flawed because it keeps Boyd and his ideas as a central motive force, but it does introduce the idea that this effort constituted a broad movement. The first person to actually use the term "maneuver warfare movement" was one of the leading reformers of the time, William S. Lind. In the book he co-wrote with Gary Hart in 1986 titled *America Can Win: The Case for Military Reform*, Lind explained the military reform movement, the subject of chapter 3, to the American public, and described the "movement for maneuver warfare" as an important subset.[1238] It must be noted that his use of

[1237] Grant T. Hammond, *The Mind of War: John Boyd and American Security* (Washington, D.C.: Smithsonian Books, 2001), 154.
[1238] Gary Hart, with William S. Lind, *America Can Win: The Case for Military Reform* (Bethesda, Maryland: Adler & Adler, 1986), 38.

these terms served to promote his agenda. Even if these were fair characterizations at the time, Lind's reform efforts also gained credibility by being able to claim they were part of a movement.

Since Hammond's first brief mention, the term "maneuver warfare movement" has become fairly routine in the full span of historical treatments focused on the subject of the U.S. Marine Corps and development of maneuver warfare, from Anthony Piscatelli's deeply flawed *The Marine Corps Way of War* to Ian Brown's insightful *A New Conception of War*.[1239] Describing change in the Marine Corps as the result of a movement is as powerful a tool for historians as it was for Lind and the maneuver warfare advocates at the time. It stresses the tension in a conflict of ideas and people, one that has assumed epic proportions in the historiography.[1240] Describing it as a movement also stresses the aspect of bottom-up pressure for change, and this can imply a heroic element where a mass of unempowered people acted for what they understood to be right, and took on the establishment to overturn the agenda of misguided authorities. It certainly is appropriate in the sense that individuals and small groups acted without official sanction, and according to their own agendas, sometimes contrary to official policy or the wishes of the Corps' leaders.

Such linguistic distinctions associated with the word "movement," however, are superficial. One historian has been more deliberate in employing the term in connection with Marine maneuver warfare advocacy. Ian Brown, in *A New Conception of War,* saw problems in

---

[1239] Terry Pierce, *Warfighting and Disruptive Technologies: Disguising Innovation* (New York: Frank Cass, 2004), 89-91; Anthony J. Piscitelli, *The Marine Corps Way of War: The Evolution of the U.S. Marine Corps from Attrition to Maneuver Warfare in the Post-Vietnam Era* (El Dorado Hills, CA: Savas Beatie, 2017), 121; Ian T. Brown, *A New Conception of War: John Boyd, the U.S. Marines, and Maneuver Warfare* (Quantico, VA: Marine Corps University Press, 2018), xxxiii, xxxviii, 44, 79, 107, 109, 166, 185, 187; and Daniel R. Grazier and William S. Lind, "Maneuver Warfare," *Marine Corps Gazette* 99, no. 4 (April 2015), 24.

[1240] Robert Coram, *Boyd: The Fighter Pilot Who Changed the Art of War* (Boston: Little, Brown and Company, 2002), 373-391.

earlier treatments created by employing simplistic models. While he agreed that the maneuver warfare movement was generally an example of "bottom-up military innovation," he also saw "the top-down model was not entirely absent," particularly with the support provided by senior leaders like General Gray.[1241] Though Brown did not explain his choice of the word "movement" as a better descriptor, it is clear that he saw it to be a more flexible concept for describing complex social phenomenon than neat models like "bottom-up" and "top-down."

The concept of organizational change being negotiated as part of a movement has other advantages. There is value in considering how the maneuver warfare movement may have been substantially similar to other movements which have gotten greater attention, such as the Progressive Movement, Civil Rights Movement, and Feminist Movement. Using "maneuver warfare movement" within this study is not meant to suggest any degree of equality with the societal importance of progressivism, the struggle against racism, or the importance of women's issues. Within the narrow military context, however, the promotion of maneuver warfare was just as broad and fundamentally radical as these others, and also complex because it was both diverse and at its core consistent with organizational values. The Civil Rights Movement, as an example, was a radical appeal to reenact the original societal ideals established by the American Revolution and enshrined in the Constitution, yet it was a struggle against white-supremacists who deeply-cherished those same fundamental values in their own way, but somehow conflated racial equality with threats to their own life, liberty, and pursuit of happiness. The maneuver warfare movement in the Marine Corps fundamentally rejected how the Corps was going about warfare and professionalism, even as its opponents would agree wholeheartedly with its deepest values about the importance of professionalism and combat effectiveness.

[1241] Brown, *A New Conception of War*, xxxiii.

This chapter, analyzing the conflict over maneuver warfare as a product of people with differing experiences and goals, of individual strategies which sometimes clashed, and of contested ideas which were interpreted in varying ways, doesn't really challenge the portrayal of the maneuver warfare movement as an unsanctioned effort to reform the Marine Corps. It does not overturn the narrative that much of the conflict was generational, that the ideas were understood to be radical, or even that some of the maneuver warfare advocates were acting on a heroic sense of duty that did involve risk, in the form of personal ostracization and professional marginalization in undesirable assignments and lost promotion opportunities. Focusing on this reform effort as a movement, however, shows how much more complex this process really was, and how inadequate simplistic models of reform and change can be. Rather than focusing on such questions as why and how the reformers overturned the establishment, analyzing this effort as a movement encourages thinking about the confluence of interests and ideas that developed into a reform effort, and about the people, ideas, and methods that divided them and threatened progress.

Through analyzing the maneuver warfare advocates and opponents, as well as their ideas and methods, this chapter will show, for example, that the maneuver warfare movement cannot be looked at as a simple example of generational conflict, even though many understood it that way at the time. Further, it will show that argument about whether maneuver warfare was the product of backward thinking about the last war or forward thinking about the next war are moot. The maneuver warfare advocates did both, though different individuals involved were affected by their past experiences and concerns about future war to different degrees and in different ways. Further, consistent with chapters 4 through 7, it will show that there were significant misconceptions about the origins of the concept of maneuver warfare that produced tensions, and

the way certain concepts were understood and explained exacerbated these problems. In some cases, the resistance revolved more around the personalities involved than the actual ideas, and the tactics used by the most aggressive maneuver advocates to influence the situation had a dramatic effect on how Marines perceived their arguments, and the degree to which they were willing to get involved.

**The Marine Maneuverists**

Before addressing the tensions within the Marine Corps over the adoption of maneuver warfare, it is instructive to consider which Marines were attracted to the new ideas, and became key agents in its development. To understand the interests and attitudes of the individual Marines who became involved with the maneuver warfare movement, it is important to consider their experiences. Vietnam War veterans figured prominently in the historiography, as most accounts either explicitly describe the maneuver warfare movement to be a reaction to the frustrating experience of the Vietnam War, or leave the reader to make that association based on the time when it occurred and the manner in which it fundamentally rejected firepower and body counts. Terry Terriff was first to challenge these assumptions in his 2006 *Journal of Strategic Studies* article "Innovate or Die: Organizational Culture and the Origins of Maneuver Warfare in the United States Marine Corps." Terriff analyzed the earliest discussion of maneuver warfare in the professional journal of Marine officers, the *Marine Corps Gazette*, and showed that the first rationale provided for the Marine Corps to adopt maneuver warfare was to make it effective in a future war against the numerically superior forces of the Warsaw Pact. This is a critical observation, as it establishes that the maneuver warfare movement was, at least in part, forward looking, anticipating the requirements of the next war. Chapter 4 has certainly showed that to be true: maneuver warfare was designed first and foremost to fight outnumbered and win against the

Warsaw Pact in Central Europe. That does not tell the whole story, however, of why many leading figures in the movement were veterans of the Vietnam War, and the motivations that won them over to that cause. These veterans' receptiveness towards new ideas was conditioned by their experiences in Vietnam. When they explained the need for and value of maneuver warfare, their experiences in Vietnam, and in a post-Vietnam Marine Corps tha was unable or unwilling to adapt, were their primary reference points.

The central figure of Chapters 4 and 6 was John Boyd, the man who the conventional narrative upholds as the originator of the concept of maneuver warfare. The central figure of Chapters 5 and 7 was William S. Lind, the person who first originated the concept of maneuver warfare, and was the most continuous presence in its development. This chapter, focusing on the involvement of individual Marines, lacks a central figure, but such an analysis appropriately begins with the Marine most closely involved with both Lind and Boyd, and who has been frequently cited as the most forward-thinking Marine with regards to maneuver warfare: Michael Wyly.[1242]

Michael Duncan Wyly was born in 1939 and grew up inspired to be Marine by his uncle, who served with distinction in World War I. He enlisted in 1957, but had already submitted an application to the United States Naval Academy, and was accepted there shortly afterwards. Graduating in 1962 he was commissioned as a second lieutenant of Marines, and became an infantry officer. After a tour in Okinawa, he was assigned as an instructor in counterguerrilla warfare at Camp Pendleton, California, the home of the 1st Marine Division. After receiving intensive training at the U.S. Army's John F. Kennedy School, Wyly retuned to the school both knowledgeable and passionate about the subject. He was an imaginative instructor, going so far

[1242] Coram, 373.

as to pose as a communist guerilla warfare expert to talk to his students about their techniques. Complete with costume and fake accent, many were later surprised to learn that he was actually a U.S. Marine officer.

Wyly's first tour in Vietnam began in 1965, where he was assigned as a counterguerrilla expert. Wyly found the routine infantry training regimen in the Marine Corps had not prepared him well for what he would face in Vietnam. In fact, he saw the Marine Corps focus on linear tactics, firepower, and combined arms to be a liability, for in Vietnam "your typical Battalion Commander or Regimental commander in Vietnam…knew the emphasis was on body count...that the kills were what it was all about."[1243] Wyly insisted "Tactics in Vietnam had to be practiced differently than our doctrine (vintage 1940s and 1950s) indicated… It was vividly clear when I served my second tour there as a company commander in 1969."[1244]

While Wyly's first experience in Vietnam was in counterinsurgency, his second was in command of a more conventional unit. Wyly joined 1st Battalion, 5th Marines in March 1969, commanding a company during a period of intense patrolling in Quang Nam province. In a 1990 article in the *Marine Corps Gazette*, Wyly elaborated on what he learned in Vietnam during that second tour: "we were doing things differently than we had done them before… we had already begun practicing light infantry or *Jaeger* tactics, which are a form of maneuver warfare…"[1245] He believed this change as a result of adaptation occurring at the grassroots level, within squads, platoons and companies in country. Wyly saw the adversary was using fluid tactics, leading to a "gradual abandonment of formation fighting on both sides"[1246] as "junior Marines quickly put

[1243] Michael Wyly, interview by Linda Magleby. Tape recording. Quantico, VA, July 3, 1996. Oral and Video History Section, History Division, Marine Corps University, Quantico, VA. Page 2 of transcript.
[1244] Michael D. Wyly, "Light Infantry and Vietnam: Why Generals Need to Study Tactics," *Marine Corps Gazette* 74, no. 6 (June 1990), 56.
[1245] Wyly, "Light Infantry," 56.
[1246] Wyly, "Light Infantry," 56.

aside the 'three phases of the attack,' 'lines of departure,' 'two up and one back,' the 'FEBA (forward edge of the battle area),' and 'linear defense,' that had been taught in Quantico." While "Artillery support helped us at times…there were also many times it was only counterproductive, alienating people we sought to befriend or only signaling to the enemy that we were coming. Thus we became light infantry by default."[1247] Wyly saw his second tour as a war of ambushes. The enemy had resorted to these tactics to evade traditional American maneuvers by large units, and the Marines learned to respond in kind, stalking and ambushing an adversary who had proven adept at escaping decisive contact. Wyly saw that while a Marine's training had "taught him to defend on forward slopes and seek to engage the enemy at long range, he learned to do the opposite. He elaborated, "The Vietnam infantryman typically was unfamiliar with the term 'reverse slope defense,' but he learned to practice it. He called it an ambush, which is what a reverse slope defense really is…" for "…good ambushes caught the enemy by surprise, engaging him up close. This is the principle of the reverse slope. This is how the hunter hunts."[1248] More so than the actual tactical lessons, Wyly came to appreciate that this second tour in Vietnam taught him how important it was to allow a unit to be flexible and creative in its tactics—this was the proper way to respond to the battlefield dynamic of a thinking and adapting adversary, not remaining wedded to outdated doctrine.

Unfortunately, where Wyly grew from his experience in the war, his return to the United States again resulted in disappointment because the Marine Corps training he saw going on there did not seem to have changed in response to the war at all. Assigned as an instructor at The Basic School, where newly-commissioned lieutenants first learned about tactics, Wyly later recounted,

[1247] Wyly, "Light Infantry," 58.
[1248] Wyly, "Light Infantry," 57.

> the lesson plans I was using were precisely the same I'd been taught from before the Viet Nam War, where my teachers were, uh, Korean War veterans, not the Inchon 1950 part of Korea but, but veterans of the 1952-53 part of the war where it'd stalemated into a linear kind of a set-piece reminiscent of World War I. These were, were the, the veterans that taught me. So here I am after Viet Nam, after having gone to war twice, and observed pretty clearly that what we were doing was not what we'd been set up to do. And, and Marines were pretty good about adapting on the battlefield and learning, although a lot of it was learning the hard way…[1249]

Wyly, like many Marines, was also shocked by the fall of South Vietnam to the communists when that time finally came in 1975. In Wyly's mind, the U.S. had just lost its first war, and he felt compelled to find out why. He became a student of history, enrolling in a Master's program at George Washington University. Wyly had demonstrated unconventional thinking prior to this point, but in the aftermath of the war in the late 1970's, and as he was being forced to teach tactics that he knew did not work, he decided that he would start doing things his own way, regardless of the career consequences, as long as he thought the end result would be better. Wyly began writing articles challenging the conventional wisdom in the *Marine Corps Gazette*, and at some point he came to the notice of Major General Bernard Trainor, the general in charge of the Education Center. Trainor arranged for Wyly to be reassigned to the Amphibious Warfare School where he could inject some new ideas.

Wyly, now a lieutenant colonel in charge of tactics instruction, began making changes right away. He read one of the lesson plans on offensive tactics, which mentioned "Offensive operations such as Napoleon used at Austerlitz." Wanting to know why this example was invoked, he went to the officer who had taught the lesson for the previous three years and asked about it. Wyly learned that the idea had been inserted in the lecture at some earlier date, and though his predecessor had known nothing about the battle, he did nothing to change the lecture.

[1249] Wyly, interview, 3-4.

Wyly studied the battle, then decided to throw the whole lesson plan away so he could lecture for two hours on the Battle of Austerlitz.[1250]

Trainor ordered Wyly to get in contact with William S. Lind, most likely as a way of demonstrating to Lind that AWS was making progress, and was not as backward as Lind had been claiming. The two quickly learned that they saw many things the same way, leading to their collaboration at AWS as was detailed in Chapter 7. Their association also brought Wyly into contact with Boyd, who became a close intellectual mentor. In time, Wyly became known as one of Boyd's six Acolytles, the men who were most actively involved with Boyd on his intellectual journey. Wyly and Boyd had a much closer relationship then Lind would have with either man. If Boyd had a great impact on the maneuver warfare movement, it was indirectly, through shaping Wyly's thinking about war, more than it was in providing specific ideas such as OODA to the maneuver warfare movement. It was Wyly who took Lind's ideas and Boyd's ideas, and filtered them through his own combat experience to teach captains a different way of thinking about tactics. It was this effort which produced not only the critical appendices for Lind's *Maneuver Warfare Handbook*, but also a core of AWS graduates who were prepared to then experiment with the new ideas in the field, in units such as the 2d Marine Division.

Another officer who would become associated with maneuver warfare, though not nearly to the same degree as Wyly, was Anthony Zinni, whose career began as a second lieutenant in 1965 just as Wyly was first deploying to Vietnam, and ended 35 years later as a four-star general in theater command. Like Wyly, Zinni experienced the Vietnam War as a company grade officer. Like Wyly, Zinni was initially focused on the "other war," the counterinsurgency, in his case as an advisor to the South Vietnamese Marine Corps from March through December 1967.

[1250] Wyly interview, 4.

Like Wyly, he returned later in a more conventional role, as a company commander in 1st Battalion, 5th Marines in 1970. Both tours ended with medical evacuations. In the scholarship Zinni is not widely identified as an aggressive advocate of maneuver warfare, but he did become a key figure in the movement. Zinni was apparently regarded as a skeptic of maneuver warfare for some time, but as a regimental commander on Okinawa from 1987 to 1989 Zinni established and personally led a training program for all his officers to develop them as maneuverist thinkers. This "officers' school" shaped the thinking of hundreds of leaders who rotated through his regiment. Over this period Zinni also traveled to Quantico several times in support of Commandant General Gray's initiatives, and in 1989 he was transferred to Quantico on a permanent basis to serve as Chief of Staff of the Marine Corps Air-Ground Training and Education Center.[1251] Zinni's tour began with a lecture sharing his thoughts on training with the officers leading Quantico's training establishment, and it revealed much about his experiences in Vietnam and how they drew him to the maneuverists' reforms..

Zinni's 1989 discussion shows that while he remained dismissive of the more abstract elements of maneuver warfare, much of what the maneuverists called for was common-sense and was better explained in those terms. As he later explained, the new ideas "challenged an entire organizational culture which didn't take easily to its subtlety and intellectual sophistication."[1252] Zinni's personal narrative, which he shared in his talk to the officers of Quantico, is remarkably consistent with Wyly's. As he would later explain, the neat and orderly instruction he had received in tactics as a lieutenant in Quantico in 1965 did not prepare him for combat in Vietnam. In Quantico he had been trained in controlled conditions, such as the live fire squad

[1251] Tom Clancy, with Tony Zinni and Tony Klotz, *Battle Ready* (New York: G.P. Putnam & Sons, 2004), 155-156, 160.
[1252] Clancy, et al., 146.

attack exercise which was conducted in very open terrain, earning it the satirical nickname "Squad on the Golf Course." He later explained, "The first firefight in Vietnam, I was in vegetation this thick [placing his hand in front of his face]. I can see one of my Marines here, one of my Marines there—nobody else." Zinni admitted that his training had to start with the basics, but decried that they never approached the types of decisions he would later face in combat, continuing, "...Why do I have to do my graduate work in Vietnam? …Shouldn't there be something that kind of gets me into jungle fighting…the real way it is?"[1253] Even more frustrating to Zinni, like Wyly, was that upon returning to the U.S. he found the training of new lieutenants to be unimaginative, inflexible, unrealistic, and, incredibly, unchanged. As he saw it, even in 1989, more than a decade later, lieutenants were still training in exercises that were not teaching them to be flexible tacticians, such as continuing to practice assaults across open space. Likening the post-Vietnam Marine Corps to the British army after World War I, Zinni said the attitude in Quantico was, "Thank God the war is over. We can get back to real soldiering—the way we do it in Quantico! …It's not reality—it doesn't reflect reality."[1254] Speaking in Quantico years later, Zinni decried, "This place taught me, and all the exercises that I was ever on, that the battlefield is linear… My humble experience in Vietnam, it's a nonlinear battlefield."[1255]

Wyly and Zinni were both frustrated by the lack of change in the Marine Corps in response to the Vietnam War. Wyly believed a root cause was that senior officers did not perceive the need for change because they experienced the war in a different way. In a *Marine Corps Gazette* article he explained that the Vietnam War was fought by two different Marine

[1253] Anthony Zinni, "Combat Concepts," presentation, videotape recording. Quantico, VA, July 1989. Marine Corps Archives.
[1254] Zinni, "Combat Concepts."
[1255] Zinni, "Combat Concepts."

Corps. One was the adaptive Corps of patrolling squads and platoons lead by sergeants and lieutenants under the supervision of the captains who commanded companies. The other was the Corps of battalion commanders, regimental commanders, generals, and rear echelon personnel who didn't share this experience, and saw the war very differently. This wasn't simply the age-old accusation that commanders were out of touch because they occupied palatial headquarters (though Wyly did make that charge). It was also because their assignment to echelons of command above the company level meant they experienced the war in a different way. Even the more austere forward battalion command posts, having a larger footprint, were less mobile than rifle companies, and as a result "sought high ground and ordered rifle companies to surround them with FEBAs [linear defenses] on forward slopes to protect them."[1256] Wyly saw that they missed out on the more fluid and dynamic style of fighting the younger officers came to appreciate, and this had a lot to do with their attitudes towards change after the war, stating,

> The fact that change was less prevalent among the battalion-level officers, who would represent the Corps' senior leadership in the 1970s and 1980s, had more to do with the way the war was fought than with the officers themselves. It was a squad leader's and platoon leader's war… the notion of fluid warfare, though practiced in Vietnam, did not excite senior officers sufficiently to cause them to initiate a new doctrine following the war.[1257]

Wyly's observation about senior officers in Vietnam becoming opponents to maneuver warfare seems reasonable when one considers the man who was leading the Marine Corps at the time. At the peak of the most overt resistance to maneuver warfare initiatives between 1983 and 1987, the commandant was General P.X. Kelley, who had served in Vietnam as an infantry battalion commander from 1965 to 1967 and as a regimental commandeer from 1970 to 1971. This suggests he was among the group that Wyly considered wedded to body counts and linear tactics.

[1256] Wyly, "Light Infantry," 57.
[1257] Wyly, "Light Infantry," 57.

However, there were some officers who served in Vietnam in similar capacities who defied this characterization, such as Lieutenant General Bernard Trainor.

Bernard E. Trainor enlisted in the Marine Corps in 1947, then studied History at Holy Cross University and earned a commission in 1951. He served as an infantry platoon commander in the Korean War, and in some unremarkable follow-on assignments for an infantry officer, though for a time in 1958 and 1959 he did have the opportunity to become an exchange officer to the British Royal Marine Commandos, where he commanded one of their companies. Early on, Trainor showed uncommon attitudes towards the profession and education. In June 1962, a time when President John F. Kennedy was turning the U.S. military towards unconventional operations, and many officers resisted the expected atrophy of conventional capabilities that would entail, Captain Trainor wrote an opinion piece for the Marine Corps Gazette that approached the problem a different way. Trainor didn't question the need for a "counter-guerilla" focus, but cautioned his fellow Marine leaders on how they were going about it, by simply providing special training to Marines that might miss the larger picture. Showing strong insights into recent history by contrasting the British experience in Malaya with the French efforts in Algeria, Trainor explained that it was critical for officers to understand the nature of guerilla warfare, and prepare to operate in close coordination with the other military services and civil authorities, replacing "cloistered study" with interaction with civilian experts, including from other nations. Anticipating some of Lind's argument by more than a decade, Trainor saw a key component being self-study, "professional reading and the libraries [that] simply bulge with material" going back as far as Sun Tzu's *The Art of War*. Trainor argued that in addition to the efforts of individual Marines, such study should be assisted by formal schools,

the *Gazette*, and local commands.[1258] Trainor's article demonstrates that he was not a reactionary resisting the rising importance of irregular operations, but a progressive who saw intellectual development to be a critical prerequisite to success.

The idea that Trainor was a professional progressive is reinforced by an article he wrote two years later, likely while he was a major studying at the Command and Staff College. Trainor rejected recent claims in the *Gazette* that Marine traditions were suffering because Marines were unfamiliar with their own history. Trainor's counterargument was that by paying homage to dead traditions, the Marine Corps was in danger of repeating the failures that brought Prussia to defeat at the hands of Napoleon in 1807, just one example that "History is replete with examples of armies and states becoming so steeped in tradition as to become moribund. Constipation of the brain takes place in an overly traditionalized atmosphere."[1259] Trainor made a passing jab at the *Gazette* for the lack of controversial debate in its pages over substantive issues, but most significant to this chapter is his emphasis on instilling a living tradition of "confidence in and obedience to authority" for it shows just how pervasive a cultural force obedience and authority were at this time.[1260] Forecasting one of the central tensions within the Marine Corps about maneuver warfare in the 1980s, even one of the most progressive, outward-oriented thinkers in the officer corps considered it the vital essence that brought the Marine Corps cohesion and success.

Major Trainor's studies at the Command and Staff College beginning in 1964 were the start of an unusual career path. For the next seven years he would alternate between academic assignments and combat tours, a highly concentrated period alternating between abstraction and

[1258] B.E. Trainor, "Best Mousetrap Won't Always Do; You Need Strategy, Study, Skill," *Marine Corps Gazette* 46, no. 6 (June 1962), 58.
[1259] Trainor, "Best Mousetrap Won't Always Do," 58.
[1260] B. E. Trainor "Traditions Are Alive," *Marine Corps Gazette* 48, no. 12 (December 1964), 48.

application in the middle of his career, when an officer matures from a tactical focus to thinking about larger problems. His next assignment was to Vietnam as an advisor to a Vietnamese special operations group, capitalizing on his experience with the Royal Marines. Trainor had experienced the Korean War in a conventional role, but now, like Wyly and Zinni, his first exposure to the war in Vietnam was in an unconventional, advisory capacity. Following this, he returned to Quantico as a lieutenant colonel for three years on the faculty of the Command and Staff College. This was followed by a year as a student at the U.S. Air Force's Air War College, where Trainor distinguished himself by earning the prize for the best paper dealing with political-military thought.

Trainor then received orders back to Vietnam, where he served first in command of an infantry battalion, 1st Battalion, 5th Marines (1/5). Trainor's time there was relatively short, less than three months, before he was plucked from his battalion by his Division Commander to take command of the 1st Reconnaissance Battalion, a critical asset as his primary means of finding where the enemy was for operations based on locating and destroying enemy forces. Even in his short time in command of 1/5 he distinguished himself to his subordinates and superiors. Captain Anthony Zinni was one of his company commanders, and was clearly impressed during this period, later recalling Trainor to be "one of the smartest officers the Corps has ever produced" who demonstrated "tactical skill and genius many times while I was with the battalion."[1261]

Trainor's next tour after Vietnam took him to Headquarters Marine Corps, where he was responsible for planning. This gave him a vantage point for seeing how Marine units were prepared for and sent on worldwide deployments. From 1974 through 1978 Trainor served in

[1261] Clancy, et al., 146.

key leadership roles in recruiting and recruit training, addressing the manpower problems plaguing the Marine Corps as it tried to adapt to the post-Vietnam All-Volunteer Force. Promoted to Brigadier General during this time, Trainor was a key agent in what he would later come to call the *Personnel Campaign 1973-77*, identifying the root causes of systemic problems, many of which required challenging fundamentally false assumptions, and engineering solutions.[1262] General Trainor's next assignment, as the Director of the Education Center in Quantico, brought him back closer to the problems associated with how Marines thought about war and fought.

When Brigadier General Trainor took over the Education Center in 1978, it was one of two major commands subordinate to the Marine Corps Development and Education Command in Quantico, Virginia. As such, it was part of long tradition of the Marine Corps Schools in Quantico doing more than just providing education. As Trainor himself described in a 1976 *Gazette* article he wrote while on the faculty of the Command and Staff College, since the 1920s the Schools had assisted Headquarters Marine Crops by developing new doctrinal ideas for amphibious warfare, counterinsurgency, and later, heliborne operations. In essence, they were shifting between the dual roles of instruction and research as the times required. The common thread was the development of a new shared understanding of problems, and visualizing solutions the Marine Corps should adopt, ultimately encoding those ideas in doctrine. As time went on, the advancement of technology increased the complexity of the problems being considered and the solutions devised. Consequently, in 1950 the effort was divided between two commands in a symbiotic relationship which made the development of doctrine a mutual effort. In Trainor's words, "The planning of the Development Center serves as a stimulant for

[1262] B.E. Trainor, "The personnel campaign is no longer in doubt," *Marine Corps Gazette* 62, no. 1 (January 1978), 22-38.

progressive thinking in the classroom; and the classrooms of the Educational Center in turn, refine doctrinal concepts and emphasize the realities and requirements of present day operations."[1263] Trainor took the reins of the Education Center as its sister command, the Development Center, was taken over by Brigadier General Alfred M. Gray, Jr. Gray's Development Center had begun monitoring and analyzing the experimentation of the Mechanized Task Force in Twentynine Palms, which chapter 5 explained was the initial crucible for experimentation with Lind's ideas on maneuver doctrine. Learning from the Development Center's analysis, the Education Center began teaching that the tank battalion could be a maneuver element rather than just a supporting element for infantry, published a new handbook on mechanized combined arms task forces, and integrated information on mechanized threats into its instructional material. By the end of Trainor's time at the Head of Education Center in 1980, he was quoted as saying, "the mechanized combined arms operation was the direction of the future."[1264]

Trainor remained one of the lesser-known senior officers who played an important role in promoting maneuver warfare. As the Director of the Marine Corps Education Center from 1978 to 1981, Trainor is the officer who recognized that the Amphibious Warfare School was in need of an injection of new ideas about tactics. He then identified Lieutenant Colonel Michael Wyly as an officer whose passions and talents made him ideal to take over as Head of Tactics there. Not only did Trainor arrange for Wyly to fill that position, he may also have put Wyly in contact with William S. Lind, though at the time it was probably because he thought Wyly's new ideas would placate the criticism of the Congressional aide, not because he expected Wyly to

[1263] B.E. Trainor, "School for Doctrine," *Marine Corps Gazette* 51, no. 11 (November 1967), 68.
[1264] Dixon B. Garner, "Armor Symposium 1980-an overview," *Marine Corps Gazette* 64, no. 7 (July 1980), 29.

collaborate with Lind. This is consistent with Trainor's attitudes towards maneuver warfare when Lind first started publishing those ideas the following year.

An important source for establishing Trainor's attitudes at the start of the maneuver warfare movement is his December 1980 *Marine Corps Gazette* article, "New thoughts on war." This article has gotten very little attention in the existing scholarship.[1265] It shows that at the end of 1980 Trainor and Lind shared their diagnosis of a key problem. In June 1979 Lind had observed that efforts to pursue mechanization were handicapped because Marines didn't understand the concept of maneuver warfare, a problem he sought to rectify in his March 1980 "Defining maneuver warfare for the Marine Corps." Nine months later Trainor wrote of the Corps' concentration on organizations, tactics, and hardware, that, "An important ingredient, however, frequently has been missing from these discussions, i.e., the fundamental principles and guidelines upon which the use of hardware, units, and tactics should be predicated."[1266] In addition to agreeing on the need for an undergirding concept, Trainor agreed that an attritional approach was no way to deal with the challenge of fighting outnumbered, and winning. He continued,

> It is probable that in a head-on fight the larger contestant will be the winner by virtue of greater staying power, a fairly predictable outcome in the calculus of attrition. This should be a matter of concern to Marines if they are likely to be smaller than any opponent encountered. It follows, therefore, that the last things Marines should seek is a battle of attrition. Even in victory, the cost may be prohibitive.[1267]

Trainor's answer, however, while showing similarities to Boyd's and Lind's thinking, did not mention either of those men, or the recently-defined concept of maneuver warfare. Instead, Trainor argued,

---

[1265] Brown, *A New Conception of War*, 127,141 points out similarities with Boyd's ideas in this article, while noting Trainor's commitment to destruction.
[1266] B. E. Trainor, "New thoughts on war," *Marine Corps Gazette* 64, no. 12 (December 1980), 49.
[1267] Trainor, New thoughts on war," 49.

> To avoid attrition, the basic "principle" of our operations should be that of the "initiative." The corollary has the opponent always reacting to our actions. In this way, a smaller force offsets the strength of the larger force. It puts the enemy off balance and keeps him that way. Indeed, it turns the strength of the larger force into a weakness by converting size into a cumbersome burden. In a sequence of actions, the imbalance increases geometrically until the enemy finds himself incapable of mentally or physically reacting with any semblance of cohesion or effectiveness. At some point in the process of deterioration, the fatal blow can be delivered against the enemy.[1268]

The concept of the initiative, controlling the pace of a fight and acting in ways that pre-empt the enemy and force him to react instead of choosing his own action, was not argued as a central concept of maneuver warfare by either Lind or Boyd. The text above, however, makes it clear that it was another way of expressing the essence of what made maneuver warfare work. Virtually ignoring the definition and explanation that Lind had already interjected into the *Gazette* discourse, Trainor argued that a commander could gain and maintain the initiative by becoming the master of six "Factors of Modern Warfare": Intelligence, Electronics, Maneuver, Combined Arms, Flexible Logistics, and Command, Control, and Communications.[1269] Trainor's elaboration on maneuver shows that he was thinking generally in spatial terms. Defining it as "physically disposing the enemy at a disadvantage to himself and advantage to us," Trainor believed that Combined Arms was the decisive factor. Combined arms, he wrote,

> constitutes the capability to destroy the enemy for destroy him we must. While it has been emphasized that a battle of attrition should be avoided, battle itself must be sought, because war is a killing game, not a chess game. Intelligence, electronics, and maneuver will not break the enemy's will to resist; only physical punishment will do that. It follows, therefore, that the previous factors constitute capabilities which will allow us to deliver punishment at the decisive time and place.[1270]

Although Trainor appreciated the importance of tempo and attacking an enemy's ability to act in a cohesive way, he was still stuck in a paradigm that Lind had rejected in 1976, and

[1268] Trainor, "New thoughts on war," 49.
[1269] Trainor, "New thoughts on war," 50-51.
[1270] Trainor, "New thoughts on war," 50-51.

Boyd had rejected in 1977, because Trainor still believed maneuver should serve firepower, rather than firepower contributing to the success of decisive maneuver.

This article is significant for several reasons. First, it shows how difficult the concept of maneuver warfare was to grasp. Here, a talented and like-minded officer proposed that the antidote to attrition warfare was seizing and maintaining the initiative to "fight a war of maneuver" that would defeat the enemy's will through the destructive power of combined arms. It is hard to imagine someone understanding the central mechanism of maneuver warfare better than this, while still missing the main point—maneuver was the decisive complement of destruction, not the servant of it. This would remain a fundamental obstacle for Marines, with such a strong culture of decisive assault, to overcome in the long term. Such response to Lind's first conceptual articles in the *Gazette* shows the seeds of differences that would become fundamental points of misunderstanding and disagreement in the maneuver warfare movement. This article also shows how some, even senior officers, perceived the same problems in the Marine Corps, and were beginning to think along the same lines, and how difficult it was to fundamentally define the overarching concept. It is also significant because it was written by the Major General in charge of the Education Center, where doctrine was developed. This is the closest the Marine Corps would come to an answer to Lind's proposals in the pages of the Gazette. Indeed, this was the only article written on the topic by a general officer until maneuver warfare finally became doctrine in 1989, and this lack of involvement of senior officers in the debate is something, it will be shown, more junior participants decried.

Perhaps because of his uncommon intellect and education, and his experience dealing with systemic problems, after completing a three-year tour at the head of the Education Center, in April 1981 Trainor was transferred to Headquarters, Marine Corps to serve within, and

ultimately lead, the Plans, Policy, and Operations Department. These were the portions of the commandant's staff responsible for coordinating the readiness, deployment, and employment of Marine units in support of military operations in various theaters worldwide. Trainor served there for the last four years of his career, before retiring as a lieutenant general in 1985. This job empowered Trainor in many ways, but it was not to challenge the Commandant's stated policies or the Corps' fundamental doctrine; he was instead the key agent for enacting policy and doctrine by providing Marine forces to theater commanders for their operations. Though this limited his engagement in the maneuver warfare movement, analysis of the discourse in the *Gazette*, provided later in this chapter, will show that Trainor was one of the rare senior officers who actually engaged in the dialog, and came around to the new ideas.

Trainor, then, can be considered one of those senior officers who was initially skeptical of Lind and ideas about maneuver warfare, but eventually came around to them, even if he never identified himself as a maneuver warfare advocate, or a member of the maneuver warfare movement. After his military retirement in 1985 he came to distinction as a military correspondent for the *New York Times*, Director of the National Security Program at Harvard University's John F. Kennedy School of Government, a Senior Fellow at the Council on Foreign Relations, and his analysis on television news programs and books about the U.S. wars with Iraq in 1991 and 2003.[1271] Part of the reason Trainor never became known as an advocate of maneuver warfare is probably because he never led a field unit after his battalion commands in Vietnam. While he made exceptional contributions in staff roles, after becoming aware of the new ideas Trainor never commanded of a unit where he could actually experiment with and implement the new concepts. He had no opportunity to personally experience maneuver warfare,

[1271] Trainor coauthored three books with Michael Gordon.

or promote it on this basis. This was not the case with the Marine who became known as the most senior advocate of maneuver warfare in the Marine Corps, the "product champion" in models of innovation: General Alfred M. Gray, Jr.

Alfred M. Gray, Jr. was a contemporary of John Boyd, being born at the start of the Great Depression, and coming of age as World War II came to a close. He enlisted in the Corps, and earned the rank of sergeant in two years while serving as a reconnaissance Marine. Gray was commissioned in 1952, and served as an artillery officer, though much of his career was spent in signals intelligence. Gray's experience in Vietnam defies simple characterization, in part because he was involved in the Vietnam War almost from its start as a captain in 1964 until its last moments as a colonel in 1975. His diverse pre-war assignments in reconnaissance, communications, intelligence, and artillery created opportunities to experience the war in Vietnam in many different forms. On the one extreme he managed a covert signals intelligence campaign, and on the other, as a more senior officer, he coordinated a sustained artillery duel fought across the Demilitarized Zone, the closest thing to a linear battlefield that existed at the time. Every significant operation Gray planned or lead was marked by a deception plan, and the constant effort he devoted to getting inside his adversary's mind was appreciated as a valuable resource by the highest Marine commands in Vietnam. He was routinely summoned to brief the intelligence situation to headquarters one or two levels up, including at the Marine Amphibious Force headquarters running the war in the I Corps Tactical Zone. Gray seemed to understand every aspect of the conflict as a dynamic contest of move-countermove, be that in leading the intelligence contest, a massive artillery duel, or an amphibious task force executing the final withdrawal from Vietnam in a rapidly deteriorating situation. He later summarized the tactical lessons learned from all this by emphasizing the importance of cunning. Gray observed,

> …the best guerilla fighters were from the east side of Chicago, ...they grew up looking around all the time, for the cops and all that...they never stepped on the booby traps and all that. You know who did that? It was the blond-haired guys, five foot ten, 182 pounds, high school football players from East Cupcake, Nebraska. They are the ones who blundered into the booby traps.[1272]

Gray saw success in any battle to be a function of distinctly nonlinear activity, for it required the commander to "do the innovative, get inside his enemy's mind, think about what his intentions are, how he is going to react and outsmart him with initiative in the absence of orders from a senior command."[1273] Reflecting on this, when Gray rose to positions of greater authority in the 1980s, he insisted, "Above else we try to orient our training upon the cultivation of the attitude that the only thing certain on the battlefield will be the uncertain—the unexpected. We train them to expect to find no recipes or formula which will guarantee success in battle."[1274] These ideas undergirded the systemic reforms General Gray sought to make when he became Commandant of the Marine Corps in 1987, including the adoption of maneuver warfare as doctrine in FMFM-1, molding the professional military education system into a more rigorous experience for officers and enlisted Marines, and a new focus on warfighting in training.

Well before that, though, Gray was interested in new approaches to the problems the Marine Corps faced. As early as June 1976, when Lind first began trying to influence the military services from a new position of leverage as a congressional assistance, Lind recognized Brigadier General Gray as an officer receptive to new ideas.[1275] When Gray took over the Development Center in Quantico in 1978, he showed interest in mechanization, and became the

---

[1272] Alfred M. Gray, "Maneuver Warfare PME," presentation, videorecording, Washington, D.C., July 28, 2016, Army Multimedia & Visual Information Directorate, available at https://www.youtube.com/watch?v=PvU0nTickWo.
[1273] John C. Scharfen, "Tactics and Theory: Interview with Major General Alfred M. Gray, Jr. USMC," *Amphibious Warfare Review* 2, no. 1 (July 1984), 13.
[1274] Scharfen, "Tactics and Theory: Interview with Major General Alfred M. Gray, Jr. USMC," 12.
[1275] William S. Lind, Letter to Major General F.E. Haynes, Jr., June 9, 1976, William S. Lind Papers, Collection 4939, Box 6, No Folder. Marine Corps Archives. Quantico, Virginia, 2.

leading advocate for adopting the Light Armored Vehicle, a motorized reconnaissance vehicle meant to be a sort of modern cavalry screen for a Marine Division in high tempo operations. Gray's Development Center monitored the MTF exercises, and his advocacy of the LAV acquisitions program within the Marine Corps and within Congress brought repeated contact with Lind, who saw him as one of the few generals truly interested in new ideas and change. Gray also took an interest in Boyd's work, and took the time to sit through "Patterns of Conflict" more than once, and certainly no later than October 1980.

All of this occurred before the debate on maneuver warfare really got underway in 1981, and explains why General Gray was so well positioned to become the leading advocate of maneuver warfare within the Marine Corps in the 1980s. Certainly, his individual personality and career experiences uniquely prepared him to be receptive to the importance of a professional military intellect and interested in exploring alternative ways of fighting.

The preceding analysis of four Marine Corps officers is but a small sample of the larger group that got involved in the maneuver warfare movement, but it does reveal several things about the character of that movement. First, these officers each played different roles, though they were all respected combat veterans of the Vietnam War. Wyly was the educator who turned abstract new concepts into a new approach to fighting and command, fleshed out with techniques that could be taught and applied. Zinni was the pragmatic skeptic, ultimately won over when he saw that the new approach comported with what he had learned to be true in the jungles of Vietnam. Gray was the unconventional senior officer who embraced new ideas, maneuver warfare among them. Trainor was more representative of the senior officers in his skepticism about maneuver warfare, but was also open-minded and intelligent, and found himself promoting

change through his support of like-minded younger officers. This shows the diversity of interests and involvement that existed within the Marine maneuver warfare movement.

This analysis also shows that tensions over the new ideas behind maneuver warfare did not cleanly divide along generational lines. Though there may have been some correlation on how senior an officer was during the Vietnam War, and whether he fought at the platoon and company level, or instead served at a higher headquarters, there were notable exceptions. It is also important to acknowledge that it really doesn't matter to this story if the battalion and regimental commanders were fighting the wrong war. What is important is that the reformers believed this to be true. Perceptions of the Vietnam War had an important influence on the maneuver warfare movement within the Marine Corps in both obvious and indirect ways. How Marines experienced the war had a lot to do with their involvement in the reform movement. The reformers featured in this discussion all benefitted from unconventional experiences in Vietnam before taking command of line units. They also shared the realization that their training in Quantico did not prepare them well for the war they actually had to fight. Even more disturbing to them was the Corps' failure to adapt to its Vietnam experience afterwards. It is only natural that men with the credibility of combat experience would be leaders in the reform movement. They were both impelled by their experiences in Vietnam, and explained the need for change and the nature of that change by referencing those experiences. The maneuver warfare movement was indeed about the next war, but reformers insisted that the experiences of the last war in Vietnam were the best indicator that serious change was in order.

**The Professional Debate: General Trends**

All of the reformers introduced in this chapter were to lesser or greater degrees dissatisfied with the Marine Corps' organizational response to the Vietnam War, seeing it as

captured by concepts and practices ill-suited to the war it had been forced to fight. As a large, hierarchical organization, the U.S. Marine Corps managed its training and education efforts from the top down, and did not provide good mechanisms for broad open discussion about the problems the Corps faced, and how to remedy them. Younger officers like Wyly were occasionally able to implement radical new approaches when they were assigned to the right billets at the right time, such as when Wyly served as Head of Tactics at the Amphibious Warfare School. Without programmatic change, however, such efforts had limited impact, and ceased once that officer completed his tour of duty in that assignment.

There was, however, one forum for the exchange of ideas and a critical assessment of the Marine Corps by its own officers, their professional journal, the *Marine Corps Gazette*. The preceding discussion of the dialog in the pages of the *Gazette* between William S. Lind and Bernard Trainor shows the power of this debate. Trainor was a forward-thinking officer among his peers, but his initial responses to Lind's ideas was very critical. Over time, however, Trainor's thinking about maneuver warfare evolved to parallel that of Lind, and he became an oblique advocate of the new ideas, even if never a very prominent or vocal one. This chapter now turns to consider the debate writ large over maneuver warfare in the pages of the *Gazette*, considering how that debate evolved, and what it reveals about Marines' understanding and acceptance of the new ideas.

The debate in the *Marine Corps Gazette* is important for several reasons. First, it was a forum for the exchange of ideas among all of the officers in the Marine Corps, giving Marines worldwide visibility to what had been developed in Quantico and Camp Lejeune, and providing them opportunities to join the discussion. As one of the advocates described in 1984, "the pages of the Marine Corps GAZETTE [sic] have become a neutral zone where Marines, regardless of

rank, can freely debate current policies and doctrine."[1276] In this sense, it was the sole forum outside of the formal bureaucracy for the exchange of ideas within the Corps as a whole. As one officer related at the height of the debate, "The sad thing is, there is no other forum for discussion."[1277] He was overstating the case, for there was significant discussion going on in the units and officers' clubs, but the *Gazette* provided the only forum for an individual officer to raise an issue and express ideas for the consideration of the officer corps as a whole. Second, it is impossible to make larger sense of the episodic debates going on in officer's clubs and units because there is virtually no trace of these activities in the archive. As the monthly journal of Marine Corps officers, the *Gazette*, on the other hand, provides a steady archival index of when this debate came into the Corps' larger consciousness, and how it evolved.

The focus on officers, the executives within the Marine Corps, begs the question as to how involved enlisted Marines were. This issue has been omitted from other works on the Maneuver Warfare Movement. The unstated assumption is that maneuver warfare and the future combat capability of the Marine Corps was a concern of officers, while enlisted Marines focused on near-term readiness through training and executing the required support tasks. Any complete discussion of this movement within the Marine Corps must investigate this assumption by considering this group, which made up roughly 90% of the total Marine Corps manpower.[1278] With the *Marine Corps Gazette* providing a sense of the attitudes within the officer corps toward maneuver warfare, the involvement of enlisted Marines may be gauged by the discourse in another publication of the Marine Corps Association, *Leatherneck* magazine. While the *Gazette*

[1276] R. Scott Moore, "The Legacy of J.C. Breckinridge," *Marine Corps Gazette* 68, no. 5 (May 1984), 63.
[1277] C.J. Gregor, "Is HQMC Listening," *Marine Corps Gazette* 67, no. 1 (January 1983), 12.
[1278] The official active-duty end-strength of the Marine Corps in 1980 was 18,198 officers and 170,271 enlisted Marines, making the officers 9.7% of the total manpower. The official end-strength of the Marine Corps in 1987 was 20,047 officers and 179,478 enlisted Marines, making the officers 10.0% of the total manpower.

was a professional journal generally considered to be an officers' forum, the *Leatherneck,* subtitled "Magazine of the Marines," was largely written by and for enlisted Marines, featuring articles on Marine history, recent operations, and policy changes, and monthly installments of cartoons and common poetry, titled "Leatherneck Laffs" and "Gyrene Gyngles." It also contained debates on matters such as uniforms, training, promotions, and fitness. The articles and letters in the *Leatherneck* do not evince much awareness or interest in maneuver warfare during this period. During the focal period of this chapter, from when the Marines first became conscious of the concept of maneuver warfare in 1980 until General Gray's appointment as Commandant in 1987, only two articles in the *Leatherneck* mentioned the term, both essentially objective news reports on events in the 2d Marine Division in 1981 and 1982.[1279] There was, of course, some crossover, with officers reading and writing for *Leatherneck,* while some enlisted Marines read and wrote letters published in the *Gazette*. The evidence here again suggests the involvement of enlisted Marines in the exchange of ideas about maneuver warfare was rare. Enlisted Marines wrote just 2 out of the 218 articles and letters focusing on or mentioning maneuver warfare in the *Marine Corps Gazette* between 1979 and 1987. The complementary statistic, then, is that officers, who made up 10% of the Corps, were doing 99% of the writing about maneuver warfare. Non-commissioned officer education and developing small unit leaders with initiative were key components advocated by the maneuverists, and would be important reforms implemented later on to ensure that enlisted Marines could help the Marine Corps adopt maneuver warfare, but these Marines had only a very limited role in helping develop the ideas and promoting their acceptance throughout the Corps. The best archive for that is the officers' debate in the *Marine Corps Gazette*.

[1279] Earnie Grafton, "Heavy Hitters," *Leatherneck* 64, no. 12 (December 1981): 54-55 and Eric Carison, "New Tactics For Truckers," *Leatherneck* 65, no. 4 (April 1982): 42-43.

It is instructive to begin with a quantitative analysis of the debate in the *Gazette*, as it shows the larger contours of the discourse among officers on the topic of maneuver warfare. Figure 9 charts the number of articles that discussed the idea of "maneuver warfare" in the journal each year from 1979 through 1989. This represents the debate over maneuver warfare from the time when the concept was first introduced in the pages of the Gazette (1979) through the encoding of the concept as doctrine in Fleet Marine Force Manual-1 (1989). The total number of articles for each year is represented as the black line, and includes many articles which didn't just use the term "maneuver warfare," but referred to the concept in some meaningful way. Sometimes the writers of these articles focused on the topic of maneuver warfare, but many times they did not address maneuver warfare as a central topic, even if they expressed an opinion on the validity of the new concept. A subset of these articles did address maneuver warfare as their main subject, and these are represented by the stacked bar graph below the black line. On each year's bar green indicates the number of articles which were generally positive about the new ideas, red indicates the number of articles which were generally hostile to the new ideas, and grey indicates the number of articles that were generally neutral. This quantitative summary of the discourse over maneuver warfare in the *Marine Corps Gazette* makes a few major trends evident.

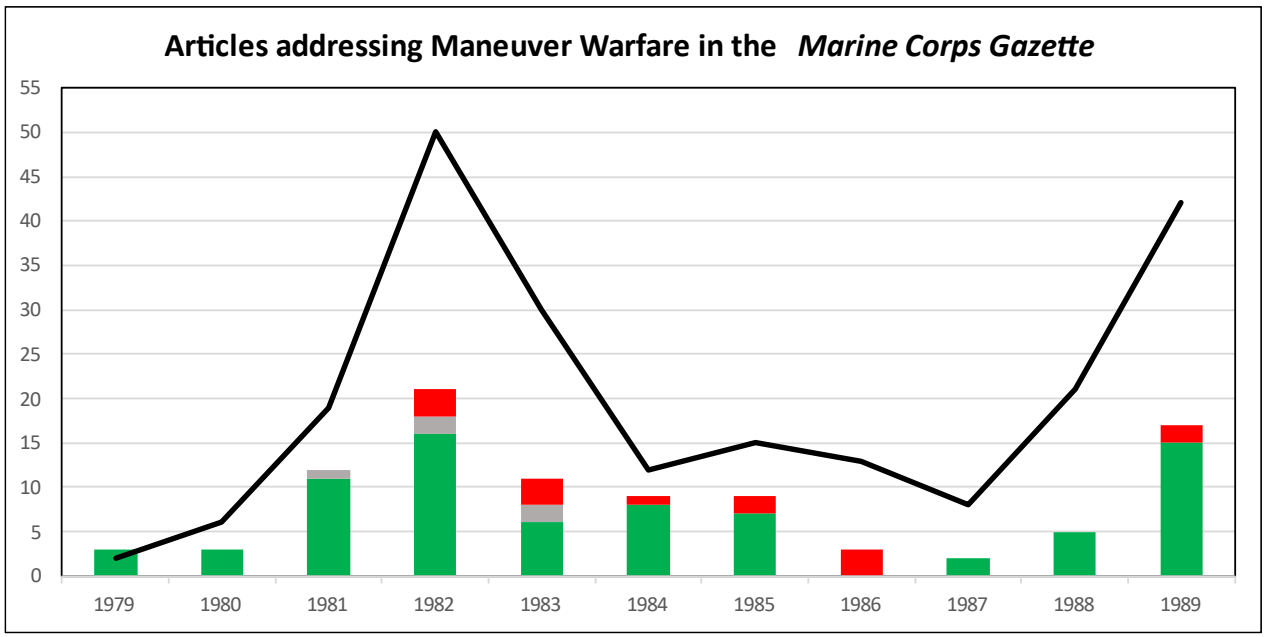



Figure 9. The number of articles in the *Marine Corps Gazette* each year between 1979 and 1989 addressing maneuver warfare. The black line indicates the total number of articles which addressed the topic in some way, while the stacked bar graph indicates the number that discussed maneuver warfare as a central topic. Of those, the portion indicated in green represents the number which were generally positive about the new concept, the portion in red indicates the number that were negative about the concept, and the portion in gray indicates the number that were neutral or balanced in their discussion of maneuver warfare.

The first major trend indicated by this data is that while there was a relatively small number of officers who wrote articles specifically addressing the new concept and engaging in direct debate over its meaning and value, there was a larger population who were aware of maneuver warfare and saw it as relevant to the topics they wished to address in some way. Some of these writers even had opinions about maneuver warfare, positive or negative, but they were not so strong as to motivate them to argue those positions as the heart of an article.

The second trend highlighted by this data is that the debate over maneuver warfare can be divided into three major periods: a time of rising discussion and debate between when the term was introduced in 1979 and 1982, a period of declining debate from 1983 to 1987, and then a resurgence in discussion starting in 1988. The first period, that of increasing discourse, covers the time from when "maneuver warfare" was first defined in the pages of the *Gazette* in 1979, through the incorporation of the topic in the AWS curriculum from 1980 to 1982, and includes

the first years of experimentation with maneuver warfare in the 2nd Marine Division from 1981 through 1984. The second period, one of generally declining debate, corresponds to the period of time from July 1983 to July 1987, when a known opponent of maneuver warfare served as Commandant of the Marine Corps, General P.X. Kelley. Kelley's role in discouraging this debate will be covered later in this chapter, but it is clear that during this time opponents of maneuver warfare made up a growing percentage of the writers focusing on that topic. The third major period, that of a renewed and growing debate, began coincident with General Kelley retiring in July 1987, and being replaced by General Gray. Gray had become the senior officer most closely identified with promoting maneuver warfare, and was responsible for the publication of FMFM-1 in 1989.

The major suggestion of this data is that the climate of the Marine Corps as an organization towards maneuver warfare did shape the debate. When Commandant General Robert H. Barrow showed little interest in the topic from 1979 to 1983, maneuver warfare advocates like Lieutenant Colonel Wyly and Major General Gray benefitted from freedom to start working with the concept in their own commands, and this spurred a general discussion within the officer corps about the new ideas. When General P.X. Kelley became Commandant in July 1983, and expressed hostility towards the maneuverists and their new ideas, it appears to have had a chilling effect on the debate. Kelley's role is examined more closely later in this chapter, but the resurgence in discussion once Gray, a known advocate of maneuver warfare, took over, suggests that the officer corps was responsive to their commandant's attitudes. This chapter will focus on the first two periods, while the last period is reserved for the final chapter, which focuses on the writing of FMFM-1 and Marines' reactions to it.

**The First Period of Debate: 1979 to 1983**

Chapter 4, focusing on the origin of the concept of maneuver warfare, has already narrated some important parts of the *Marine Corps Gazette* debate which occurred in the first period. It began with Lind's October 1979 letter to the editor which first introduced the term "maneuver warfare," and got even more attention with Captain Stephen Miller's article "Winning through maneuver, Conclusion-Countering the defense" in December, the article often wrongly attributed to the be the origination of the term. In March 1980 Lind wrote "Defining maneuver warfare for the Marine Corps," the article that harnessed the energy at AWS, where Lind and Wyly were collaborating in the curriculum there. By the summer of 1980 more Marines were starting to understand how the concept of maneuver warfare could be a viable foundation of meaningful change for the Marine Corps, and making that known to their fellow readers of the *Gazette*.[1280]A collection of letters to the editor in April 1981 captured the first signs of real debate, with Lind joined by Wyly and one of his after-hours seminar students, Captain G.I. Wilson, in further explaining the new concept, while General Trainor posed some critical questions.[1281] This early elaboration and debate served to spread ideas about the new concept.

What followed in 1981 and 1982, when the maneuverists' focus of effort shifted from AWS to the 2d Marine Division, was less a debate than it was an expansion of the new ideas. Articles were written reflecting the practical experience in 2d Marine Division, fleshing out concepts into tactics and techniques, but also exploring how maneuver warfare would relate to

[1280] J.C. Studt, "Maneuver warfare well done," *Marine Corps Gazette* 64, no. 6 (June 1980), 12; Larry R. Williams, "More mobility for today's threat," *Marine Corps Gazette* 64, no. 7 (July 1980), 35; and Willian C. Fite, "Some lessons from the Israelis," Marine Corps Gazette 64, no. 9 (September 1980), 33-349.
[1281] G.I. Wilson, Michael D. Wyly, William S. Lind, and Bernard E. Trainor, "The 'Maneuver Warfare' Concept," *Marine Corps Gazette* 65, no. 4 (April 1981): 49-54.

other ancillary aspects of fighting, such as logistics.[1282] As chapter 7 showed, this was critical for turning an abstract concept into a practical approach to warfare. The *Gazette* was an important medium for communicating what was being learned, and persuading others that maneuver warfare was a concept with merit.[1283] In time, these articles also ignited debate. That debate held three major aspects: the provenance of the new ideas (being attributed to a civilian, the Germans, and a fighter pilot), the validity of the new concepts themselves (particularly the way the concept was defined, the relationship between maneuver and firepower, and the tension between control and initiative), and finally the appropriateness of maneuver warfare to the missions of the Marine Corps. Each of them will be considered in turn, and the debate shows that resistance was often as much a product of cultural tensions as it was logical objections.

The first major aspect of objections to the maneuverists' agenda related to the origins of their ideas, being attributed to a civilian, or to an inappropriate German model of warfare, or to a pilot. When Marines objected to civilian involvement in the new ideas, they were almost certainly referring to William S. Lind, who had become well known as an advocate of maneuver warfare at this point, including through the seven pieces he wrote for the *Gazette* during this time. During this initial period, when Lind was not only an active participant, but also the most prolific writer on the topic, there was significant resistance to the idea that a civilian without military experience could offer any useful advice to Marines. Some were harshly critical of the role they believed Lind had come to play. In January 1982 Major C.J. Gregor wrote the *Gazette's* editor to observe,

---

[1282] G. I. Wilson, "Maneuver/Fluid Warfare: A Review of the Concepts," *Marine Corps Gazette* 66, no. 1 (January 1982), 54-61; P.J. Klepper II, "Food Service and Maneuver Warfare," *Marine Corps Gazette* 66, no. 1 (January 1982), 26-27; William N. Saunders, "Logistic Support for Mechanized Units," *Marine Corps Gazette* 66, no. 12 (December 1982); and Daniel L. Karls, "The AAV Maintenance Shuffle," *Marine Corps Gazette* 66, no. 12 (December 1982), 28-29.

[1283] J.R. Phaneuf, "Maneuver Warfare's Complexities," *Marine Corps Gazette* 66, no. 4 (April 1982), 16.

> It has been interesting to observe all the deference and praise heaped on Mr. Lind as some modern master of military thought and analysis. It just goes to show what intellectual and historical cripples we are, bordering on professional incompetence. We don't study war and history, we let some congressional, civilian staffer tell us about it. …I find it ludicrous that the Marine Corps has adopted a civilian consultant without military experience, Mr. Lind, to help us learn how to fight. We are doing something wrong! We in the military had better get our act together and start studying and thinking about war before the civilians do it for us and make military decisions by default.[1284]

Resistance to Lind's ideas and the role he was playing was galvanized when his critique alienated certain interested groups. For example, after he wrote an article in June 1981 arguing that Marine aviators were uninterested in thinking beyond the technical and tactical aspects of flying, and were therefore being left behind the ground officers in their renaissance of thinking about war, the response was a series of *ad hominem* attacks.[1285] The response was immediate and vigorous, and the objections took a broad range of forms. Some Marines rejected Lind's basic claim that aviators were uninterested in the art of war or were otherwise lacking in their professional maturity.[1286] Others challenged Lind's specific ideas about aviation matters, explaining that the differences between aviation and ground officers was justified and necessary.[1287] A letter to the editor from a retired colonel, speaks to the high profile Lind was getting through his *Gazette* articles. That officer, making his credentials as a veteran of World War II, Korea, and Vietnam clear, wrote, "First of all, who is William S. Lind? Am I [expected] to acknowledge my limited intellectual capacity as a Marine fixed/rotary wing aviator, and bow to his seeming expertise in the arena of warfare?"[1288]

---

[1284] C.J. Gregor, "Maneuver Warfare," *Marine Corps Gazette* 66, No. 1 (January 1982), 16.
[1285] William S. Lind, "Thinking beyond the cockpit," *Marine Corps Gazette* 65, no. 6 (June 1981), 22-23.]
[1286] David P. Evans, "Reply #1 Getting our act together," *Marine Corps Gazette* 65, no. 6 (June 1981), 23,26; and M. H. Conner, "Reply #2 To clarify the aviator's role," *Marine Corps Gazette* 65, no. 6 (June 1981), 26-27.
[1287] George E. Bell, T.J. O'Connor, E.J. Roberson IV, and L.W. Bill, "Beyond the cockpit," *Marine Corps Gazette* 65, no. 9 (September 1981), 16.
[1288] Bell, et al., "Beyond the cockpit," 16.

Some Marines did endorse Lind's ideas and come to Lind's defense. Those he had worked with in Quantico and Camp Lejeune, and who had come to appreciate his ideas, comprised a large portion of these articles.[1289] Others did not identify with Lind, but were nonetheless disappointed in the parochialism they saw in critiques of the civilian, and encouraged their fellow Marines to be more open-minded. Bruce G. Brown, a retired marine colonel in 1982 was explicit in rejecting Lind's ideas, but dismissed the very notion that good ideas about fighting could only come from experienced veterans and professional officers. As he wrote the editor,

> I am not a disciple of William S. Lind nor do I agree with all that he has written on maneuver warfare. However, it is both unfair and unprofessional to castigate him and his writing by direct or implied attacks (cheap shots) on his "lack of military experience." Recent critics should recall that it was Mr. Lind, at first almost alone, who had guts enough to offer an alternative to the Marine Corps focus on linear warfare and frontal assault tactics. He was the primary origin of the refocus on the art of war reflected in the GAZETTE over the past two years…
>
> It seems to me Marines owe Mr. Lind a debt of gratitude rather than a kick in the rear for alleged inexperience. Judge his writing and his ideas. If you don't agree, provide alternatives, insight, better ideas--borrow from his work and paint the product Marine *green*. After all, that's your job not Mr. Lind's.[1290]

A year later, Captain C.A. Leader wrote,

> There is a large, and understandable, negative reaction when criticism comes from persons not experienced in combat. That many of the authors of current maneuver oriented thought are civilian intellectuals creates most difficult credibility problems for them within military circles. This is unfortunate. Any theory deserves evaluation on its validity, not its origin. War, of course, is too important a human endeavor for us not to learn from Nazis, communists, barefoot Asians, and even intellectual theorists. Ultimately, theories of war are only disproved in combat, not by discrediting their authors.[1291]

Though apparently a minority, these more open-minded Marines represented a broad range of Marine leaders. Though enlisted Marines rarely wrote for the *Gazette*, considered an officer's

[1289] G. I. Wilson, "Maneuver/Fluid Warfare: A Review of the Concepts," *Marine Corps Gazette* 66, no. 1 (January 1982), 54; and G. I. Wilson, "Maneuver Warfare," *Marine Corps Gazette* 66, no. 8 (August 1982), 11.
[1290] Bruce G. Brown, "In Defense of Mr. Lind," *Marine Corps Gazette* 66, No. 5 (May 1982), 15.
[1291] C. A. Leader, "Maneuver Tactics and the Art of War," *Marine Corps Gazette* 67, no. 3 (March 1983), 53.

journal, but a staff sergeant did not shy from making his opinion about his officers' attitudes known. He commended Lind for his explanation of the value of learning from the German example, but remarked that he had been bothered to learn that such an explanation was necessary, since "I never realized that such narrowminded people would even bother reading this magazine."[1292]

That Lind needed to write an article explaining why the Germans provided a sound historical example for the Marine Corps reveals another objection Marines held about the origins of the new ideas. Some Marines questioned the soundness of a concept of war practiced by a force that had lost two world wars.[1293] Captain Leader noted that others questioned the relevance of a style of war fought on the Eastern Front, with its large tank armies "fighting sweeping battles across the steppe," to what the Marine Corps might be expected to do in the future.[1294] Leader also pointed out "There is strong Teutophobia based on what is seen as the antidemocratic base of the German tradition and particularly its General Staff."[1295]

Yet a third major objection to the origins of the concept related to John Boyd. Chapters 4 through 7 identified that Lind's 1980 explanation that the "Boyd Theory" is the theory of maneuver warfare initiated a long-standing misconception that Boyd's OODA loop was the central theoretical construct within maneuver warfare, and helped repeat the additional misconception that it was derived from Boyd's experience as a fighter pilot. This was indeed a misconception that the Marines of the early 1980s perpetuated and saw as a basis for suspicion towards maneuver warfare. As Captain L.A. Robinson wrote to the editor of the *Gazette* in January 1982, "Mr. Lind states that the 'Boyd Theory' is the heart of maneuver warfare. As

[1292] C. Slipetsky, "Let's Learn From Everybody," *Marine Corps Gazette* 66, no. 9 (September 1982), 17.
[1293] W.S. Lind, "Why the German Example?" *Marine Corps Gazette* 66, no. 6 (June 1982), 59.
[1294] Leader, "Maneuver Tactics and the Art of War," 53.
[1295] Leader, "Maneuver Tactics and the Art of War," 53.

explained by him, however, it is difficult to understand how theories derived from air combat tactics apply directly to ground combat." Robinson didn't see this as invalidating maneuver warfare, however, and argued "I suggest that it is valid if the role of intelligence can be identified within the theory," ultimately concluding, "Identification of intelligence as an element of the Boyd Theory, adds credibility to the maneuver warfare thesis and diminishes the abstract nature of Mr. Lind's explanations."[1296]

Beyond the resistance to ideas because they were associated with the origins of maneuver warfare, the articles in the *Gazette* during the first period of debate also show that there were substantive objections to the actual concept of maneuver warfare itself, many of which were tied to misconceptions. These fall into three major areas: confusion created by the use of "maneuver warfare" as the name of the new concept, the belief that the maneuver warfare advocates were promising victory without bloodshed, and doubt about the wisdom of relaxing centralized command to enable subordinate units to make greater use of initiative. As with concerns about the origins of these concepts, resistance to the concepts themselves were often as much a result of cultural resistance as intellectual objections.

The first major conceptual problem for many Marines was the term "maneuver warfare" itself. As Chapter 5 showed, when William S. Lind first developed the concept in 1976, he struggled for the best term to describe it. His first notes on the topic focused on the idea of mobility, but by the summer of 1976, when he began to go public, he adopted "maneuver doctrine," which he changed to "maneuver warfare" in 1979. Lind's earliest *Gazette* explanation, his 1980 "Defining maneuver warfare for the Marine Corps" attempted to explain that in maneuver warfare, "The objective is the enemy's mind not his body. The principal tool is

[1296] L. A. Robinson, "Intelligence & Maneuver Warfare," *Marine Corps Gazette* 66, No. 1 (January 1982): 16.

moving forces into unexpected places at surprisingly high speeds."[1297] Further, "A key to understanding maneuver war is to realize that not all movement is maneuver. Maneuver is *relational* movement. Maneuver is not a matter simply of moving or even of moving rapidly. Maneuver means moving and acting *consistently more rapidly* than the opponent."[1298]

Even within the group of officers who worked with Lind and Wyly at AWS and in the 2d Marine Division, there was some doubt as to the best way to brand the concept. Captain G.I. Wilson, for example, wrote that it was "perhaps better described as 'fluid' warfare."[1299] A reserve officer studying at Harvard, Captain C. A. Leader, wrote to explain how serious of a matter this was, describing the "lack of focus inherent in the title 'maneuver warfare'" was one of three factors leading to "Specific confusion and distracting emotion surrounding the advocated maneuver reforms."[1300] In Leader's mind, "The word [maneuver] is so semantically confused as to almost preclude a theoretic focus. 'Maneuver,' 'mobility' and 'movement,' although having very different specific connotations, are widely perceived as interchangeable."[1301] This apparently impelled Wyly to admit "Maneuver, movement, mobility, mechanization, and motorization, all have distinctive meanings; yet, they often become muddled," and devote an article to clarifying the confusion.[1302]

A second major objection to maneuver warfare related to the belief that its advocates were vainly pursuing a way of warfare that falsely promised victory without bloodshed. As Captain Leader wrote in 1983, "Maneuver theorists are viewed as naively denying the inherent

[1297] William S. Lind, "Defining maneuver warfare for the Marine Corps," *Marine Corps Gazette* 64, no. 3 (March 1980), 56.
[1298] Lind, "Defining maneuver warfare for the Marine Corps," 56.
[1299] Wilson, "Maneuver/Fluid Warfare: A Review of the Concepts," 54.
[1300] Leader, "Maneuver Tactics and the Art of War," 52.
[1301] Leader, "Maneuver Tactics and the Art of War," 52.
[1302] M.D. Wyly, "Those Confusing Ms," *Marine Corps Gazette* 67, no. 9 (September 1983), 30.

violence and lethality of war."[1303] This misconception sprang, at least partially, from the maneuverists' portrayal of maneuver and attrition as a dichotomy. Even the more progressive thinkers within the Corps, such as General Trainor, fell victim to this. By 1980 Trainor believed the Marine Corps needed to get away from its attritional approach and adopt a mobile, mechanized style of warfare that made greater use of initiative as a weapon. In terms that evoked the central concepts of maneuver warfare he argued,

> Essentially, the principle of the initiative calls for staying progressively ahead of an opponent in both thought and action. The corollary has the opponent always reacting to our actions. In this way, a smaller force offsets the strength of the larger force. It puts the enemy off balance and keeps him that way. Indeed, it turns the strength of the larger force into a weakness by converting size into a cumbersome burden. In a sequence of actions, the imbalance increases geometrically until the enemy finds himself incapable of mentally or physically reacting with any semblance of cohesion or effectiveness. At some point in the process of deterioration, the fatal blow can be delivered against the enemy.[1304]

Though many maneuverists would have considered this an eloquent explanation of maneuver warfare, Trainor failed to see that they agreed destruction was a necessary component of maneuver warfare, though not the central defeat mechanism. Misunderstanding how closely they agreed, he argued, "While it has been emphasized that a battle of attrition should be avoided, battle itself must be sought, because war is a killing game, not a chess game. Intelligence, electronics, and maneuver will not break the enemy's will to resist; only physical punishment will do that."[1305] Even though Trainor actively engaged in the written debate, complemented Lind for his contributions, placed Wyly in a position to implement new ideas on tactics at AWS, and evolved in some of his own thinking, he continued to staunchly resist the notion that maneuver warfare could somehow exploit moral and mental disruption to reduce the imperative

[1303] Leader, "Maneuver Tactics and the Art of War," 53.
[1304] Trainor, "New thoughts on war," 49.
[1305] Trainor, "New thoughts on war," 50.

on destruction. In a dialog with Lind he wrote, "As for my view that war is a 'killing game,' I plead guilty to being a hostage of my Service. Marines never seem to fight enemies who capitulate when the rules of chess would so dictate. Until we do, I still think it's wiser for an enemy to know that we intend to kill him, not psych him."[1306]

The maneuverists perceived that this misunderstanding, that they were arguing for a way of war that could avoid destructive violence, was causing an unnecessary schism over the concept. G.I. Wilson tried to explain the workings of maneuver warfare as seeking the psychological destruction of one's enemy first and foremost, and destroying his cohesion before his physical destruction. In January 1982, he wrote,

> Maneuver warfare, perhaps better described as "fluid" warfare, is based upon the premise that the enemy can be defeated most readily by cutting inside his "observation-orientation-decision-action-cycle."* The enemy's cohesion and organization is destroyed by creating a fluid, turbulent, rapidly and constantly changing environment to which he cannot adequately react. The enemy is unable to cope with the situation in which he finds himself.
>
> Psychologically the enemy perceives that he has lost control of the situation and is being overwhelmed by events and his own inability to influence the action. The destruction is more psychological in nature than physical. Nevertheless, the enemy is physically disposed of when the opportunity presents itself by selective and local concentrations of forces and firepower at decisive points. The enemy is defeated fundamentally by destroying his cohesion and his ability to control his forces. The emphasis is not on killing or destruction but on cutting inside the enemy's observation-orientation-decision-action cycle.[1307]

Wilson continued,

> To be sure, the enemy is physically disposed of when the necessity arises. Nevertheless, the primary objective is not to kill the enemy man by man in an attrition contest. Physical destruction is useful only when it leads to the psychological collapse of the enemy. The idea is to shatter the enemy's cohesion and his ability to fight as an organized force.[1308]

[1306] Wilson, et al., "The 'Maneuver Warfare' Concept," 54.
[1307] Wilson, "Maneuver/Fluid Warfare: A Review of the Concepts," 54.
[1308] Wilson, "Maneuver/Fluid Warfare: A Review of the Concepts," 54-55.

Despite this explanation, Marines continued to resist the displacement of destructive battle by an effort to shatter an adversary's moral and mental capacity to fight. Two months later a lieutenant colonel continued the debate by arguing,

> I have a difficult time with the comment that our actions on the battlefield should be directed towards destroying the enemy's mind not his body. I do not believe that the lessons of history will support this concept to any practical degree. …The lessons of Stalingrad, Tobruk, Dresden, Chosin, and Khe Sahn are clear. A professional and determined enemy will continue to fight in spite of being faced with a disastrous logistics or command and control situation.[1309]

As much as there was an intellectual objection to replacing the centrality of destruction and battle within warfare, Marines also had a strong cultural attachment to the necessity of prevailing in heated combat. Success in battle, epitomized by victories in seemingly impossible circumstances like the campaigns for Guadalcanal, Tarawa, Peleliu, Iwo Jima, and Okinawa in World War, II, and more recently the battle for Khe Sanh in the Vietnam War, was central to the Marines' self-identity. The most conservative responses to the new ideas of maneuver warfare were those that outright rejected these new ideas as somehow decreasing a needed emphasis on combat capabilities necessary to prevail in battle. In one of the rare cases when a general officer commented on the maneuver warfare debate in the pages of the *Gazette*, Major General David M. Twomey wrote,

> Our tradition is that "Every Marine is a rifleman." That motto encompasses the ability to fight with a battle savvy developed through rugged training in basic combat skills. A Marine must know the battlefield--and how to *win* on it--and that can only come from warfighting experience passed on by his leaders and trainers. This is his source of knowledge and confidence. This tradition is fading! …In an era when we have become enamored with grandiose thoughts of maneuver warfare, complex large-scale exercises, mechanized combined arms task forces, adventure training, etc., we have forgotten the most fundamental training requirements of all--teaching the individual Marine how to fight, survive, and win on the battlefield![1310]

[1309] R. H. Voigt, "Comments on maneuver warfare," *Marine Corps Gazette* 66, no. 3 (March 1982), 20.
[1310] D.M. Twomey, "Are We Training to be First-String Players or Cheerleaders?" *Marine Corps Gazette* 66, no. 10 (October 1982), 15.

This argument is an even more significant representation of organizational conservatism when one considers Twomey's background. He had preceded General Gray as the commander of the 2d Marine Division, and saw Gray's experimentation with maneuver warfare as a dangerous distraction from what was truly important, and a drain on the combat readiness Twomey and his Marines had worked so hard to build from 1979 to 1981. Twomey was not alone in seeing an inherent tension between maneuver warfare and necessary focus on close combat, for in the same month AWS student Captain E.G. Hansen wrote an article titled, "Can Marines Fight?" arguing,

> Undoubtedly, in this age of maneuver warfare, strong emphasis should continue to be placed on small unit tactics; nevertheless, the Marine's individual combat skills must not be neglected since he is the most basic entity upon which all other forms of power projection are based. Through extensive close combat training, a Marine develops the proper fighting mentality and will to win, which allow him to function more effectively with similarly trained Marines working as a team on a small unit level. Thus, fire and maneuver technique as well as close combat skills must be integrated to produce a totally proficient warrior.[1311]

As with other aspects of the conceptual debate over maneuver warfare, the leading maneuver warfare advocates attempted to use the pages of the *Gazette* to clarify misunderstanding about their argument. Notable among these is the March 1983 article "War Without firepower?" by Michael Wyly because it demonstrates they knew that the debate was cleaving the Corps into two camps over that very issue. Indeed, in this article Lieutenant Colonel Wyly observes that there were "two sides": the "attritionists" and the "maneuverists."[1312] Wyly argued that the debate had been healthy, but misunderstanding of one point had "stirred emotions and prevented those who have gravitated to one camp from learning from the other."[1313] It was "a point on which the two sides should come to agreement--firepower is essential to the successful waging of war."[1314] After describing his own migration from the

[1311] E G. Hansen, "Can Marines Fight?" *Marine Corps Gazette* 66, no. 10 (October 1982), 20.
[1312] Michael D. Wyly, "War Without Firepower?" *Marine Corps Gazette* 67, no. 3 (March 1983), 17.
[1313] Wyly, "War Without Firepower?" 17.
[1314] Wyly, "War Without Firepower?" 17.

attritionist camp to the maneuverist camp as a result of his experience in Vietnam, he cautioned his allies,

> We "maneuverists" talk a lot about fluidity. We talk about movement, relative to the enemy. We embrace a concept of fast-pace battle, fought at a tempo that keeps our actions always a step ahead of the enemy's orientation. But let us not deceive ourselves. Without firepower, forget victory. There will be none. When we speak of movement, we must include fire.[1315]

The notion that maneuver warfare advocates were somehow claiming that victory could be bloodless, rather than advocating for a way of war that obviated the need for a costly sole focus on destruction, would continue to be an obstacle throughout the debate, even after mauver warfare was encoded in doctrine in 1989.

Yet another theme in objections to maneuver warfare concepts revolved around the loss of control that was presumed would result. Even though he was one of the most progressive thinkers, and agreed with many aspects of the maneuverists' argument, General Trainor's attitudes towards command, control, and communications ($C^3$) suggest an obsession with control. In his 1980 "New thoughts on war" Trainor argued,

> With an effective C3 system, the commander can truly worship at the altar of initiative for he controls the destiny of his force with the same certitude as he does the fingers on his hands. A good $C^3$ system has but one purpose, to ensure that everyone and everything is doing the will of the commander.[1316]

In a dialog with Lind afterwards Trainor elaborated on this idea by arguing, "Good $C^3$ does not necessarily inhibit subordinate commanders," but also revealed his underlying concern with relaxing centralized control, which was necessary to prevent, "units running nilly-willy over the battlefield."[1317]

[1315] Wyly, "War Without Firepower?" 17.
[1316] Trainor, "New thoughts on war," 51.
[1317] Wilson, et al., "The 'Maneuver Warfare' Concept," 54.

As the maneuver warfare advocates developed a different approach to command and control through the concept of mission order tactics and the technique of mission-type orders, other Marines continued to struggle with the idea of relinquishing centralized control in order to foster subordinate initiative. As one lieutenant colonel wrote in March 1982,

> There appears to be a gross overemphasis on mission [sic]-type orders. This emphasis is well-intentioned but fails to grasp the true confusion which will exist on any moderate (or greater) intensity battlefield. In most cases commanders on both sides will not be able to perceive the current or future tactical situation with any real degree of clarity. Certainly, tactical imagination will be required at all levels, but I do not believe that any relaxation of command and control will be appropriate. Without a "big picture" planning and control apparatus, subordinate units will attack low priority targets, will be easily misled by enemy deception tactics, will outrun logistics and supporting arms capabilities, and perhaps will not be available to the commander when a high priority objective presents itself.[1318]

The following month, another lieutenant colonel wrote,

> …there is an obvious inconsistency between "mission order tactics" without detailed control and "completely integrated logistical and tactical considerations," to say nothing of the coordination of supporting arms and adjacent units. Very few logisticians exist in the Marine Corps, and none of them are mind-readers. In the tactical arena, fire and maneuver must be closely integrated, and they both must be continuously supported. This requires, unfortunately, detailed control of all elements of the MAGTF, and its subordinate units. I won't even go into the demands placed on the communicators by the freewheeling approach. The need to command, control, and support certainly inhibits flexibility, but need not destroy it, nor render imagination and genius ineffective. But I haven't seen a thoughtful examination of all the ramifications of the "turn them loose" approach yet.[1319]

It may be significant that both of these critiques, stressing the dangers of relaxing control, were written by officers holding the ranks associated with battalion command, where the mission-type orders would certainly mean a very new way of operating.

As the above debates show, the maneuver warfare advocates understood their ideas were subject to misinterpretation. They also understood that this constituted a major obstacle to acceptance of the new concepts. Informed by the discussions that surrounded their efforts at

[1318] Voigt, "Comments on maneuver warfare," 20.
[1319] Gordon Batcheller, "Reexamining Maneuver Warfare," *Marine Corps Gazette* 66, no. 4 (April 1982), 22.

AWS and in the 2d Marine Division, even before the journal debate really got underway, they made proactive efforts to get ahead of problem, such as Captain G. I. Wilson's January 1982 *Gazette* article, "Maneuver/Fluid Warfare: A Review of the Concepts." Such articles generated as much debate as they solved, however, and the maneuverists continued to be plagued by what they regarded as ill-informed critiques. As the above discussion shows, they responded by admitting to the sources of confusion and attempting to provide better explanations. At the same time, they lamented their opponent's willingness to reject new ideas without getting a sound understanding of what they were objecting to first.[1320] As Wyly wrote in June 1982, "The tendency has been to counter things that the 'maneuverists' haven't said."[1321] Two of Lind's and Wyly's AWS students later opened a response to one critic with, "LtCol Batchellor's poignant uneasiness with maneuver warfare thinking (Apr 82) may result from too casual a reading of the recent articles in the Marine Corps GAZETTE. Understanding the tenets of fluid/maneuver style of warfare requires careful, thoughtful reading and reflection."[1322] Some believed the ill-informed critiques of maneuver warfare to be indicative of larger problems. Major Terrence P. Murray felt they reflected a general lack of professional education, writing,

> Mr. Lind's article, "Defining Maneuver Warfare . . .", which appeared in the Mar 80 GAZETTE and his follow-on commentaries in Apr 81 and Sep 81 concerning the Corps' need to shun the concept of attrition warfare and embrace and master the concept of maneuver should be a stimulus for Marines to adapt the current instruments of war to the looming high-tech battlefield of tomorrow. Reactions to his insights in defining maneuver manifest the impact of his timely observations. These reactions also demonstrate the shallow understanding that Marines, in general, have of the concept of maneuver.
>
> Maneuver is as timeless as conflict itself. Mr. Lind is attempting simply to apply it to the present conditions, technology, and potential missions of the Corps. The basis of his application, however, is more adaptation than innovation. The wide-eyed response to Mr. Lind's observations suggests our seeming ignorance of this and underlies a greater problem

[1320] Edward J. Robeson, IV, L.G. Karch, R.S. Moore, M.D. Wyly, and J.D. Burke, "The Mission and 'The Offensive Spirit'," *Marine Corps Gazette* 66, no. 12 (December 1982), 25-26. [: 24-26.] W
[1321] Michael D. Wyly, "Defending the 'Maneuverists'," *Marine Corps Gazette* 66, no. 6 (June 1982), 12.
[1322] G.I. Wilson and W.A. Woods, "Defending Maneuver Concepts," *Marine Corps Gazette* 66, no. 8 (August 1982), 34.

> at the center of this ignorance. Marines, and military men in general, would be more comfortable with concepts, new or old, if their knowledge of military history were better founded. [1323]

Murray continued,

> Familiarity with the writings of notable strategists of the past and case studies of history at every level of officer education would make us, for want of a better example, less awestruck by the newly bandied about concept of maneuver warfare, which is far less revolutionary in many respects than current authors would lead us to believe. This is not to say that present commentary is not necessary to stimulate creative minds not to suggest that we, as Marines are already intrinsic masters of maneuver doctrine. I submit, however, that military history proves that maneuver theory reaches decades, even centuries back in time, and yet so many of us seem ignorant of it.[1324]

A final major trend in debate about maneuver warfare had less to do with the concept itself, as its implications for the Marine Corps' ability to fulfill its assigned missions. The Marine Corps was unique among the military services and statutorily required to be prepared for amphibious warfare. Even if the focus of strategic adaptation for the U.S. military in the 1970s and 1980s was on fighting outnumbered against the Warsaw Pact in Central Europe, the Marine Corps still had to be prepared for seizing a beachhead or port, perhaps on the northern or southern flank of a front through Europe. This would require being prepared to defend any new foothold with a relatively limited landing force, until larger follow-on forces could be brought ashore, and some officers thought transitioning to the more mobile force for maneuver warfare meant they were focusing on the wrong side of the problem. Instead, the Marines should focus on denying the enemy the mobility that would allow them to counterattack and destroy an American foothold. Lieutenant Colonel Gordon Batcheller explained,

> …I am concerned that the application of maneuver warfare, with its undeniable roots in land warfare, to the amphibious Marine Corps can lead to a fascination for land vehicles and tactical "mobility" for sustained land warfare that is inconsistent with our primary mission and statutory areas of responsibility. The resulting changes to our force structure, manpower, and training needs, and even our naval identity could lead us down the

[1323] Terrence P. Murray, "The Merits of Military History," *Marine Corps Gazette* 65, no. 11 (November 1981), 40.
[1324] Murray, "The Merits of Military History," 40.

> proverbial rabbit trail and away from areas of our more legitimate concern. I would suggest that our real need in the mobility area is not so much a way to increase or extend our land mobility, but a light, effective, and reliable way or ways to decrease the enemy's mobility.[1325]

Five months later Major J.D. Burke expanded upon this theme in one of the most cogent analyses of maneuver warfare from this era in the *Marine Corps Gazette*. Burke's ultimate conclusion was,

> Marines can *talk* maneuver warfare all they like. However, MAGTFs [Marine Air Ground Task Forces] are not structured to fight maneuver warfare and are unlikely to be given an offensive combat mission while employed before the outbreak of general war. Our mission statements and perceived functions for MAGTF components are not oriented toward maneuver warfare.[1326]

It is Burke's analysis which is more telling, however, because it shows a much more sophisticated understanding of the underlying concepts than most of what was written in the Gazette in this era, particularly by those who were not embracing maneuver warfare. Burke's explanation is strongly suggestive of having listened to Boyd's "Patterns of Conflict" briefing or other contact with John Boyd, as he did not simply explain maneuver warfare through OODA, but also related, "Col Boyd sees the *essence* of maneuver warfare as the ability to create, magnify, or exploit ambiguity, ambivalence, deception, and rapid maneuvering."[1327] Further, Burke described a parallel between Liddell Hart's ideas and those that undergirded maneuver warfare, arguing that the civil and military leaders of his day were discussing the choice between the "opposing strategies" of "the indirect approach (maneuver warfare) and the direct approach (firepower/attrition warfare)."[1328] Burke clearly understood the maneuver warfare did not mean bloodless victory, writing, "it is clear that firepower is a part, but not the raison d'etre of

[1325] Batcheller, "Reexamining Maneuver Warfare," 22.
[1326] J. D Burke, "Maneuver Warfare & the MAGTF," *Marine Corps Gazette* 66, no. 9 (September 1982), 71.
[1327] Burke, "Maneuver Warfare & the MAGTF," 68.
[1328] Burke, "Maneuver Warfare & the MAGTF," 67.

maneuver warfare."[1329] At the same time, he also understood "Maneuver warfare is attractive because it implies victory through finesse and intelligent maneuver, because it suggests decisive action and reduced casualties" and countered, "But the Soviet aggressors will come ready to fight firepower/attrition warfare. Initially alone, the MAGTF will have to fight it better."[1330] Showing great balance, Burke contended,

> This is not to say that firepower/attrition warfare (direct approach) is inherently superior to maneuver warfare (indirect approach) or vice versa. What I am saying is that the MAGTF is organized and equipped to fight firepower attrition warfare, not maneuver warfare. This is not really surprising because (a) the MAGTF will be committed as a limited, defensive response to the threat and, (b) since the MAGTF builds its combat power from zero, it is logical to look to the tactical defense as a probable solution.[1331]

Essentially, Burke saw attrition and maneuver as two complementary approaches to warfare, with maneuver more suitable to the offensive, and attrition to the defensive. The latter, in his mind, was more appropriate for the Marine Corps because of plans to employ it in the establishment and defense of a static beachhead against adversaries who would come equipped for a heavy firepower fight.[1332]

As thoughtful as Burke's analysis was, it was based on the existing doctrine and equipment of the Marine Corps, without reflecting how those elements might change, and therefore make maneuver warfare more suitable to its missions. Alternately, in April 1982 Colonel Bruce Brown had already argued for creative thinking in an attempt to "stimulate further thought on the tactical implications of a maneuver style of warfare as *applicable to the landing forces* of the Fleet Marine Force."[1333] Brown considered that the Marine Corps' amphibious

[1329] Burke, "Maneuver Warfare & the MAGTF," 68.
[1330] Burke, "Maneuver Warfare & the MAGTF," 71.
[1331] Burke, "Maneuver Warfare & the MAGTF," 70.
[1332] Burke, "Maneuver Warfare & the MAGTF," 70-71.
[1333] Bruce G. Brown, "Maneuver Warfare Roadmap: Part I Trends and Implications," *Marine Corps Gazette* 66, no. 4 (April 1982), 42.

missions could be executed in a more maneuverist way, including through the incorporation of new equipment and air mobility, and reminded his readers to "keep in mind that maneuver warfare in the Marine Corps will be a unique style, built by Marines, for Marines--a style that will fit Marines."[1334] Brown followed this up with a second article in May suggesting additional concept and ideas to make maneuver warfare a suitable approach for amphibious forces.[1335] Responses to Burke's article also showed more flexible thinking, including arguments that maneuver warfare could be a basis for a mobile defense of an amphibious foothold, and that Marines should be thinking more about seeing such footholds for the purpose of immediately seeing the offensive, which was more in keeping with the character of mechanized conflict and the inherently offensive spirit of the Marines.[1336] Such debate over the suitability of maneuver warfare to Marine Corps missions continued into 1983.[1337]

By 1983, then, the debate in the Marine Corps Gazette indicated that there were three major aspects of dispute over maneuver warfare among Marine officers. The first considered the origins of the new ideas, with Marines objecting to the involvement of civilian thinkers, or questioning a way of warfare based upon the German model, or ideas based upon air-to-air combat. The second major aspect was over the validity of the new ideas themselves, and often resulted from misperceptions created by the name of the concept, about the relationship between disruption and destruction or maneuver and firepower, or about the wisdom of a command and

[1334] Brown, "Maneuver Warfare Roadmap: Part I Trends and Implications," 44.
[1335] Bruce G. Brown, "Maneuver Warfare Roadmap: Part II Concepts of Employment & Tactical Applications," *Marine Corps Gazette* 66, no. 5 (May 1982), 80-85.
[1336] Robeson, et al., "The Mission and 'The Offensive Spirit'," 24-26.
[1337] Michael D. Wyly, "Thinking beyond the beachhead," *Marine Corps Gazette* 67, no. 1 (January 1983), 34-38; John C. Scharfen and W.A. Woods, "Proper MAGTF Objectives," *Marine Corps Gazette* 67, no. 4 (April 1983), 16; E. J. Robeson IV, "MAGTFs and the tactical defense," *Marine Corps Gazette* 67, no. 4 (April 1983), 24; E. J. Robeson IV, "A Second Mission for the Corps," *Marine Corps Gazette* 67, no. 6 (June 1983), 31-32; M.D. Wyly, "Capabilities and Missions," *Marine Corps Gazette* 67, no. 7 (July 1983), 20; and R.B. Rothwell, "Toward A New Amphibious Tactical Concept," *Marine Corps Gazette* 67, no. 7 (July 1983), 63-67.

control style that would grant greater freedom of action at lower levels. The third and final major aspect of debate related to whether maneuver warfare was a good fit for the kinds of missions Marines units could be expected to face in future wars. In many cases, the debate was clouded by misperceptions of what the maneuver warfare advocates were actually calling for and resistance had as much to do with cultural values as disagreements about the maneuverists' logic. Each of these aspects, and the nature of the objections to maneuver warfare, would continue to be a part of future debate.

Even as the most passionate maneuver warfare advocates were arguing their case in the *Gazette* and other professional forums, their most senior patron, Major General Gray, saw that a schism was developing, and sought to ameliorate it. During an interview in 1984, as the experimentation with maneuver warfare in the 2d Marine Division was coming to its culmination, he related that he agreed with Lind's definition of maneuver warfare, but was quick to balance that by crediting Trainor for his emphasis on initiative as critical component.[1338] Gray showed a good understanding of the tensions, admitting that he wasn't certain "maneuver warfare" was the proper title for the new approach, for "The term carries with it a lot of questionable baggage… I'm afraid that the title has generated some semantic confusion and excessive debate over definition of terms."[1339] Even as Gray had worked hard to develop and promote a fundamentally new way of fighting, the general downplayed how radical the changes associated with maneuver warfare were, arguing, "it is a style that many Marines have employed over the years and that it has been at the conceptual core of some of our most successful amphibious operations."[1340] Understanding the acute controversy the maneuverists had created

[1338] Scharfen, "Tactics and Theory: Interview with Major General Alfred M. Gray, Jr. USMC," 10.
[1339] Scharfen, "Tactics and Theory: Interview with Major General Alfred M. Gray, Jr. USMC," 11.
[1340] Scharfen, "Tactics and Theory: Interview with Major General Alfred M. Gray, Jr. USMC," 10.

over command and control, Gray even claimed mission type orders "is not a new approach."[1341] In analyzing the second period of debate from 1983 to 1979, however, the influence of another general must be considered, the Commandant of the Marine Corps General P.X. Kelley.

**The Second Period of Debate and the Role of the Commandant, 1983-1987**

As the quantitative data in figure 9 shows, there was clearly a change in the debate over maneuver warfare between the first four years and the second four years. It would be convenient to ascribe the decreased volume of debate and complete drop-off of substantive articles written about maneuver warfare to the influence of the Commandant, General Paul Xavier Kelley. A correlation is between his tenure as commandant and the waning of debate is especially tempting considering his reputation among the maneuverists and in the historiography. If there is a villain in the prevailing narrative of the maneuver warfare moment, it is P.X. Kelley, who as Commandant of the Marine Corps from 1983 through 1987 is depicted as overtly suppressing the movement. This begs the question as to how much Kelley actually suppressed the debate, and why he might have done so. A closer look is therefore warranted.

There are no indications that General Kelley came to the commandancy in July 1983 with the intention of suppressing the debate over maneuver warfare or otherwise inhibiting its development. His career prior to that point gives no strong indications that he would fall on one side of the debate or the other. Kelley, having been born in the same year as Gray, was a contemporary, though when Kelley joined the Marine Corps in 1950 it was as an officer, after graduating from Villanova University. Kelley's career as an infantry officer brought some routine assignments, but he also spent an unusual amount of time in reconnaissance units, including as an exchange officer to the Royal Marine Commandos. Kelley's experience in

[1341] Scharfen, "Tactics and Theory: Interview with Major General Alfred M. Gray, Jr. USMC," 11.

Vietnam does fit the mold of a generation that served in more senior assignments, rather than being involved in the fluid war of tactics at the platoon and company level. He first arrived in Vietnam in 1965 as a major, and served as the Combat Intelligence Officer of the III Marine Amphibious Force, which was the highest Marine headquarters organization involved in actually fighting the war. After this, he took command of the 2d Battalion, 4th Marines, and was decorated four times for his combat leadership of that unit. Kelley returned to Vietnam from 1970 to 1971 as a colonel to command the 1st Marine Regiment, the last Marine combat regiment in Vietnam as the withdrawal of U.S. combat troops was underway.

Kelley was a talented officer. The year before Trainor attended the Air War College and earned an award for advanced political-military writing, Kelley attended that school and won the same distinction. In his next assignment he served as the principal assistant to the Commandant of the Marine Corps, and did well enough in his year in that role to be given the last regimental command in Vietnam. This assignment would have been a prized commodity at the time, as it would be important to any infantry colonel's resume in the competition for general officer ranks later on. Later, as a brigadier general, Kelly was assigned to lead both the Development Center and Education Center in Quantico. When Kelley left Quantico in 1978 he was replaced by two brigadier generals: Alfred M. Gray Jr. took over the Development Center, while Bernard Trainor took over the Education Center.

Where Kelley distinguished himself most from his peers was in his joint assignments, those where he served outside the Marine Corps in the larger defense establishment. He served on the staff of the Joint Chiefs of staff coordinating planning and policy in Southeast Asia, and then as the primary assistant to the three-star Army general who managed the Joint Staff for the Chairman of the Joint Chiefs of Staff. All of this was occurring at a time when the U.S. military

was seeing greater need for coordinated action between the military services, especially in the Middle East. In 1977, President Carter signed a directive for the establishment of a mobile force that would be capable of responding to worldwide crises without pulling forces from NATO missions in Europe. In 1978, three Army divisions and one Marine division were earmarked for this role, but little more was done until the Iran Hostage Crisis erupted in 1979. The Rapid Deployment Joint Task Force (RDJTF) was established in 1980 as a headquarters to plan for the employment of these forces and command them when necessary, establishing a permanent U.S. military headquarters focused on the Middle East. Many regard the RDJTF as the predecessor to today's U.S. Central Command, and it is significant that Kelley was selected to be its first commander, and promoted to lieutenant general to fill that role. Many thought an army officer was the appropriate choice to serve as the commander of the RDJTF, since most of the forces at his disposal would come from the Army, and Army leaders had more experience and preparation to lead corps-level (multi-division) operations than the Marines, who focused on amphibious warfare on a smaller scale. Also, any war fought in the Middle East would presumably involve extended land campaigns rather than amphibious operations. Finally, a tension also existed between the Army and Marine Corps going back to World War II over Marine generals being in command of Army units. Kelley's reputation on the Joint Staff and within the Department of Defense, however, earned him the spot.

Kelley excelled as the commander of the RDJTF, and made the Marine Corps look good in the process. He was promoted to full General just two years later, the youngest officer to wear four stars in the Marine Corps. His next assignment was as Assistant Commandant of the Marine Corps, the second senior position in the Corps, from 1981 to 1983, after which he became Commandant. Kelley's nomination to become commandant was made not just because

he was popular with Marines, but also because he had established a good reputation in the Department of the Navy and Department of Defense.[1342] This was important in President Reagan's Pentagon, where the Department of the Navy was enjoying renewed support and growth under Secretary of the Navy John Lehman. Where Kelley's predecessor was seen as attached to the older generation of generals and uncomfortable with the younger generation of Marines, Kelley was seen as "brash" and "young," and one who could move forward into a "whole new era."[1343] Some influential reformers saw Kelley as an officer who would support the development of maneuver warfare in the Marine Corps. William S. Lind later related, "Jeff [Record] and I had gotten to know P.X. Kelley when he was fairly junior, and were very impressed with him. He in turn made it clear that he wanted to do all the kind of stuff we are talking about."[1344]

Even if Kelly would not fulfill expectations that he would promote the adoption of maneuver warfare, there is no real evidence that he was hostile to the new concept when he became Commandant, either. The actions and official statements of Kelley's subordinate generals in the first months and years after he became commandant show a good degree of tolerance for maneuver warfare and its advocates. As a Lieutenant General, Bernard Trainor was Kelley's newly-promoted Deputy Chief of Staff for Plans, Policies, and Operations, his principal subordinate for policies relating to the employment of Marine forces. Trainor was interviewed by the *Marine Corps Gazette* in the first month after Kelley became commandant, and clearly understood this interview to be a public statement that would need to reflect the new

[1342] Bernard E. Trainor, interview by Benis M. Frank, transcript, 12 December 1985 – 21 March 1988 (Quantico, Virginia: History Division, U.S. Marine Corps), 222.
[1343] Trainor, interview, 222.
[1344] William S. Lind, interview by Shawn P. Callahan, 29 January 2020, digital recording. Oral Histories Collection, Marine Corps Archives, History Division, Marine Corps University, Quantico, Virginia.

commandant's priorities. Maneuver warfare was one of the main topics discussed, starting with the direct question that so many Marines wanted answered after four years of debate and experimentation, with a new commandant taking charge: "Has the Marine Corps signed on to maneuver warfare as a way of fighting?"[1345] Trainor's answer was consistent with the views he had been expressing in his contributions to the *Gazette* debate:

> The term maneuver warfare has taken on a life of its own and is subject to as many interpretations as there are interpreters. The Marine Corps does not subscribe to any exclusive formula or recipe for warfare. Our approach is to operate on the basis of sound military principles taking into account the dynamics of the situation (that is, mission, terrain, enemy situation, and weather).[1346]

When pressed by the interviewer to say if this meant the Marine Corps would continue to follow "the traditional principles of war," Trainor answered,

> Yes, but not inflexibly… In both offense and defense, we expect our commanders at every level to seize the initiative and to stay progressively ahead of the enemy in both thought and action. The opponent must be forced to react to us rather than we to them. We seek to put the enemy off balance and keep him that way. It is in this context that the Marine Corps not only subscribes to "maneuver warfare," but also champions what it represents: a means to an end--the enemy's defeat.[1347]

Trainor admitted that he saw merit in the concept of maneuver warfare, stating,

> By subscribing to the principles reflected in the concept of maneuver warfare--rather than to any particular interpretation--tactics, techniques, and materiel requirements will evolve and progress rationally and logically through experimentation and testing. This has been a successful formula for us in the past and has allowed the Marine Corps to pioneer such techniques as amphibious landings, close air support, high-performance VSTOL operations, and vertical envelopment--radical at their inception, commonplace today.[1348]

Collectively these comments suggest that Kelley and his most senior officers saw some value in the ideas behind maneuver warfare, but were as yet unconvinced that adopting the new approach

[1345] John C. Scharfen, "Views From PP&O: An Interview with LtGen Bernard E. Trainor," *Marine Corps Gazette* 67, no. 9 (September 1983), 41. [:37-44.]
[1346] Scharfen, "Views From PP&O: An Interview with LtGen Bernard E. Trainor," 41.
[1347] Scharfen, "Views From PP&O: An Interview with LtGen Bernard E. Trainor," 41.
[1348] Scharfen, "Views From PP&O: An Interview with LtGen Bernard E. Trainor," 41-42.

as a whole was a sound basis for making fundamental changes to adopt a new, yet actionable approach to fighting. The official position of Headquarters, Marine Corps, then, was to continue to experiment with maneuver warfare to find this out before making radical changes in Marine Corps doctrine or force structure. This is consistent with General Trainor's recollection in a 2015 interview, who recalled when Kelley took over, he said, "We have gone through a period of tremendous change, expansion, and modernization. This is the time to hold what we have and let's absorb all this sort of stuff before we move forward."[1349]

This was consistent with the actions of the commandant and Headquarters, Marine Corps. Kelley's direction did not mean experimentation with maneuver warfare needed to stop, only that he wasn't ready to make major changes based upon it. Indeed, experimentation within the 2d Marine Division under General Gray was not terminated, but instead continued into a third year, and as the 1984 interview above shows, Gray felt free to openly advocate for the adoption of maneuver warfare in public forums. Gray's support for maneuver warfare in the first year of Kelley's commandancy did not result in him being asked to retire, or assigned to a marginal position. Indeed, at the end of that year, he was promoted to Lieutenant General, and placed in command of the II Marine Amphibious Force, the parent organization for the 2d Marine Division. Nomination for this promotion was likely done at Commandant General Kelley's initiative, and certainly could not have been made without the commandant's support. It was also highly unusual in that it placed Gray in a position to continue active experimentation with maneuver warfare concepts as a commander of Marine Corps combat forces beyond the normal two- or three-year tour. Instead, Gray would have a six-year period to do so, with an increasing scope of authority to bring a larger part of the Marine Corps into the process. Indeed, Gray's

[1349] Trainor, interview, 223.

promotion brought a full third of the Marine Corps' active duty combat forces into the process. This strongly suggests Kelley was supported the continuation of experimentation with maneuver warfare, at least in official policy.

General Kelley's plan to take time to "absorb" what was happening after a period of enormous change before moving forward, and permitting experimentation under Major General Gray to continue, suggests that he wanted to ensure the process of changing the Marine Corps was deliberate and managed from the top down. Kelley may have been suspicious of efforts to change the Marine Corps that did not fall under this centralized scheme. Lind, who would become Kelley's greatest critic, two years later reported that the commandant, "in speeches to Marines, has repeatedly denounced 'little groups that meet in people's basements in Washington,' i.e., the groups of Marine officers that have sought to explore and spread the maneuver concept." If true, this was an obvious reference to Lind's after-hours maneuver warfare seminar for AWS students. In addition to grassroots efforts, Kelley was certainly suspicious of civilians promoting change within the Marine Corps. It became widely understood that at some point before the fall of 1985 the leaders of Marine schools and activities at Quantico were forbidden from inviting civilian advocates of maneuver warfare, including Lind, from speaking aboard the base.[1350]

Regardless of General Kelley's attitudes toward grassroots reform efforts, there is no indication in the quantitative index of *Marine Corps Gazette* dialog on maneuver warfare that Kelley came to the commandancy with the intent of suppressing that debate. That data shows symmetry in the debate between the six months before July 1983 and the six months after. Indeed, as figure 9 shows, the number of articles written over the next two years favorably

[1350] William S. Lind and Jeffrey Record, "The Marines' Brass Is Winning Its Battle But Losing the Corps," *The Washington Post* (July 28, 1985), B2; and Trainor, interview, 236.

arguing for the adoption of maneuver warfare continued to rise, at least until the debate went cold in 1986. There was also no major change in the substance of the debate in the first two years of General Kelley's commandancy.

The major themes of debate from 1980 to 1983 continued over these next two years. Members of 2d Marine Division continued to share the lessons they were learning about how to practice maneuver warfare. One captain argued the division's maneuver warfare training prepared his battalion had excelled in all aspects of its peacekeeping deployment to Beirut except public relations, and recommended increased attention to that aspect.[1351] Articles also suggested that experimentation and development of new techniques had spread, with initiatives in portions of the 1st Marine Division in Camp Pendleton, California.[1352]

Writers argued both for and against maneuver warfare as a valid concept with a sound historical basis.[1353] Officers on both sides of the debate saw that the concepts behind maneuver warfare were often misunderstood, and some saw that "semantic confusion" was a big part of the problem.[1354] Misunderstandings did, indeed, continue. These included the idea that maneuver warfare meant firepower, violence, and destruction we no longer required. A new feature of this period was ridiculing the maneuverists for thinking they could "dazzle the enemy with footwork," or, seeing that mechanization was often associated with maneuver warfare, describing maneuver as "automotive ballet."[1355] More thoughtful officers honed in on the maneuverists' treatment of maneuver and attrition as a dichotomy. Major Gary W. Anderson, for example,

---

[1351] John P. Giguere, "Preparing for the Press in Combat," *Marine Corps Gazette* 67, no. 10 (October 1983), 30.
[1352] D H. Berger, "A traveling command post," *Marine Corps Gazette* 68, no. 6 (June 1984), 52-53.
[1353] R.J. Brown, "Maneuver Warfare at Tinian-1944," *Marine Corps Gazette* 68, no. 7 (July 1984), 51-55; A C. Bevilacqua, "Combat Intelligence in a Maneuver Environment," *Marine Corps Gazette* 69, no. 7 (July 1985), 60-61; and Allan R. Millett, "Son of the Morning Star: Custer and the Little Big Horn," *Marine Corps Gazette* 69, no. 6 (June 1985), 76-77.
[1354] R.J. Brown, "Maneuver Warfare at Tinian-1944," *Marine Corps Gazette* 68, no. 7 (July 1984), 51.
[1355] Vladimir Dunvej (pseudonym for A.C. Bevilacqua), "The hammer," *Marine Corps Gazette* 68, no. 2 (February 1984), 49.

argued that maneuver advocates needed to move their concepts "away from the Hegelian extremes of maneuver and firepower attrition," and instead focus on maneuver warfare as the exploitation of enemy vulnerabilities and mistakes.[1356]

Some writers saw the development of maneuver warfare, which had increased the study of military history and theory in Marine Corps schools, and its field experimentation and debate, as evidence of needed professional reform, and an important effort that would enable the Marine Corps to adapt to the needs of the next war.[1357] Meanwhile, articles continued to be critical of the civilian intellectuals for their advocacy of maneuver warfare.[1358] One officer was critical of both the origins and application of the new ideas, arguing that the maneuverists were merely copying the tactics of a successful army from an earlier war, and inappropriately applying to them to the naval campaigns the Corps was planning to fight in the future.[1359]

One difference in this period relative to the earlier debate of 1980 to 1983 was that Lind was less involved. Lind had been the most prolific writer for the *Gazette* on maneuver warfare prior to that point, but only wrote one letter to the editor and three articles for the *Gazette* for the four years Kelley was in office.[1360] It is possible that General Kelley had something to do with that, such as by intervening with the editor of the Gazette, but there are other feasible explanations. Lind's writing actually began trailing off in 1982, suggesting that as he began

---

[1356] Gary W. Anderson, "Maneuver, Attrition, or the Tactics of Mistake?" *Marine Corps Gazette* 69, no. 9 (September 1985), 73.
[1357] James A. Marapoti, "Battlefield Mobility and Survivability of the MAGTF," *Marine Corps Gazette* 68, no. 3 (March 1984), 61-62; and R. Scott Moore, "The Legacy of J.C. Breckinridge," *Marine Corps Gazette* 68, no. 5 (May 1984), 60-63.
[1358] M.T. Owens, Jr., "The Grand Strategy of the Soviet Union," *Marine Corps Gazette* 68, no. 2 (February 1984), 70.
[1359] Benson M. Stein, "The Defensive Naval Campaign: An Appropriate Mission," *Marine Corps Gazette* 67, no. 10 (October 1983), 26-27.
[1360] William S. Lind, "IFVs—A Flawed Concept," *Marine Corps Gazette* 67, no. 10 (October 1983): 14; William S. Lind, "Preparing for maneuver warfare," *Marine Corps Gazette* 68, no. 6 (June 1984), 47-55; William S. Lind and James P. Etter, "Questions for Marine Aviation: Part I," *Marine Corps Gazette* 69, no. 5 (May 1985): 20-22; and William S. Lind and James P. Etter, "Questions for Marine Aviation: Part II," *Marine Corps Gazette* 69, no. 6 (June 1985): 12-14.

getting more involved in mobilizing Congress through the Military Reform Caucus, he had less time to devote to a narrow reform topic like maneuver warfare. After reading the reactions of many Marines to ideas coming from a civilian in the earlier debate, Lind may have decided to step back, and let some of his allies in uniform carry the torch in the *Gazette,* while he worked with others to produce the *Maneuver warfare Handbook*.

Kelley had called for a period of conceptual consolidation, an opportunity for the Corps to deliberately assess all the new ideas and make decisions about the best path froward. Many saw the need. General Trainor later related that while "Everybody expected lots of new and great things from General Kelley," they understood his desire in the first years of his commandancy to let the dust settle from all the recent changes before moving forward. In Trainor's words, "I think that was generally accepted by the rank and file of the Marine Corps for the first two years."[1361] Some officers certainly believed that appropriate progress was being made in this period.[1362] Others, of course, were less patient with the status quo or measures being taken to adopt maneuver warfare, seeing this as the time for conceptual and doctrinal progress. Lind was not satisfied to wait, and wanted more progress through major reforms. Before the first year of Kelley's commandancy was over, Lind wrote an article titled, "Preparing for maneuver warfare." Lind started with an assessment of the situation,

> Over the past several years, the GAZETTE has published a number of articles describing maneuver warfare. Readers have been acquainted with the goal of maneuver warfare (shattering the opponent's physical and/or mental cohesion); the means (presenting the opponent with a succession of unexpected and dangerous situations more rapidly than he can react to them); and some useful tools (*Schwerpunkt* or focus of effort, mission orders, "surfaces and gaps," reconnaissance pull, and the distinction between tactics and techniques). Enough has been written telling GAZETTE readers what maneuver warfare is that those who still don't know must be uninterested.

[1361] Trainor, interview, 223.
[1362] G. R. Ing, "Educational Philosophy," *Marine Corps Gazette* 68, no. 8 (August 1984), 16, 18; and Brendan P Ryan, "AWS: A graduate's perspective," *Marine Corps Gazette* 68, no. 9 (September 1984), 20-23.

> It seems about time to take the next step: to move beyond describing maneuver warfare to discussing how the Marine Corps must change if it is to be able to do it. In order to do maneuver warfare in combat, it is of course necessary to understand what it is. But that is only the beginning.[1363]

Lind then asserted that "many and far-reaching" changes were in order, some of which would need to be "revolutionary, not evolutionary."[1364] Lind then proposed a summary of changes that he said was not meant to lay out every change, but instead start debate on the subject of what needed to be done. He divided his agenda for the Marine Corps into two areas where change was needed. The first, "institutional structure and behavior," called for educating officers in operational art, adopting more rigorous and more effective education, reforming training and improving mobility, changing the promotion system, and investing in the development of noncommissioned officers.[1365] The second area, "things that can be done now, at the battalion and company levels, through local initiative," called for using more free-play exercises, wargaming, unit-level officer and noncommissioned officer development, and more effective critique of training , exercises, and wargaming.[1366] It is clear that Lind's article, coming during a period when maneuver warfare didn't seem to be spreading beyond the 2d Marine Division, and when debate in the *Gazette* was diminishing, was meant as both a call to action for the Corps' leadership, and a reminder to the maneuver warfare advocates of ways they should make progress in areas under their immediate control. In the process, Lind was also reminding his readers that adopting maneuver warfare was just one part of a larger agenda for reform in the

[1363] Lind, "Preparing for maneuver warfare," 47.
[1364] Lind, "Preparing for maneuver warfare," 47.
[1365] Lind, "Preparing for maneuver warfare," 48-54.
[1366] Lind, "Preparing for maneuver warfare," 48, 54-55.

Marine Corps. His frequent mention of the German army in the article made it clear that this was the model that was inspiring his recommendations.[1367]

Over time, especially after another year without clear progress, when Kelley was halfway through his tenure as commandant, discontent with the lack of action grew. General Trainor related that while Marines had generally been patient in the first two years, "…during the second two years, I think everybody expected some innovative moves, some new direction. But we didn't get it. There was no change. We really weren't doing that much.[1368] It was within this general climate of disappointment with Kelley's leadership that Lind, already chafing for active reform in a broad range of areas, became more militant.

The first evidence of this was an article he wrote with fellow reformer Jeffrey Record for the *Washington Post* in July 1985 that was highly critical of the Corps and its commandant. If there is a single event that signifies a turn in Lind's relationship with the Marine Corps, it is his decision to write this article, which appeared at the very top of the very first page of section B of the Sunday edition of the *Post* on July 28, 1985, devoted to commentary and opinion. Though Lind's critique of the Marine Corps had been less frequent since 1982, he was harboring a personal grievance against General Kelley. In his mind, his expectations for General Kelley to move forward on adopting maneuver warfare were not based solely on Kelley's earlier interest in the topic, or even any statements Kelley may have made to him. As Lind saw it, the reformers' political influence had made them into Kelley's patrons, and they were owed something in return. In a 2019 interview Lind explained,

> When he [Kelley] became the head of the Rapid Deployment Force, I got, not at all infrequently, calls from him…in the evenings, needing help. And Jeff [Record] and I arranged that help. …so we played a significant role in his success. We were looking to him to be the commandant that ultimately General Gray was, the commandant who would

[1367] Lind, "Preparing for maneuver warfare," 47, 48, 49, 50, 55.
[1368] Trainor, interview, 223.

> adopt maneuver doctrine, who would…get serious from the top down as well as the bottom up in the Marine Corps about making all the necessary changes.
>
> Well, he became Commandant and essentially just blew us off. And you don't do that and not pay a price…not to me. So I rubbed his nose in it. And …Jeff was happy to join in, because he treated Jeff the same way. …it wasn't the way he treated us personally, it was that he just made it clear that he's not going to change anything. Now that he is Commandant, why should he? He was just using us, and using the whole maneuver warfare effort…and, again, you do that to me and you pay a price.[1369]

The *Washington Post* article, titled "The Marines' Brass Is Winning Its Battle But Losing the Corps," then, was in part designed to effect change within the Marine Corps by pressuring Commandant General Kelley, but it was also part personal payback for perceived disloyalty. This showed in its content and language.

The articles started by reminding the *Post's* readers of the unnecessary deaths of 241 Marines in an attack by a "lone terrorist" on their barracks in Beirut two years earlier, which was the result of "professional military negligence," and castigated Marine Corps senior officers for their "subsequent effort to disavow responsibility for the disaster."[1370] It then described how "similar displays of incompetence in at least a dozen Marine Corps peacetime field exercises over the last decade" led Lind and Record to join with "like-minded Marine officers" in a long-term effort "to effect fundamental changes in the way the Marine Corps thinks about and prepares for combat."[1371] The article explained the difference between firepower/attrition warfare and maneuver warfare, and described how in the mid-1970's the Marine Corps had proven open to the idea, unlike the Army, leading to small groups of Marine officers studying the topic, and dramatic success in the 2d Marine Division.[1372] Lind and Record described the apogee of this effort in the 1980s,

[1369] Lind, interview, 29 January 2020.
[1370] Lind and Record, "The Marines' Brass Is Winning Its Battle But Losing the Corps," B1.
[1371] Lind and Record, "The Marines' Brass Is Winning Its Battle But Losing the Corps," B1.
[1372] Lind and Record, "The Marines' Brass Is Winning Its Battle But Losing the Corps," B1-B2.

> Junior officers in particular took to the new approach, since the decentralization maneuver warfare demands made them real commanders instead of just pipelines for orders from above and reports from below.
>
> The debate over and experimentation with maneuver warfare helped engender a broad reawakening of interest in the art of war among Marines. Marine officers began reading military history and theory, writing on both for the Gazette, and offering thoughtful, constructive criticism of Marine Corps policies and practices. At Quantico, Va., the Marine Corps schools began to shake off the intellectual lethargy that followed Vietnam. A few instructors and department heads began to question the schools' focus on formats, procedures and rigid school solutions, arguing instead for a curriculum that would teach officers how to think creatively both in and about combat. Throughout the Corps, individual officers, most of them fairly junior, began raising a wide range of issues aimed at making the Corps in the 1980s what it had been in the 1920s and 1930s--when it pioneered the development of amphibious doctrine: a creative, innovative institution where brains are regarded more highly than biceps.
>
> By the early 1980s, these efforts added up to a reform movement from below.[1373]

This was setting up Lind's main target, General Kelly, who

> Many Marines, and many civilians interested in the well-bring of the Corps, looked to…to provide the leadership from above the movement would need to succeed fully.
>
> Kelley had given many people inside and outside the Corps the impression that he was sympathetic to the need for change. Many believed he would build on the groundwork laid by his juniors.[1374]

Lind and Record explained "These expectations have proven sadly misplaced," for "Instead of being a time of reform and renewal, the last two years have seen a virtual counter-reformation, led from the top."[1375] The reformers then charged that the progress of the previous era had been "systematically dismantled" with needed reforms in education, training, and doctrine rolled back, while ignoring and denying the Corps' real problems.[1376] Lind and Record kept their sights on Kelley as the root cause of these problems, writing,

> Most worrisome of all the actions and inactions of the Marine Corps' senior leadership has been an assault on the essence of the Corps as an institution. The commandant has been preaching a doctrine of "followership"" to Marine audiences, a doctrine that, as one retired Marine colonel wrote in a letter to one of the authors, "seems to come across as an ill-camouflaged thrust for greater personal loyalty, conformity and blind obedience."

[1373] Lind and Record, "The Marines' Brass Is Winning Its Battle But Losing the Corps," B2.
[1374] Lind and Record, "The Marines' Brass Is Winning Its Battle But Losing the Corps," B2.
[1375] Lind and Record, "The Marines' Brass Is Winning Its Battle But Losing the Corps," B2.
[1376] Lind and Record, "The Marines' Brass Is Winning Its Battle But Losing the Corps," B2.

> Such personalist loyalty is antithetical to an institution where loyalty traditionally has been to goals, not individuals. If, as many Marine officers fear, "followership" means that officers who conform to the party line and proclaim the Corps is without problems will be promoted and that those who seek to identify and correct the problems will be passed over, the institutional damage will be severe.[1377]

The article closed by observing that in a reversal of the situation in the 1970's, the U.S. Army had developed a vibrant internal reform movement, and had embraced maneuver warfare. They observed that this increase in the Army's military effectiveness and reputation relative to the Marine Corps might mean a real opportunity for the Army in budget battles, and leave the Marine Corps vulnerable to a takeover bid. Lind and Record closed the article with a call to action leveled squarely at General Kelley, "The opposition to self-criticism and change comes not from the Corps at large, but from Marine Corps Headquarters. It is time for Marines and friends of the Corps to warn that Headquarters of the potential consequences of its policies."[1378]

The significance of this article cannot be overstated. Marines like General Trainor believed Lind had taken it too far.[1379] These were charges, coming from a politically-empowered legislative aide associated with the Military Reform Caucus, in an article that got top billing in Washington D.C.'s major news outlet for policymakers, made personal accusations and implied that the Marine Corps' future in interservice battles was at stake. It was tantamount to a personal declaration of war by Lind on Kelley.

It is also important to remember the organizational and political context explained in Chapters 2 and 3. Over the course of Kelley's time leading the Marine Corps, the broader military reform movement had gained power through the newly-formed Military Reform Caucus, and had attracted both public attention and the ire of the leaders of the defense establishment.

---

[1377] Lind and Record, "The Marines' Brass Is Winning Its Battle But Losing the Corps," B2.
[1378] Lind and Record, "The Marines' Brass Is Winning Its Battle But Losing the Corps," B2.
[1379] Trainor, interview, 33.

This included the two men above Kelley in his chain of command, Secretary of the Navy John F. Lehman and Secretary of Defense Caspar Weinberger. Chapter 2 showed that Lehman had developed a special wrath towards the reformers, and Lind in particular. Kelley meanwhile, had aligned himself with the SecNav to a greater degree than his predecessors. As Chapter 2 explained, previous commandants had enjoyed the inattention of the secretaries over Marine Corps matters because the SecNavs were usually more focused on Navy policy and shipbuilding. Kelley saw Lehman's central policy effort, building a 600-ship navy as demanded by the Maritime Strategy, as an opportunity for the Marine Corps and its amphibious mission. Enhancing the Marine Corps' amphibious capabilities was the most consistent issue Kelley advocated for in his time as commandant, even publishing the Amphibious Warfare Strategy as a complement to the Maritime Strategy.[1380] Kelley was well-known for the unusually close relationships he cultivated in Lehman's Department of the Navy and Weinberger's Pentagon. This alignment surely affected his attitudes towards Lind, arguably their most consistent and vocal critic, and Lind's attitude toward Kelley. In addition to any personal reservations Kelley may have had towards maneuver warfare and grassroots efforts by young Marine officers, Kelley's institutional alignment was inclined to make him suspicious of Lind even as he was tolerating Gray's experimentation with the new ideas. Lind's explosive 1985 *Washington Post* article certainly blew the lid off any uneasy toleration that Kelley may have been exercising prior to that point.

Lind used his political platform to make even wider audiences aware of his disappointment with General Kelley's Marine Corps. The following year, Lind co-authored a book on military reform with Senator Gary Hart titled *America Can Win: The Case for Military*

[1380] P.X. Kelley and Hugh K. O'Donnell, "The Amphibious Warfare Strategy," *U.S. Naval Institute Proceedings* 112, no. 1 (January 1986), supplement, 20-29.

*Reform*. This book was probably meant as much to showcase his boss as a leader in the Military Reform Movement as he became a presidential candidate, as it was about advancing the Military Reform Movement itself. Most significant to this study is what they wrote about the Marine Corps. Where in earlier years Lind had often upheld the Marine Corps as the most open-minded and innovative among the military services, in *America Can Win* they displaced the Marine Corps as the leading serve in that role, writing, "In fact, the army, alone among the armed services, is today making a serious and sincere effort to reform itself."[1381] After commending the army for a largely self-initiated effort that was harnessing the energy of a new generation of officers, most of whom were "Strong supporters of maneuver warfare," the authors turned to the Marine Corps. They wrote, "What about our second army, the Marine Corps? The Marine Corps provides an instructive, if disheartening example of how an attempt at self-reform can go astray."[1382] In a narrative that paralleled Lind's *Washington Post* article, Hart and Lind described the significant achievements of the Marine Corps in developing maneuver warfare through the early 1980s, then got to the point,

> Unfortunately, since General Barrow retired as commandant, the senior leadership of the Maine Corps has turned against maneuver warfare and military reform generally. Not only has the new leadership not undertaken the changes maneuver warfare requires…that leadership has moved to suppress maneuver warfare where it had been flourishing.[1383]

In the next paragraph they continued, "Senior marine leaders have denounced the small groups of marines who meet to study maneuver warfare. 'Stability,' a code word for resistance to reform, has been proclaimed as the Marine Corps' policy."[1384]

[1381] Hart with Lind, 36-37
[1382] Hart with Lind, 37.
[1383] Hart with Lind, 39.
[1384] Hart with Lind, 39.

Many Marines did not react positively to Lind's renewed criticism of the Corps and its Commandant, especially as it moved into more public forums. The debate over maneuver warfare in the Gazette trailed off in 1986, and went silent in 1987, and the last substantive articles on the subject written in 1986 were uniformly critical. Of note, three of these four articles were precipitated not by articles other Marines had written in support of or opposing the concept of maneuver warfare, but in response to something Lind had written.

In the first review of Lind's Maneuver Warfare Handbook, Major F. G. Sanford Jr. opened by reminding the *Gazette's* readers of Lind's below-the-belt attack on the Corps and the Commandant, writing,

> Although Lind's targets for reform have included the Air Force, Army, and Navy, his most recent caustic salvo, a biting *Washington Post* article coauthored with Jeffery Record, ruthlessly attacked the U.S. Marine Corps. Indicting the Marines generally for professional negligence and operational ineptitude, Lind directed specific censure to an issue near and dear to his heart: the Corps' failure to institutionally adopt his particular brand of maneuver warfare.[1385]

While he praised Wyly's annexes at the back of the *Maneuver Warfare Handbook*, Sanford took aim at Lind, characterizing the *Handbook* as "a polemic that abounds with examples of tunnel vision," and criticized Lind for a "'don't confuse me with facts' reaction to well armed skeptics."[1386] In the end, he saw it as "a short, singlesource [sic] recapitulation of previously published material regarding Lind's particular conceptualization of maneuver warfare" and castigated Lind for taking, "the simpler, safer route of reorganizing and republishing existing material without conducting the exhaustive, critical research necessary to argue effectively his thesis on the battlefield of open debate--the inevitable reform initiative success discriminator."[1387]

---

[1385] F.G. Sanford, Jr. "Maneuver Warfare Handbook," *Marine Corps Gazette* 70, no. 1 (January 1986), 82.
[1386] Sanford, 82-83.
[1387] Sanford, 82-83.

The second article did not mention Lind by name, but clearly referenced the agenda laid out in his June 1984 "Preparing for maneuver warfare" article. Though this article was meant to remind Marines of the wider changes needed beyond developing a concept of maneuver warfare, Major M.T. Davis of the U.S. Army believed, "The maneuverists, who have expanded their agenda and are now the self-proclaimed 'Military Reform Movement,' are not completely mollified."[1388] Davis charged that the argument typified by Lind's article, "…like so many other observations offering pat answers to complex problems, …ignores numerous uncomfortable facts."[1389] Davis argued "Maneuver warfare has simply been overanalyzed and then oversold" by people "unwilling to reconcile their theory with plainly incongruous facts."[1390]

A book review of Hart's and Lind's *America Can Win* appeared in the same issue of the *Gazette* in which Major G.W. Anderson argued that Lind was wrong for insisting the maneuver warfare be treated as anything more than technique, and stated that Lind's real problem was being unsatisfied with incremental change.[1391] As the *Gazette* debate over maneuver warfare trailed off in the last two years of Kelley's commandancy then, one of the earlier trends continued: the tendency to focus on the people behind the ideas and their methods, rather than the soundness of those ideas.

These articles did show a continuation of other themes in the earlier debate. The writers continued to see that portraying maneuver warfare as the very opposite of destructive attrition presented obstacles. Major Gary W. Anderson's September 1985 article had pointed out that representing these two modes as opposed ideal forms was unhelpful.[1392] A year later, in August

---

[1388] M.T. Davis, "Military Reform and Military History," *Marine Corps Gazette* 70, no. 8 (August 1986), 27.
[1389] Davis, 27.
[1390] Davis, 28.
[1391]
[1392] Gary W. Anderson, "Maneuver, Attrition, or the Tactics of Mistake?" *Marine Corps Gazette* 69, no. 9 (September 1985), 73.

1986, Davis offered a perspective informed by the Army experience. He observed, "Although the Army did not accept the contention that maneuver and firepower/attrition were dichotomous, it did place considerably more emphasis on offensive operations, initiative, agility, synchronization, and the ability to see and attack deep in the enemy rear."[1393] The implication in Davis's argument was that the Army was able to incorporate important elements of maneuver warfare into the 1982 version of FM 100-5, the first version known as "AirLand Battle," because Army officers did not get mired in debates about a false choice between destructive firepower and maneuver. Further, he argued that such purist conceptions as maneuver warfare were fundamentally ahistorical—inconsistent with the more complex nature of war evident in military history, and as a result, "the entire basis of their argument that maneuver warfare is a strictly distinct form of conflict, universally applicable, which all successful commanders must employ, completely unravels."[1394]

In that same issue, Lieutenant Colonel E.J. Robeson IV launched a similar argument, writing, "War is far more complex than either the firepower-attrition or maneuver warfare models suggest." He added,

> The maneuver warfare school has been particularly vocal in advocating its position and in castigating firepower-attritionists. In fact, the debate has been singularly one-sided. Few strategists would openly advocate pure firepower-attrition (although several prominent leaders have come close in practice). Moreover, the skeptic must ask whether the firepower-attrition school is really nothing more than a "straw man" alternative developed by the maneuverists, for it has many detractors and no known champions.[1395]

Robeson was making an excellent point. Though many Marine officers objected to maneuver warfare's perceived promise of victory without bloodshed, no one in the pages of the *Gazette* was explicitly arguing for the attritionist mode of warfare. Indeed, it was the maneuver warfare

[1393] Davis, 27.
[1394] Davis, 28.
[1395] E.J. Robeson IV, "Forrest War: Putting the Fight Back. . ." *Marine Corps Gazette* 70, no. 8 (August 1986), 61.

advocates who assigned the term "attritionist" to their opponents—no group considered themselves to be in that school of thought. In the end, Robeson got back to the key point in the resistance, that the opponents of maneuver doctrine thought an idealized form of warfare that minimized violence and bloodshed was not only unwise, but anathema to the very culture of the Marine Corps. For his final paragraph he wrote,

> So, while maneuver warfare advocates continue to press the Marine Corps to radically change its traditional mode of operations, perhaps the more prudent action would be to have confidence and believe in ourselves, to resist the current vogue, and to remember that at the core of every conflict is a rifleman, whose every attack will be frontal and brutal, and whose weapon is for killing, not for maneuver. The more effectively we institutionalize this truth in the souls of all Marines, the better able we will be to fight, maneuver, and pursue on the battlefields of tomorrow.[1396]

In this final two years of *Marine Corps Gazette* discourse, then, as diminished and one-sided as it was, key contours remained. Resistance to the maneuver warfare movement was as much about the people involved and the methods they employed as it was about the ideas themselves. Additionally opposition was founded upon misunderstandings, and had as much to do with organizational culture as it did with any irreconcilable intellectual position.

It is unclear if Commandant General Kelly played a role in suppressing debate over maneuver warfare during his four-year term as commandant, or even if this was the case during his last two years. Certainly, Lind's adoption of more extreme and aggressive measures must have given even the maneuver warfare advocates pause. Surely many were alienated and some wondered if it was wise to be associated with Lind's agenda. It must also be remembered however, that hostility towards the new ideas and the people who argued for them preceded General Kelley's appointment as commandant. It was back in 1982 that Lieutenant Colonel Wiley had met opposition at AWS for getting "Captains speaking in strange tongues."[1397] And it

[1396] Robeson, "Forrest War: Putting the Fight Back. . ." 65.
[1397] Wiley, interview.

was in 1982 that he found himself ejected from the faculty of AWS, as soon as there was no senior officer at hand interested in protecting him.

What is clear from the attenuated debate of the final years of Kelley's commandancy is that opponents of the maneuver warfare movement were expressing the same themes in their arguments, but also that the conversation evolved. Indeed, in this era their arguments became more cogent. This era of push back might have provided maneuver warfare advocates with an opportunity to sharpen their argument, but chapter 9 will show they remain wedded to some of the same persuasive conceptual devices, counterproductive as they were.

**Conclusion**

This chapter is focused on the theme of individual and collective activism outside the formal hierarchy of the Corps by considering these the degree to which these actions really did constitute a movement as that is understood within the field of history. It has shown that the Marine maneuver warfare movement, an effort to redefine how war should be fought and what it meant to be a professional officer of Marines, was just as broad, fundamental, and complex, at least within the Marine Corps, as better-known social and political movements were within American history. There are three major aspects which support this: people, ideas, and methods.

With regard to the members of the movement, it was a broad and loose coalition. Within the Marine Corps, the movement has generally been described as a bottom-up effort. While it has typically been depicted as a group of ardent young officers fighting the establishment, encouraged by a single product champion, General Alfred M. Gray, Jr., this study shows that there were several other important advocates that fell somewhere in between. Wyly is the most well known, but this chapter has shown that General Trainor, in the pursuit of tactical reform, placed Wyly in a critical position for helping launch the movement, and only later began to come

around to the idea of maneuver warfare itself, and in subtle ways. Anthony Zinni was more junior, but another late-comer, and always remained as skeptical of the abstract ideas as he was a harsh critic of the status quo. He may not have been a vocal advocate writing in the pages of the *Gazette*, but the way he reshaped the professional development and training in the places under his direct influence shows he was certainly in alignment with the movement's central aims. The backgrounds of these four officers, and their Vietnam War experiences which drew them to the maneuver warfare movement, shows that portraying this to be a grassroots movement is a gross oversimplification which erases the important roles played by the senior field grade and general officers who were veterans of the Vietnam War. Further, it does not speak to the different ways they received the new ideas. While some were deeply invested in the concept of maneuver warfare itself, for others the maneuver warfare movement was provided momentum for addressing fundamental organizational deficiencies they had identified long before the term "maneuver warfare" first appeared in the pages of the *Marine Corps Gazette*.

This leads to a second major aspect of the movement: its diverse ideas and objectives. This chapter has shown that the promoters of maneuver warfare within the Marine Corps were just as concerned with redefining how Marines were developed as leaders and thinkers, and how they prepared their units for war, as these maneuverists were with adopting a particular style of warfare. For some it was more about professionalism and reform, while for others it was working out how to actually practice maneuver warfare, but those two dimensions were never isolated from one another.

As for the ideas that made up maneuver warfare, while many were eagerly embraced, others were resisted. Part of the resistance was the result of misconceptions about what maneuver warfare actually was and how it would need to be practiced. Most problematic here

was William S. Lind's original model pitting maneuver warfare as the polar opposite of firepower and attrition. Many believed the maneuverists were naively promising victory without bloodshed. Over time, the critique of this construct sharpened, but the maneuverists remained wedded to it.

Other problematic aspects of the maneuver warfare concept related to its emphasis on decentralized command and control to promote subordinate initiative. To some, this seemed ill-advised, but their objections were as much cultural as they were intellectual. This begins to speak to the diversity of reactions to the new ideas. In addition to conceptual obstacles and reservations, some objected to the origins of the new ideas, especially when they could be associated with "outsiders" like William S. Lind, and his critique questioned how the Corps was going about developing officers or challenged their professionalism.

This relates to the third aspect of analyzing maneuver warfare advocacy as a movement: methods. The coalition was loose, and the way that each officer participated varied. Some were content to learn about maneuver warfare in the Amphibious Warfare School and experiment with it in the 2d Marine Division. Others chose to be more militant, sharing what they learned and arguing for more comprehensive efforts throughout the Marine Corps, such as by contributing to the discourse in the *Marine Corps Gazette*. It should be noted that while this chapter showed William S. Lind was intimately involved in this debate and in promoting the maneuverist agenda, John Boyd was virtually absent. Boyd, while a passionate reformer, should at most be considered a peripheral part of the maneuver warfare movement in the Marine Corps, as he remained in the background, sharing his "Patterns of Conflict" lecture when invited. Lind's active role, meanwhile, alienated Marines, at first through the changes he advocated, and later by vehemently and publicly attacking the Corps and its Commandant for failing to act on his

program of reform. Whether Commandant General Kelley had already begun to suppress the maneuver warfare movement or not, Lind's aggressive tactics did nothing to promote greater action from the Marine Corps, and created an environment of greater hostility towards the maneuverists.

Ultimately, debating the issue of maneuver warfare, and its complex dimensions, could not change the Marine Corps. As one officer pointed out at the height of the debate, no authority took advantage of the opportunity to "referee the maneuver warfare/firepower-attrition battle," and much of what was written in the *Gazette* was never enacted by Headquarters Marine Corps.[1398] In truth, he was correct, but this did not necessarily represent organizational dysfunction. A relatively independent forum for introducing new ideas and challenging the status quo does not necessarily benefit from the involvement of the organizational leaders, nor is that forum part of the process for making decisions. What the debate did was affect the organizational consideration of those ideas, by shaping the thinking of the individual officers who were organizational agents. If Commandant General Kelley and his principal subordinates were uninterested in adopting maneuver warfare, for whatever reasons, there were limits as to how much those maneuverist agents could accomplish. Once they were empowered to make changes, however, radical change could be accomplished, at least to a degree. This is the subject of Chapter 9 on the encoding of the new ideas about maneuver warfare in doctrine, showing how after General Gray became the Commandant of the Marine Corps the collective and individual thinking of Marines, acting as agents of the government, resulted in organizational action.

[1398] Gregor, "Is HQMC Listening," 11-12.

## Chapter 9: Encoding Maneuver Warfare in Marine Corps Doctrine

Sometime in the fall of 1988 Captain John Schmitt sat at a conference table with General Alfred M. Gray, Jr., the Commandant of the Marine Corps. Several months prior, Schmitt, who had started his Marine Corps career in General Gray's 2d Marine Division, had been assigned the task of writing a comprehensive new doctrinal publication to redefine how Marines should think about war. Gray had given Schmitt wide latitude, telling him he did not answer to anyone except the commandant, and that he should let Gray know if anyone tried to interfere with his work. Now that he had been at the process for a few months, Schmitt had been directed to provide the Commandant with an update on his progress, and a sense of how he was approaching the task. Gray and Schmitt were the only ones seated at the table, but a host of senior officers sat around the walls, anxious to see what transpired, and how the commandant reacted to Schmitt's work, which they had not been allowed to see. Schmitt started by presenting the Commandant with an outline he had built for his project, and began, "We'll start chapter one with the discussion of the principles of war, of course."[1399] This seemed obvious to Schmitt because the few Marine Corps doctrinal publications which even superficially discussed the nature of war started by stating the nine principles of war: Mass, Objective, Offensive, Security, Economy of Force, Maneuver, Unity of Command, Surprise, and Simplicity. Marines remembered the nine principles through the semantic device MOOSEMUSS, and they were also the basis for any instruction in military theory and history that occurred in the Marine Corps schools. Schmitt was therefore taken aback when General Gray asked him, "Which principles are those?"[1400] This turned out to be a watershed moment. As Schmitt recalled years later,

[1399] John F. Schmitt, interview by Shawn Callahan, tape recording, Quantico, VA, February 21, 2013. Oral and Video History Section, History Division, Marine Corps University, Quantico, VA.
[1400] Schmitt, interview.

> I thought "What? How could it be that the Commandant doesn't know what the principles of war are?" So I didn't know what to say. So I just said, "You know, Sir, the principles of war?" And he said, "Which principles of war?" And I stammered some more, and I finally said "MOOSEMUSS, you know MOOSEMUSS?" And he got that lopsided grin of his and his eyebrows went up a half inch, he raised one eyebrow and he said, "Oh, *those* principles of war." And I sat back, and I thought "Oh my gosh." Because I realized what he was telling me. What he was telling me is, "What is sacrosanct about MOOSEMUSS? This is a list that J.F.C. Fuller made in 1919, why are you beholden to this old list?" And what he was telling me to do was I needed to be much more revolutionary than I was being. And I went back to my cubicle and I thought, "Oh my gosh, what have I gotten myself into?"[1401]

Schmitt realized that Gray was unimpressed with the age-old principles of war as a basis for understanding how to fight. The commandant was giving him license to take a much more radical approach in writing the Marine Corps' first doctrinal publication that would tell Marines how they should think about war. Schmitt began the effort anew, and did not include the principles of war anywhere in his work. Schmitt only met with Gray one more time on this project, and then took the final draft to the Commandant's quarters for signature. Gray added just two words to the foreword Schmitt had drafted for him, and signed the document to formally adopt it as Marine Corps doctrine.[1402]

This event demonstrates several important aspects about the encoding of maneuver warfare as Marines Corps doctrine. First, General Gray understood that if the Marine Corps was to learn how to practice maneuver warfare, it would need to fundamentally revise its way of thinking about war. More accurately, it needed to adopt a certain, common way of thinking. Second, this event shows that the conception of war FMFM 1 described was, indeed, a radical change for the Marine Corps. Third, it shows that Gray used an equally radical process for developing the new doctrine, one alien to the large bureaucracy that was the Marine Corps. Gray appointed a young captain to the job and gave him wide latitude to get it done, circumventing the

[1401] Schmitt, interview.
[1402] Schmitt, interview.

traditional process of hierarchical staffing that exerted a conservative influence on doctrinal change and watered down new ideas. The result was the radical change that Gray sought.

Historians have generally recognized that FMFM 1 did indeed constitute a radical change. Just a year after it was published Allan R. Millett produced an expanded edition of his comprehensive *Semper Fidelis: The History of the United States Marine Corps*, and mentioned FMFM 1 as a key component of General Gray's agenda to promote greater creative thinking about operations. Millett considered *Warfighting* "more readable and thoughtful" than the preexisting doctrine.[1403] Historians who have had the benefit of more time and perspective on the subject have been more uninhibited in their assessments. Fideleon Damian's 2001 master's thesis at Berkeley, "The Road to FMFM 1: The United States Marine Corps and Maneuver Warfare Doctrine, 1979-1989," argued, "Ultimately, *Warfighting's* publication meant the beginning of the formal institutionalization of the ideas that [the maneuverists] had advocated and experimented with for over a decade."[1404] Damian continued,

> The transition to the new way of thinking advocated by *Warfighting* took place over time and after considerable inter-organizational debate and discussion. In the decade prior to *Warfighting's* publication, the tension between attrition and maneuver was the cause of a heated public debate within the Marine Corps, especially within the pages of the *Marine Corps Gazette*. Marines also experimented with methods for training and educating necessary to execute the new doctrine. The publication of *Warfighting* was the culmination of these efforts.[1405]

In 2004, Terry Pierce argued, "Not since 1934, when the *Tentative Manual for Landing Operations* began to guide the newly established Fleet Marine Force, had a single doctrinal

[1403] Allan R. Millett, *Semper Fidelis: The History of the United States Marine Corps*, revised and expanded edition (New York: The Free Press, 1991), 634.
[1404] Fideleon Damian, "The Road to FMFM1: The United States Marine Corps and Maneuver Warfare Doctrine, 1979-1989," master's thesis (Manhattan, KS: Kansas State University, 2008), 4.
[1405] Damian, 10-11.

publication promised such great change in the Corps."[1406] Two years later Terry Terriff's *Journal of Strategic Studies* article assessed,

> In 1989 the US Marine Corps, at the direction of Commandant, General Alfred M. Gray, promulgated Fleet Marine Force Manual 1 (FMFM-1), *Warfighting*. The document presents an understanding of war and the concept of maneuver warfare that arguably is unique to the Marine Corps within the wider US military establishment. As its capstone doctrine, FMFM-1 *Warfighting* has informed all subsequent Marine Corps doctrine and operational concepts."[1407]

The tone of these assessments has remained consistent through 2018, when Ian Brown described *Warfighting* as the culmination of "a remarkable intellectual journey by the Marine Corps."[1408] Even the most vocal critics of the concept of maneuver warfare saw the publication of *Warfighting* as an important event because it enshrined the new concept, along with its faults.[1409]

Some have appreciated *Warfighting* was significant because its impact extended beyond the Marine Corps. Damian argued,

> The intellectual changes that took place in the Marine Corps were only one aspect of a process of rebuilding and reconstituting American military power in the wake of Vietnam. In this context, the publication of *Warfighting* had greater implications for the Corps and United States military history beyond the addition of a new doctrinal publication.[1410]

Grant Hammond, who focused more on Boyd's role than the institutional process, argued that the Marine Corps' adoption of maneuver warfare in FMFM 1 was an important event for helping a wide range of people become interested in maneuver warfare and Boyd's concept of the OODA loop.[1411] Hammond elaborated that FMFM 1 was an achievement because *Warfighting* was "The

---

[1406] Terry Pierce, *Warfighting and Disruptive Technologies: Disguising Innovation* (New York: Frank Cass, 2004), 86.
[1407] Terry Terriff, "'Innovate or die': Organizational culture and the origins of maneuver warfare in the United States Marine Corps," *Journal of Strategic Studies* 29, vol. 3 (August 2006), 475-476.
[1408] Ian Brown, *A New Conception of War: John Boyd, The U.S. Marines, and Maneuver Warfare* (Quantico, VA: Marine Corps University Press, 2018), 175.
[1409] Thomas Hughes, "The Cult of the Quick," *Aerospace Power Journal* 15, no. 4 (Winter 2201), 58, 62, 68n34. [: 57-68.]
[1410] Damian, 3.
[1411] Grant T. Hammond, *The Mind of War: John Boyd and American Security* (Washington: Smithsonian Books, 2001), 154.

most comprehensive application of Boyd to date," and was "The essay Boyd should have written instead of only giving briefings."[1412]

Such assertions beg the question as to whether FMFM 1 was truly remarkable because it was a vessel for Boyd's most radical ideas. Boyd's harshest critics believe so. Stephen Robinson, who regards Boyd as "The Blind Strategist" asserts that "Boyd's influence in *Warfighting* is unmistakable…," citing the definition of maneuver warfare in chapter 4 as evidence.[1413] Hammond's intellectual biography of Boyd extolled his genius and celebrated FMFM 1 as a realization of his genius, asserting,

> The Synthesis that FMFM-1 represents rests largely on the one that Boyd created."[1414] "Chapter 4, 'The Conduct of War,' is a tightly woven synthesis of Boyd's more rambling briefings, particularly the sections on maneuver warfare and decision making. Indeed, its definition of maneuver warfare is Boyd's preferred vision of how wars should be fought."[1415]

Chapter 5 of this dissertation has already shown that the definition of maneuver warfare in FMFM 1 owed much more to Lind's conception of the idea in 1976 than Boyd. Chapter 6 argued Boyd was much less interested in promoting maneuver warfare as his preferred style of warfare than developing a universal theory of conflict, and Boyd had little to do with the development of that concept beyond providing a much broader theoretical basis. Hammond's larger point, though, is consistent with Ian Brown's assessment, "'Patterns of Conflict' had laid a strong foundation on which to build a formal theory of maneuver warfare and codify it as doctrine."[1416] A close analysis of how FMFM 1 was developed, and how that shaped what was written in it, is needed to understand how these arguments can be reconciled with the findings of

[1412] Hammond, 195.
[1413] Stephen Robinson, *The Blind Strategist: John Boyd and the American Art of War* (Dunedin, New Zealand: Exisle Publishing, 2021), 60.
[1414] Hammond, 195.
[1415] Hammond, 196.
[1416] Brown, *A New Conception of War: John Boyd, The U.S. Marines, and Maneuver Warfare*, 175-176.

earlier chapters of this dissertation. Boyd did provide a strong foundation for the ideas, but maneuver warfare was developed as an actionable concept largely through others' work.

There are many misconceptions about the process through which FMFM 1 was developed, especially since "an obscure captain" played such an important role.[1417] Historians who have concentrated on more prominent and powerful participants in the maneuver warfare movement have discounted Schmitt's role. Robert Coram described the project as the product of Colonel Michael Wyly and Boyd collaborating at General Gray's direction, and coaching the young captain to write the manual, with Boyd providing the essential guidance on what the book should contain and the way it should be expressed. Such narratives, of course, privilege Boyd. Others have produced more accurate accounts.[1418] Few, however, have thought about how the content of the manual was a function of the process, not just of encoding the doctrine, but the much longer process of developing the ideas. In other words, many accounts portray *Warfighting* as the victory of the maneuverists over the attritionists in the debate, not a reflection the debate itself. As a result, assessments of FMFM 1 see that document as a relatively pure transmittal of the maneuverists' new ideas, such as Stephen Robinson, who argued "Fleet Marine Force Manual (FMFM) 1 *Warfighting* (1989) officially made maneuver warfare Marine doctrine and, unlike the AirLand Battle concept, there would be no diluting with opposing ideas." [1419] In so doing, such accounts fail to see that while *Warfighting* did encode radical new ideas in doctrine, it also crystallized some faults, and these faults represented obstacles to the acceptance and implementation of the new ideas.

[1417] Millett, 634.
[1418] H.T. Hayden, Warfighting: Maneuver Warfare in the Marine Corps (Mechanicsburg, PA: Stackpole Books, 1995), 32.
[1419] Robinson, 60.

In both popular history and incisive scholarship, FMFM-1 is universally portrayed as a revolutionary document. Some emphasize its ideas, others its effects. Even critics of the concept of maneuver warfare or the Marine Corps' efforts to realize its potential uphold *Warfighting* as revolutionary in its ideas and aspirations. *Warfighting* was, indeed, radical for what it stated, but this is as much a product of how it was developed as it was the ideas it sought to capture. A deeper understanding of FMFM-1 requires analysis of the process through which it was created, and how the ideas it expressed also reflected misconceptions and fault lines incepted long before Schmitt put pen to paper. In some cases, the seeds were planted more than a decade earlier. First, to better understand how evolutionary, rather than revolutionary, FMFM-1 was in both its process and message, it is instructive to consider what existed before, and the degree to which the maneuver warfare advocates had begun to shape Marine Corps doctrine almost a decade before *Warfighting* was published.

**Maneuver Warfare in Marine Corps Doctrine Before FMFM 1**

As described in Chapters 5 and 7, between 1979 and 1981 a fundamental shift occurred in which the discourse in the *Gazette* and Lind's efforts shifted from promoting mechanization within the Marine Corps to the advancement of maneuver warfare as a broader concept. It would be more proper to describe it as a shift from mechanization, for which maneuver doctrine became a critical supporting concept, to maneuver warfare, which benefitted from, but didn't require, a degree of motorization and mechanization. A number of complex factors were involved, and a corresponding shift occurred in the efforts of individual Marines, and to a degree, the Marine Corps.

Lind had realized by June 1979 that mechanization was being held back by a lack of conceptual understanding about maneuver warfare. His work on that problem, and focus on

developing the concept, was in part facilitated by the Marine Corps' end of the Mechanized Task Force (MTF). Meanwhile, his new relationship with Lieutenant Colonel Michael Wyly brought new opportunities at the Amphibious Warfare School, opening the door to developing and incorporating ideas about maneuver warfare in both Wyly's tactics curriculum, and Lind's after-hours seminars. This explains why maneuver warfare replaced mechanization for Lind and his collaborators, but not the Marine Corps.

From Lind's perspective, the Marine Corps MTF experimentation, which chapter 5 shows had begun at his urging in 1977, seemed to have ended with the Phase III regimental-sized exercise in the spring of 1979. He proved to be wrong, to a degree. There was a substantial delay of almost two years, but with Congressional pressure the Marine Corps eventually did continue into a Phase IV test in 1981. The test and its goals were gradually whittled down due to a number of limitations, and the force used in the test was no larger than in Phase III.[1420] A fifth phase was planned, but later in 1981 the Commanding General of Fleet Marine Force Pacific disbanded the Mechanized Task Force. The MTF units at 29 Palms were redesignated to be part of the 7th Marine Amphibious Brigade, intended as the Marine Corps contribution to the Rapid Deployable Joint Task Force being formed for contingencies in the Middle East.[1421] The Marine Corps had plans to continue with a Phase V Mechanized Combined Arms Task Force test, but Lind considered its prospects dim without a standing mechanized force to experiment with.[1422] Indeed, Phase V never happened. In a sense, then, Lind's assessment was substantially correct,

[1420] William S. Lind, "Report on Trip to Marine Corps Base 29 Palms, June 30 – July 2, 1981," memorandum to Senator Hart, undated, William S. Lind Papers, Collection 4939, Box 25, no folder. Marine Corps Archives, Quantico, Virginia,1-2.
[1421] Lind, "Report on Trip to Marine Corps Base 29 Palms, June 30 – July 2, 1981," 2-3.
[1422] Lind, "Report on Trip to Marine Corps Base 29 Palms, June 30 – July 2, 1981," 3-5.

forecasting that the Marine Corps' deliberate efforts to experiment with and possibly adopt a degree of mechanization were coming to an end in 1981.

When General Gray, who had recommended that the MTF experimentation be extended into Phase IV, took command of the 2d Marine Division in June 1981, he immediately began promoting maneuver warfare, and initiated experimentation with its concepts in a division-wide effort. In this respect, his 2d Marine Division's experimentation from 1981 to 1983 really did constitute the next, logical step in the process, even if not initiated or formally sanctioned by the Commandant as a deliberate effort for the Marine Corps. Gray was experimenting with the tools he had available while the Marine Corps was trying to figure out if further mechanization was possible or advisable.

It is not clear why Gray took that step on his own initiative. He was a strong believer in a concept of professionalism that aligned with Lind's, and as the Director of the Development Center from 1978-1981, Gray was also aware of the progress made and limitations of the MTF experimentation. Further, he was in contact with Lind in this period. During this same critical period of time Gray also heard Boyd deliver "Patterns of Conflict," perhaps for the first time. The organic shift from mechanization to a broader conception of maneuver warfare, and the timely arrival of some of Lind's AWS seminarians to populate the 2d Marine Division as Gray took over gave its new commander both a concept and the means to begin exploring it, through promotion and experimentation on a division-level. By focusing on the broader concept of maneuver warfare, Gray did not need to reequip the division for large-scale mechanized operations.

The timing of this shift was important. Less than a year after Gray began, Wyly's and Lind's efforts at AWS were terminated, but the fruits of those educational projects began

appearing, available to a much wider audience, in the pages of the *Gazette*. Indeed, as chapter 7 has shown, many of those articles became important references for getting Gray's efforts in the 2d Marine Division started and imparting focus to them.

As with Wyly's initiatives at AWS, Gray's promotion of maneuver warfare within the 2d Marine Division shows how grossly simplistic it would be to argue that "the Marine Corps" did or did not develop or embrace maneuver warfare during this period. There is no evidence that either officer had deliberate sanction from Headquarters Marine Corps to incorporate maneuver warfare concepts, but Wyly clearly had a mandate to develop combat leaders and Gray clearly had a mandate to increase the combat effectiveness of his division. That they chose to embrace maneuver warfare as a necessary conceptual tool was at their own initiative. Meanwhile, through its bureaucratic processes, the greater Marine Corps had drawn closer to the concept, including by integrating ideas learned from the MTF experiments into doctrine.

Before examining how and where these ideas started to shape doctrine, a brief review of the Marine Corps' doctrinal infrastructure of the time is necessary. In the early 1970s the only formal doctrinal publications the Marine Corps produced were Landing Force Manuals (LFMs) and Fleet Marine Force Manuals (FMFMs). As the military service charged by law with developing the "tactics, techniques, and equipment" for amphibious operations throughout the U.S. military, the Marine Corps prepared the LFMs as joint doctrine for any service undertaking such efforts.[1423] In 1973, only two existed LFM 01, *Doctrine for Amphibious Operations*, and LFM 02, *Doctrine for Landing Forces*.[1424] Doctrine for the Marine Corps itself was defined in the FMFMs, named for the Fleet Marine Force, the deployable combat forces of the Marine

[1423] *Armed Forces*, U.S. Code 10 (1956), §5013.
[1424] U.S. Marine Corps, *Combat Systems Library* (Quantico, VA: Marine Corps Development and Education Command, 1973), Section I, Module 1.3, 2.

Corps. These were much more extensive, numbering 25 in 1973, and covering a wide variety of topics, from basic leadership in FMFM 1-2, *Marine Troop Leaders Guide*, to specific aspects of warfare in FMFM 11-4, *Staff Officers' Field Manual Nuclear Weapons Employment Doctrine and Procedures*, to more mundane aspects in publications such as FMFM 4-5, *Medical and Dental Support*.[1425]

FMFMs of the 1970s and 1980s were essentially practical guidance for Marines in the accomplishment of their assigned tasks, focusing on what needed to be done and how it needed to be done, but rarely explaining why. The closest discussion to any aspect of theory or explanation of the nature of war was a short recapitulation of the principles of war in the introduction of some manuals. These described the principles as "fundamental truths governing prosecution of war" whose proper application was "essential to exercise of command and to successful conduct of military operations."[1426] What followed was a brief discussion of each principle, usually two or three sentences long, "as a review for the commander and his staff when applying doctrine contained in this manual."[1427] Whether the manual in question was designed for a lieutenant in command of a 30-Marine platoon or a general in command of 15,000 Marines in a division, the short discussion of these principles was nearly identical, and never more than one and a half pages long in total length.[1428]

Periodically the doctrine in the FMFMs was updated, often by a staff officer assigned to the Development Command, and sometimes after holding a conference with the operating units in the Fleet Marine Forces to discuss what needed to be changed, and how it should be changed.

---

[1425] U.S. Marine Corps, *Combat Systems Library*, Section I, Module 1.3, 3.
[1426] U.S. Marine Corps, Fleet Marine Force Manual 6-1 (FMFM 6-1), *Marine Division* (Washington, D.C: Headquarters United States Marine Corps, 1978), 2. Hereafter, "U.S. Marine Corps, FMFM 6-1."
[1427] U.S. Marine Corps, FMFM 6-1, 2.
[1428] U.S. Marine Corps, FMFM 6-1, 2-3; and U.S. Marine Corps, Fleet Marine Force Manual 6-4 (FMFM 6-4), *Marine Rifle Company/Platoon* (Washington, D.C: Headquarters United States Marine Corps, 1978), 16-17.

Before any changes were formally approved, the draft of the revised publication was routed up the chain of command, which included the Director of the Development Center, the Commanding General of Marine Corps Development and Education Command (MCDEC), and finally the Commandant of the Marine Corps. It was the commandant's signature that conveyed the authority of formal adoption as doctrine. This process of routing the document up to the approval authority was known as "staffing," for it often involved sharing copies with other organizations which were not in the direct chain for comment if they had a vested interest in the subject being regulated by that doctrine.

Another form of publication which was not considered doctrine at the time was the Education Center Publication (ECP), which was material printed for instructional use. In 1973 only three existed, devoted to administrative procedures and the employment of some infantry weapons.[1429] These instructional manuals contained very detailed information, such as the proper steps for disassembling, cleaning, and reassembling a machine gun. These did not need the sanction of the commandant's approval, but the Marine Corps nonetheless needed a to have a high degree of standardization on such matters.

In the summer of 1978, the three most senior officers at MCDEC were transferred to other assignments, and the new arrivals were unsatisfied with the existing process for revising and publishing doctrine. They were the commander of MCDEC, Lieutenant General John H. Miller, and his two principal subordinates, Brigadier General Alfred M. Gray, Jr. at the head of the Development Center and Brigadier General Bernard Trainor at the head of the Education Center. Trainor recalled,

[1429] U.S. Marine Corps, *Combat Systems Library*, Section I, Module 1.3, 4.

> We were moving into a fast and complex world. We had the FMFMs, but they had become sterile and most of them were out of date and needed updating. We had all sorts of new equipment, all sorts of new ideas being introduced as to the way we should fight, and we didn't have a mechanism for developing our tactics, techniques, and doctrine.[1430]

The solution they improvised was a cooperative effort between Trainor's and Gray's two centers. The Education Center, which was normally concerned solely with the material that was taught in the formal schools in Quantico and training courses around the Corps, put its intellectual capital to use in examining new ideas and thinking about how they might be used for better employment of forces. These ideas were coherently captured in instructional publications known as ICPs.[1431] These were printed as white pamphlets which had absolutely no doctrinal authority, and which could be published by Trainor's Education Center without seeking approval from any authority above the commander of MCDEC. These were distributed to field units with the attitude of "Try these techniques and give us your views on them."[1432] Feedback was collected, and after two cycles of revision, publication, and feedback, the tested ideas were formalized as an Operational Handbook (OH), which was signed by the Lieutenant General in command of MCDEC, and published with a green camouflage cover. At this points it was considered "kind of tentative doctrine or tentative procedure and technique."[1433] When received by field units, these publications carried greater authoritative weight, which meant units were compelled to use the new ideas. Education Command then put this document through three cycles of feedback and refinement once again, with the process including more units than it had before and gaining greater attention from senior commands as it carried more intuitional weight.

---

[1430] Bernard E. Trainor, interview by Benis M. Frank, transcript, Quantico, VA, December 12, 1985 to March 21, 1988. History Division, Marine Corps University, Quantico, VA, 179-180.
[1431] Trainor did not explain what ICP stood for, and no extant copies have been found. It is possible that these were the ECPs, and the acronym was improperly transcribed from the recording. The ECPs were printed without hard covers, and the cover pages were white. The number of ECPs also increased dramatically between 1978 and 1980.
[1432] Trainor, interview, 180.
[1433] Trainor, interview, 180.

Ultimately, if validated and the subject was considered vital enough, the Operational Handbook might be published in its final form as a Fleet Marine Force Manual (FMFM). These publications were signed by the Commandant, and therefore constituted the most authoritative form that doctrine could take in the Marine Corps. The first subject that the Education Center and Development Center used this process on was mobile mechanized operations, capitalizing not just on the MTF experiments in 29 Palms, but also recent experienced of the 2d Marine Division exercising in northern Europe. The process was considered very successful not just because it helped develop useful publications sanctioned by higher authority, but also because the process of developing the publication exposed large portions of the Marine Corps to the new ideas, so that they understood the doctrine as it was being refined and given greater authority.[1434] General Trainor later summarized, "It was an iteration process, an evolutionary process to bring us into the world of modern fighting."[1435]

Another method that MCDEC could employ for gathering feedback and considering changes was to engage stakeholders from the operating forces and the supporting establishment in direct conversation, such as by holding a conference in Quantico. This had been done before Trainor and Gray ever instituted their process of ICPs and OHs to incrementally develop and improve new ideas, but these were often episodic, being convened only when the occasion arose. Surprisingly, though mechanization was a major issue in the late 1970s, no conference was held on the subject of tanks between 1975 and the convening of the Armor Symposium in February 1980.

When the stakeholders met in Quantico from 11 to 15 February 1980, their thinking and experiences had already been captured by OH 9-3, *Mechanized Combined Arms Task Forces*

[1434] Trainor, interview, 180.
[1435] Trainor, interview, 182.

*(MCATF)*. This document had itself been developed through the ICP process, and had benefited from the Phase I-II MTF experimentation in 29 Palms before it was published in June 1979. It did show some early signs of maneuverist thinking Section 2, "Considerations for Employing a MCATF." Here the first subsection on general considerations provides a single paragraph, but the last sentence stated, in all capitals, "EMPLOYING THE TANK BATTALION AND ITS SUBORDINATE TANK COMPANIES AS MANEUVER ELEMENTS IS ANOTHER PROCEDURE WHICH MAKES THE OPTIMUM USE OF MECHANIZED ASSETS."[1436] The next section, "Principles," makes seven brief statements as "The foundation for creating an [sic] MCATF," and the last, again all capitalized, read, "MANEUVER, NOT FIREPOWER, IS THE BASIS OF THE MECHANIZED OPERATION."[1437]

The February 1980 Armor Symposium was attended by nearly 100 officers, including 18 who were currently in command, the representation from Fleet Marine Force units was substantial.[1438] The commanders of each of the three major elements of the MTF in 29 Palms were in attendance, and spoke about their experiences.[1439] The conference was hosted by the commander of MCDEC, with speaking appearances by the Commandant and Brigadier General Trainor. It is not certain that maneuver warfare was discussed, especially since the term only first appeared in the *Marine Corps Gazette* two months prior, and William S. Lind's "Defining maneuver warfare for the Marine Corps" would not be published until the following month. However, it is highly probable that maneuver warfare was discussed because the conversation in the *Gazette* had begun, and Lind was a guest speaker on the second day of the conference.[1440]

---

[1436] U.S. Marine Corps, Operational Handbook 9-3 (OH 9-3), *Mechanized Combined Arms Task Forces (MCATF)* (Quantico, Virginia: Marine Corps Development and Education Command, 1979), 3. Hereafter, "U.S. Marine Corps, OH 9-3."
[1437] U.S. Marine Corps, OH 9-3, 3-4.
[1438] Dixon B. Garner, "Armor Symposium 1980 – an overview," *Marine Corps Gazette* 64, no. 7 (July 1980), 27.
[1439] Garner, 30.
[1440] Garner, 31.

The following month, in March 1980, the first revision to OH 9-3, known as Revision A, was published. It indicates that somewhere between OH 9-3 of July 1979 and that next revision, someone involved in that process became highly impressed with the ideas behind maneuver warfare. Based on how soon the OH was published after the Armor Symposium, it is highly likely that there was at least some degree of general agreement about the new ideas, even though the conference was not a policy-making event. The maneuverist influence on OH 9-3 (Rev. A), *Mechanized Combined Arms Task Forces (MCATF)* of March 1980 is clear. After the "General Considerations" subsection but before the "Principles" subsection, a new section was added, "Concepts." It read,

> In many situations, MCATFs will be outnumbered and outgunned. An attrition contest, relying on firepower, is not likely to bring a positive result. Therefore, MCATFs must be prepared to USE MANEUVER WARFARE. Commanders are responsible for understanding the concepts of maneuver war and applying them on the battlefield.
>
> Maneuver warfare is an overall STYLE OF WARFARE. It seeks to DISLOCATE, DISRUPT, and DISORIENT the opponent, DESTROYING HIS COHESION, rather than destroying him piece-by-piece with firepower. In maneuver war, the MCATF seeks to create SUCESSIVE UNEXPECTED and THREATENING situations for the opponent. The opponent should be brought to see his situation NOT JUST AS UNFAVORABLE OR DETERIORATING; he must see it as DETERIORATING AT AN EVER-INCREASING PACE.
>
> Maneuver warfare uses both fire and maneuver. However, in general, fire is used TO CREATE FAVORABLE CONDITIONS FOR MANEUVER and to ANNIHILATE UNITS WHOSE COHESION HAS BEEN SHATTERED, not to engage cohesive enemy units head-on in an attrition contest.
>
> Tactics emphasize RESPONDING RAPIDLY TO FLEETING OPPORTUNITIES TO THROW STRENGTH AGAINST WEAKNESS. Attacks seek gaps in enemy positions and pour reserves through them, rolling out behind the enemy to encircle him. Defenses place only a "tripwire" forward to absorb the enemy's attention, destroying him by counter-attacks into his flanks as he penetrates.
>
> Tactics are RECON-PULL, not COMMAND-PUSH. The POINT OF MAIN EFFORT and THE AXIS OF ADVANCE shift continuously in response to opportunities. Therefore, MISSION-TYPE ORDERS ARE A REQUIREMENT. Subordinate unit commanders act on their own initiative within the COMMANDER'S INTENT.[1441]

[1441] U.S. Marine Corps, Operational Handbook 9-3, Revision A (OH-9-3 (Rev. A)), *Mechanized Combined Arms Task Forces (MCATF)* (Quantico, Virginia: Marine Corps Development and Education Command, 1980), 3-4. Hereafter, "U.S. Marine Corps, OH 9-3 (Rev. A)."

This was the first time that the term "maneuver warfare" appeared in Marine Corps doctrine, and the new concepts paragraph is rich with important concepts. Some of it reflects the concepts Lind introduced in his seminal "Defining maneuver warfare for the Marine Corps article that same month," but others are concepts Lind had not come to emphasize yet, and suggest Boyd's influence, such as the Point of Main Effort, and phrases like "pour reserves through" and "rolling out." The concepts paragraph also carefully distinguished the interrelationship between firepower and maneuver in ways that the Marine Corps Gazette discourse later failed to do. Chapter 8 has shown that presenting maneuver warfare and attrition/firepower warfare as a dichotomy was a major conceptual obstacle for the advocates trying to spread these ideas. In combination, these factors suggest this new subsection on maneuver warfare concepts was written by an officer with exposure to both Lind and Boyd, and with exceptional understanding of both of their ideas.

Once ECP 9-3 (Rev. A) was published, some Marines took note of these changes. In April of 1981, Captain G.I. Wilson, who was one of Lind's seminarians at the time, wrote in support of this step forward, but also offered some critical insights.

> The time is now for actively accepting, teaching, and training for maneuver warfare. What is desperately needed is a doctrinal publication on maneuver warfare, a manual of maneuver war! To be sure, the Marine Corps does succinctly address maneuver warfare in Operational Handbook (OH) 9-3A, Mechanized Combined Arms Task Forces. However, the treatment of maneuver warfare is extremely brief, inadequate; and isolated from the rest of the text. *OH 9-3A* does contain the necessary "nuts and bolts" and "how to" material to organize a MCATF. Where *OH 9-3A* fails is in its handling of the manuever [sic] warfare concept itself. What one ends up with is only half of the equation. A complete doctrine of maneuver war must be developed.[1442]

Wilson understood that a single short subsection inserted in a single publication would not be enough to help Marines understand the central ideas involved, no matter how rich and well

[1442] G.I. Wilson, Michael D. Wyly, William S. Lind, and Bernard E. Trainor, "The 'Maneuver Warfare' Concept." *Marine Corps Gazette* 65, no. 4 (April 1981), 51.

written it was. Wilson was calling for a comprehensive, foundational doctrine based upon maneuver warfare that would apply broadly, and undergird a range of other doctrinal concepts.

In that same issue of the *Gazette* the editor added a note to the end of Wilson's article announcing the recent publication of ECP 9-5, *Marine Amphibious Brigade Mechanized and Countermechanized Operations*. The editor saw this as "At least a partial answer to Capt Wilson's call for more comprehensive maneuver warfare doctrine" and listed " a few of the principles stressed throughout the manual" believed to indicate "the extent to which maneuver warfare concepts are incorporated."[1443] The editor's conclusion was "Although the text runs only to 37 pages, it is an extremely good treatment of maneuver warfare concepts and suggests in a tangible, realistic manner how they might be employed in Marine amphibious operations."[1444]

ECP 9-5 did not include anything like the concepts subsection that had been inserted into OH 9-3 (Rev. A) a year earlier to overtly embrace maneuver warfare and explain its most important elements. There were traces of maneuverist ideas spread throughout the manual, and as an educational publication it even contained a recommended reading list that included many of the titles that Lind and Boyd endorsed. Collectively, though, there was nothing in the manual that indicated that it was built upon the idea of maneuver warfare, a point Lind made clear in the pages of the *Gazette*.[1445] Even if it had shown greater maneuverist influence, for the Gazette editor to claim that it was a "partial answer" to Wilson's call for a "complete doctrine of maneuver war" shows that he was missing the point. Wilson had not asked for yet another publication focusing on a small subset of the Marine Corps' combat tasks to be the place where

[1443] Wilson, et al., 51-52.
[1444] Wilson, et al., 52.
[1445] William S. Lind, "A Critique of ECP 9-5, 1981 Edition," *Marine Corps Gazette* 65, no. 12 (December 1981), 44-46.

maneuver warfare should be explained. Wilson was looking for a new foundational doctrine to undergird all Marine Corps' efforts with the concept of maneuver warfare.

At least one Marine recognized that ECP 9-5 fell short of the fundamental new doctrine Wilson had called for. In April and May 1982 Major Bruce Brown wrote a pair of articles for the *Marine Corps Gazette* in which he endorsed the promotion of maneuver warfare as a new fundamental concept for the Marine Corps, but in the first he asked some critical questions about the way it had been integrated into doctrine. Brown stressed the inconsistencies in the doctrine and argued, the "doctrinal implications include basic contrasts, believed to be explicit or implicit, between the fundamentals of maneuver warfare as depicted in Table 1, and codified doctrine, tactics, and techniques reflected in current Landing Force Manuals (LFMs) and Fleet Marine Force Manuals (FMFMs)."[1446] In the end, Brown concluded that the way maneuver warfare had been adopted was not likely to yield the desired results. Brown also pointed out conflicts between the maneuverist principles which had been included in OH 9-3 and ECP 9-5 and the basic tenets in many Landing Force Manuals (LFMs) and Fleet Marine Force Manuals (FMFMs). On the matter of doctrine, Brown concluded,

> The magnitude of this basic (incomplete) list of doctrinal implications suggests that it is foolish to expect an immediate, or 'miracle' LFM on maneuver warfare. This is not intended in any way as a "put-down" of Capt G.I. Wilson's excellent article in the April issue [calling for the development of a "complete doctrine of maneuver war"; it simply means we need a deliberate and comprehensive approach to the challenge.[1447]

In 1981 and 1982 the Marine Corps had made initial efforts to integrate the concept of maneuver warfare into its doctrine. Maneuverist officers saw promise in these efforts, but also saw that a more comprehensive effort was required. If 1982 and 1983 might be considered a

[1446] Bruce G. Brown, "Maneuver Warfare Roadmap: Part I Trends and Implications," *Marine Corps Gazette* 66, no. 4 (April 1982), 44.
[1447] Brown, "Maneuver Warfare Roadmap: Part I Trends and Implications," 46.

moment of opportunity for incorporating maneuver warfare in Marine Corps doctrine, it must first be remembered that the concepts to make it an actionable way of fighting were only just then being developed in the 2d Marine Division. As those concepts matured, General P.X. Kelley became commandant in July 1983. If he was not hostile to the concept of maneuver warfare, he certainly wanted to take a more conservative approach, and the newness of these ideas suggests that such caution was warranted rather than haphazardly embarking upon service-wide change. As chapter 8 showed, Lind's impatience and public attacks on the Corps and Kelley did much to exacerbate whatever latent hostility may have existed. Another factor was at work in the meantime, and it played a significant, and underappreciated role in ending progress with incorporating these new ideas: bureaucracy.

In October 1980 Lieutenant General Miller was reassigned to Headquarters Marine Corps, and replaced by Lieutenant General Richard E. Carey. As Trainor later recounted,

> We did not get along at all. Dick Carey was an FMF operator and an air wing commander. He had no knowledge, no idea as to how MCDEC ran and certainly no idea how the Education Center ran. He was one of these guys that had to show his authority by butting in and giving direction on something he knew nothing about. I took umbrage at this, and we had a series of disagreements. But I could understand that, you know. That's the way things go sometimes.
>
> But the one thing that I will not forgive him for and that is that he effectively arrested all of the good work that the MCDEC—John Miller, Al Gray, and I—were doing on tactics, techniques, procedures, and doctrine experimental improvements. He forbade any more of the ICPs going out from the Ed Center—no more *Operational Handbooks*. …Carey says, "There will be nothing that is issued by Quantico in the way of tactics, techniques, procedures, or doctrine that has not been approved by Headquarters Marine Corps. Nothing will go out except over my name, and I won't sign anything unless the Commandant has approved it."
>
> We tried to point out to him that was absolutely the opposite of what we were trying to do, and that one of the problems with the FMFMs was that with the busy people over at Headquarters Marine Corps fighting the day-to-day actions, this was the kind of stuff that they put in the hold basket to get to it if they ever did get to it; and that the Education Center and the Development Center, these were the places that were supposed to do these things. As a matter of fact, we had the Marine Corps order changed in order to reflect exactly that. But he would hear of none of it…[1448]

[1448] Trainor, interview, 182.

General Miller had actually worked with Trainor to get Marine Corps regulations changed, formalizing the role of ECPs and OHs as collaborative projects that would result in refinements to FMFMs, but this made no difference.[1449] ECP 9-5 of January 1981 was the last ECP published, and it was done directly under Trainor's signature, rather than Carey's.[1450] That same year Education Center began replacing the ECPs with Instructional Publications (IPs). The cover of each was clearly marked with the warning, "Published for Instructional Purposes Only."[1451]

In April 1981 Trainor was abruptly informed that he was being transferred to Headquarters Marine Corps, even before a replacement to take over the Education Center could be found. Trainor suspected that his disagreements with General Carey "may have been the basis for it" though he was not far from the end of the routine tour length of three years.[1452] Regardless of the cause, Trainor's reassignment removed an officer who had aggressively promoted the use of ECPs and OH's to advance doctrine, so it is no surprise that the final ECP to show hallmarks of maneuverist thinking was published that same month. In Trainor's mind, Carey's interruption of the system of continuous and incremental doctrinal revision he had built with Gray and Miller,

> …set back the Marine Corps in its development. …He set us back three years, and I think in large measure could be considered the culprit who left us open to the sort of criticism that we have received that the Marine Corps is a kind of a checklist, recipe-mentality organization; the sort of things that Bill Lind charges Quantico with.[1453]

The narrative above about the inclusion of maneuverist concepts in OH 9-3 of March 1980 and ECP 9-5 of January 1981 make it unclear exactly how these ideas were inserted.

---

[1449] U.S. Marine Corps, OH 9-3, inside cover; and U.S. Marine Corps, Fleet Marine Force Manual 0-3 (FMFM 0-3), *Doctrinal Publications Guide* (Washington, D.C: Headquarters United States Marine Corps, 1980), 1.2-4 to 1.2-6.
[1450] U.S. Marine Corps, Education Center Publication 9-5 (ECP 9-5), *Marine Amphibious Brigade Mechanized and Countermechanized Operations* (Quantico, VA: Education Center: Marine Corps Development and Education Command, 1981), signature page.
[1451] U.S. Marine Corps, Instructional Publication 1-4 (IP 1-4), *Fleet Marine Force Organization* (Quantico, VA: Education Center: Marine Corps Development and Education Command, 1981), cover.
[1452] Trainor, interview, 182-183.
[1453] Trainor, interview, 183.

Presumably, the publication's author, or another agent involved in the review, suggested the changes and they were accepted on an interim basis. At some point, however, an individual Marine had to initiate the idea. More insight on how this process occurs is available through the experiences of Captain John F. Schmitt and the development of OH 6–1, *Ground Combat Operations*, in 1987.

John Schmitt was a graduate of Northwestern University commissioned in the Marine Corps in June 1981. Schmitt became an infantry officer, and was assigned to the 2d Marine Division in 1982 shortly after Gray took over. There, as a brand-new officer he served as a platoon commander of a heavy machine gun platoon in an infantry battalion. This assignment was more about mobility than firepower because these were jeep-mounted weapons, which meant his unit had more mobility than the rest of the battalion. Later, he commanded a light armored infantry platoon in a battalion of Light Armored Vehicles (LAVs), the highly-mobile, lightly armed and lightly armored reconnaissance vehicles which Gray had championed with the Marine Corps. Schmitt experienced the 2d Marine Division during its most fertile period of experimentation and debate, and as a commander of small units designed to move quick and identify strong points and gaps in enemy formations, he was primed to see the potential of maneuver warfare firsthand.

Schmitt didn't see the ideas behind maneuver warfare as particularly revolutionary or difficult to understand. He was a thoughtful young officer, and had read widely about military history from the start of his career, but he also benefitted from being exposed to maneuverist ideas from the very start, rather than being shaped by attritionist habits, and then needing to unlearn what they suggested was most important in war. Schmitt later recalled sitting in some bleachers for the debrief at the end of a long day in a large-force exercise in the division, and

dozing off. He was shocked back into full consciousness by the commanding general, General Gray, calling him out to answer a question. Schmitt hadn't been paying close enough attention to understand the context of the questions, but he understood the answer had better involve maneuver warfare fundamentals. As he recalled, "So I started talking about how we had used machine guns to do reconnaissance pull to find a gap through the chemicals and relay that information back to battalion so they could push one of the companies through it, and everything worked out great."[1454] General Gray, apparently satisfied, moved on.

Schmitt did not recall being aware of the larger debate going on at the time, but found the concept of maneuver warfare to be "immediately appealing," and the maneuverists' interest in the professional study of the art of war a sharp contrast to the anti-intellectualism prevalent at the time.[1455] Reflecting on the Corps' culture in this era, Schmitt recalled,

> When I was a lieutenant at 2nd Marine Division, you worried about four things; you worried about PT [physical training], beer, women and 4-wheel drive. …now the ranking of those things might change, but those were kind of the four priority things you were expected to worry about. You weren't expected to read, you weren't expected to think about your profession. I really sensed an anti-intellectual current in the officer corps at that time.[1456]

When Schmitt's time at Camp Lejeune was coming to a close in 1985, he met an officer from the Doctrine Center who had come down to observe a gunnery exercise. Along with Schmitt's battalion commander, he had developed the idea of bringing an officer from the LAV battalion up to Quantico to write the doctrine for the new units. Schmitt had a degree in journalism, had written for the *Gazette* on tactical topics, and apparently had his commander's trust, so he was offered the job, and was transferred to the Doctrine Center in 1982.[1457]

---

[1454] Schmitt, interview, 3-4.
[1455] Schmitt, interview, 2, 5
[1456] Schmitt, interview, 17.
[1457] Schmitt, interview, 5-6.

In Quantico, Schmitt began writing the doctrine for LAVs, but found himself hampered by a critical shortcoming. As he later explained,

> So I started writing the LAV manual and every time I got to a new subject, like LAV operations in the offense, for example, I complained because what was our basic offensive doctrine? If you looked in FMFM 6-1 it said one thing, 6-3 said something different… There was no common doctrine for ground operations in general. And I kept complaining about this. So finally my boss said "Fine, you write the ground combat manual."[1458]

This project was to become OH 6-1, *Ground Combat Operations*, and it was potentially an answer to the same problem that had frustrated Lind in 1979, and the younger officers who wrote in the Gazette in 1981 and 1982 about OH 9-3 and ECP 9-5. If Schmitt was successful, it could provide the broad concept for warfighting that would undergird all of the more detailed doctrine. It is unlikely that the officer who gave Schmitt this job did it because he expected this alumnus of the experimentation in Camp Lejeune to include maneuver warfare in the manual. This occurred in the last two years of General Kelley's tenure as commandant, when the officer corps had become less tolerant of the maneuverists and their new ideas. Time would show that this climate did, indeed, suppress the expression of these new ideas in doctrine.

As Schmitt worked on his drafts of OH 6-1, he wrote them in a way that made sense to him, a way that reflected a maneuverist way of thinking, but this brought conflict. Schmitt recalled,

> So I started writing the manual for ground combat operations. And I kept trying to stick maneuver warfare into it, because I'd come from 2nd Marine Division, I was a true believer. So I'm trying to inject maneuver warfare into it. And my boss who's got his finger in the wind, and testing the political winds that were blowing, keeps taking it out, because this is precisely the time that there's sort of this battle between the [maneuverists and anti-maneuverists]. And so I'm sticking it in, and my boss is taking it out, and I'm sticking it in and my boss is taking it out. And finally I finished the draft and it's about ready for signature, and there's no mention of maneuver warfare in it anywhere.[1459]

[1458] Schmitt, interview, 6
[1459] Schmitt, interview, 6.

Indeed, the second draft of OH 6-1, which Schmitt dated June 30, 1987, the day before Gray relieved Kelley as Commandant of the Marine Corps, bears only the slightest traces of maneuverist thinking. Its discussions of maneuver describe it as action taken to obtain positional advantage, and its most theoretical discussion is a simple recapitulation of the principles of war.[1460] Its boldest step towards maneuver was a statement in a discussion on command and control asserting, "Commanders should use mission orders that specify what must be done without prescribing how it must be done."[1461]

This narrative of John Schmitt's experience in drafting the Marine Corps first broad doctrine for ground combat operations demonstrates the intersection of individual and organizational agency. Schmitt and his superior had very different views on what was important in warfare, and each was trying to fulfill his duty as an agent of the government in seeing the manual written a certain way. In a structure where the publication would be subjected to multiple layers of review, and in an organizational culture unreceptive to maneuverists ideas, rank and the status quo won out. As Commandant General Kelley's time in office came to a close in the summer of 1987, the Marine Corps still lacked a fundamental understanding that this was a new approach to fighting, including how and why it worked. This was indeed the same problem that led Lind to begin defining maneuver warfare in 1979: without a better conceptual understanding of how maneuver warfare worked, Marines had been unable to emulate the German style effectively, and were simply aping German techniques in an incoherent manner.

[1460] U.S. Marine Corps, Operational Handbook 6-1 (OH 6-1), *Ground |Combat Operations*, 2nd draft, unpublished draft by Ground Branch, Doctrine Center, Marine Corps Development and Education Command, July 1987, in the holdings of the Marine Corps University Research Library, Quantico, VA, 1-8, 2-1 to 2-3, 6-9 to 6-14. Hereafter, "U.S. Marine Corps, OH 6-1, 2nd draft."
[1461] U.S. Marine Corps, OH 6-1, 2nd draft, 1-6.

**Changes at the Top**

General Gray's appointment to succeed P.X. Kelley as Commandant of the Marine Corps in July 1987 is widely regarded as the decisive moment in the Marine maneuver warfare movement, and it was. Many Marines at the time, particularly in the officer corps, understood that there were several front runners for the job, and if Gray was selected things could be expected to change. When Marines on ships and bases around the world opened the August 1987 issue of *Leatherneck*, the professional magazine for enlisted Marines published by the Marine Corps Association, for their monthly dose of information on career opportunities, tales of Marine accomplishments past and present, and humor, they also encountered an article titled "Changes at the Top," providing a biographical sketch of their new Commandant, but also of another crucial figure, the newly-appointed Secretary of the Navy, James Webb, Jr. Traditionally the Secretary of the Navy (SecNav), CMCs immediate superior, took relatively little interest in the Marine Corps as compared to the Navy, with its expensive shipbuilding programs and the extensive lobbying they required. Reading the article however, Marines could anticipate that this SecNav might be different.

The article was topped by a photo of Webb and Gray together in Camp Lejeune, North Carolina in 1984, a time and place many would recognize as the center of Gray's experimentation with maneuver warfare. Conspicuously, Webb, though a civilian, wore a camouflage utility uniform in the photo. The text informed Marines that Webb, who was the youngest man to ever be appointed SecNav, was an Emmy-winning journalist who had also written two novels nominated for Pulitzer Prizes. Before that he had been a varsity boxer at the U.S. Naval Academy, and had served in the Marine Corps after graduation. Further, he distinguished himself as a Marine, graduating at the top of his class of 243 lieutenants at The

Basic School, and leading a rifle platoon in combat in Vietnam, where his heroic leadership was recognized with the Navy Cross, a Silver Star, and two Bronze Star Medals. Webb had been severely wounded in combat, resulting in a medical retirement from the Marine Corps, but then earned a law degree and had become active in advising Congress on veterans' affairs, earning an appointment as a senior official in the Pentagon.[1462] Webb was no ordinary political appointee to head the Department of the Navy who could be expected to be uninterested in Marine Corps matters.

To have such a radical change in two critical leaders at the time it happened must have seemed like an intentional effort to reform the Marine Corps and promote the adoption of maneuver warfare. The appointment of these two leaders was certainly decisive, but it had little to do with maneuver warfare, and may have even been in spite of Gray's association with maneuver warfare. To understand this, it is necessary to look at James Webb, the reasons for his appointment as SecNav, and his reasons for selecting General Gray.

James Webb had, as the "Changes at the Top" article made clear, become a visible public figure after his medical retirement from the Marine Corps, most notably through two novels, *Fields of Fire* (1978) and *A Sense of Honor* (1981). The first was the story of a Marine platoon fighting in Vietnam which featured combat leaders based on Webb's own experience in the war. The second was a slantwise critique of the Naval Academy as an institution whose internal contradictions undermined its ability to prepare future leaders for combat. Both won national acclaim.

Webb's conservatism, patriotic credibility as a veteran, celebrity author status, and political connections earned him a place in Ronald Reagan's Pentagon. When Secretary of

[1462] Tom Bartlett, "Changes at the Top," *Leatherneck* 70, no. 8 (August 1987), 22-23.

Defense Caspar Weinberger reorganized the department in 1984, James Webb was appointed to a new position, Assistant Secretary of Defense for Reserve Affairs. Webb developed a warm relationship with Weinberger over the next two years, but ultimately tired of the administrative aspects of the job, which prevented him from writing. At the start of 1987, he stated his intention to resign, describing that his ideal career would alternate periods of service as a policymaker with long sabbaticals to think and write.[1463]

Webb appeared about to leave the Pentagon when Secretary of the Navy John Lehman suddenly resigned over a controversy involving inappropriate influence in Navy promotion boards, which was part of a larger pattern of what many felt was micromanagement of the Navy's admirals. Weinberger had already tried to entice Webb into staying in the Reagan Administration with several other job offers that included three ambassadorships, but failed. Lehman's resignation allowed Weinberger to raise the ante. When he asked Webb to stay on as Secretary of the Navy, Webb instantly accepted, later stating that it was an opportunity he could not pass up, presumably meaning that he would have a chance to shape the future of the Navy and Marine Corps from a position of direct authority. [1464]

While Webb's priorities were clearly shaped by his experiences and identification with the Marine Corps, it is important to note the things that he did not learn during his time in uniform. While he did hold some suspicion of the Marine Corps' top leadership relating to its rebuttal of an article he wrote in the *Marine Corps Gazette* shortly before his medical retirement, Webb seemed confident that he had been thoroughly trained for the demands of war in

[1463] Bradley F. Hanner, "The Resignation of Secretary of the Navy James Webb: A Perspective from the Present" (master's thesis, U.S. Naval Postgraduate School, 2000), 43-44; Chase Untermeyer, *Inside Reagan's Navy: The Pentagon Journals* (College Station, TX: Texas A&M Press, 2015), 224-225.
[1464] Hanner, 43-44; and Untermeyer, 227.

Vietnam.[1465] Surprisingly, he showed no sense of disillusionment or cognitive dissonance with Marine Corps tactics that many of his peers shared. One of his company commanders in Vietnam, his immediate superior, was none other than Captain Michael Wyly. Wyly and Webb essentially experienced the same war, but came away with two very different attitudes about the style of fighting practiced by the Marines and the rest of the U.S. military. For Wyly, it was attritional, and it was bankrupt. For Webb, it created the type of brutal combat experience in which he excelled, and by which he defined himself for the rest of his life.

While Wyly was promoting maneuver warfare, Webb was dismissing it. Part of the reason may have been that he did not understand it, for it appears he never criticized the validity of the theory itself, but instead focused on *ad hominem* attacks on its proponents. Part of the reason he rejected it is certainly because he carried hostility to academics, one of the themes in his novels. One of his undersecretaries in the Department of the Navy noted Webb's special hatred for Harvard, and observed that Webb believed such intellectuals supported the integration of women in combat roles because they were trying to "emasculate" military service to cover their own guilt or sense of inadequacy for not serving in the military.[1466] He was especially hostile to the effete academics he believed were behind the Military Reform Caucus's critique of military doctrine, most notably William S. Lind. In a speech given at the Commonwealth Club of California while Assistant Secretary of Defense in August 1986, six months before Webb knew he would become Secretary of the Navy, he elaborated,

> …our military reform movement has elevated maneuver warfare doctrine to the level of a cult. Mr. William Lind, a military theorist who had the opportunity to serve during

[1465] James, H. Webb, Jr. *I Heard My Country Calling, I Heard My Country Calling: A Memoir* (New York: Simon and Schuster, 2014), 320.
[1466] Untermeyer, 267, 278.

> Vietnam and declined, has written a "Maneuver Warfare Handbook," analyzing different World War II battles. …through sheer tenure [he] can become a "military expert."[1467]

As if in rebuttal to Lind's caustic 1985 *Washington Post* article condemning Marine leaders for the tragedy in Beirut, Webb then laid the blame at the feet of ignorant, nosey civilians, stating,

> …even the best military unit, led by the best leaders, can become paralyzed from above. Our experience in Beirut is a classic example. The Marines on the ground were superb. I can personally testify to that, and I have been around military units of all services and numerous nations since the day I was born. The wisdom of their presence was debated from the outset, as was their mission. Because of the delicate, many-sided political environment, the Marines were not even allowed to construct defenses until they began to be attacked: our diplomats viewed foxholes and bunkers as provocative. When they did come under attack, the rules of engagement dictated by the political process were extraordinarily narrow. Congressional delegations constantly appeared, some members calling for more Marines and others calling for their withdrawal. Hundreds of reporters inundated the Marine positions, questioning every shot fired…[1468]

Webb concluded with an explanation of his own philosophy regarding civil-military relations:

> …I believe that those who have criticized the military for its failures in these areas should focus on the inhibitors of excellence that a military leader cannot control. It is patronizing, and indeed foolish, to suggest that people who have never served in an operating unit should be the arbiters of excellence regarding these key points, and yet that is what has too frequently occurred in the aftermath of the Vietnam War.
>
> Our political system should encourage the military to pick its leaders according to their dedication to such military intangibles as duty, discipline and leadership, rather than their ability to deal with the political system itself, and then trust their recommendations and actions. It should also make them ultimately responsible for their programs, allowing them to succeed or be replaced.[1469]

The last sentence of the speech foreshadows Webb's selection of the next CMC, but is not suggestive, for Webb could not have anticipated Secretary of the Navy John Lehman's sudden resignation several months later, or his own appointment to a job which would position him to select an aggressive maneuver warfare advocate as commandant. Understanding why he did that

[1467] James H. Webb, Jr. "Military Competence," speech, San Francisco, CA, August 28, 1986, Military Competence, http://www.jameswebb.com/speeches-by-jim/military-competence.
[1468] Webb, "Military Competence."
[1469] Webb, "Military Competence."

requires examining Webb's relationship with the outgoing Commandant of the Marine Corps, General P. X. Kelley.

Webb was unhappy with Kelley's leadership of the Corps, particularly his handling of the bombing of the Beirut Barracks in 1983. In November 1986, the Iran-Contra scandal came to light, including the critical role of Lieutenant Colonel Oliver North, a Marine assigned to the White House, in subverting federal law. Several months later, at the end of March 1987, another scandal involving the Marine Corps erupted. It came to light in the national news that in 1985 Marine guards at the U.S. Embassy in Moscow had been infiltrated by women working for the KGB, and had given away classified information. All of this occurred as Secretary of Defense Weinberger was offering Webb a chance to replace Lehman as Secretary of the Navy, and the opportunity to help fix the Corps, central to Webb's identity, must have increased Webb's desire to take the job. Knowing that it would soon be time for the President to nominate the next Commandant, Webb asked for the privilege of selecting that general, even though he would not be sworn in as SecNav for several weeks. The Marine Corps was never a central concern for Lehman, and Weinberger was anxious to have Webb replace Lehman, so Webb's request was granted.

The intense public criticism of the Marine Corps peaked in the two-week period when Webb was deciding who he would nominate to replace Kelley. The status quo was a threat to the Marine Corps, and to Webb's image of it, both the Corps he would now be personally responsible for leading, the one he personally identified with, and whose masculine, gladiatorial mystique was a strong source of authority for him.[1470]

[1470] Shawn P. Callahan, "The Contingency of Civilian Intervention in Military Affairs: James Webb and his Inadvertent Contribution to the Quantico Renaissance," research paper (University of Maryland: College Park, 2016), 26-29.

In nominating a replacement for Kelley, Webb was clearly looking for a radical change, and ignored the candidates proposed by Kelley and his fellow generals. Instead, he skipped over four more senior Marines to pick Lieutenant General Alfred M. Gray, Jr. Webb did this despite the fact that Gray was less than two months away from his mandatory retirement date, and had already requested and been approved for retirement. Gerald Turley, a distinguished retired Marine who Webb employed for gaining insight into the internal politics of the Corps, explained, "General Gray's selection for the position of commandant was completely unexpected."[1471] Turley elaborated, "Most of his contemporaries thought, and several prominent retired general officers spoke out, that Gray should not be the next commandant," citing his age, lack of experience within the Pentagon, and lack of political connections and finesse.[1472]

Webb certainly was not making the choice to promote maneuver warfare. He had met Gray before, and may have even recognized Gray as an advocate of maneuver warfare. If Webb talked to some of the other generals, he would have learned that some thought of Gray as a "'Bill' Lind guy."[1473] Given Webb's suspicion of the civilian reformers, and his vitriol toward Lind specifically, maneuverists, and however, it is more likely that he selected Gray *despite* his association with maneuver warfare advocates. Instead, what attracted Webb to Gray was his no-nonsense style and his image as a leader who had risen up from the enlisted ranks, and who had always stayed in touch with the common Marine. This was a persona that was the very opposite of Kelley, who was considered an elitist, and let it be known in the society pages of *The Washington Times* that he shopped at Brooks Brothers for his suits.[1474] War was Gray's brand.

---

[1471] Gerald H. Turley, *The Journey of a Warrior, The Twenty-Ninth Commandant of the Marine Corps (1987-1991): General Alfred Mason Gray* (Bloomington, IN: iUniverse, Inc., 2010), 262.
[1472] Turley, 264-265.
[1473] Trainor, interview, 236.
[1474] Paul X. Kelley to Lisa McCormack, 23 January 1987. Paul X. Kelley Papers, Collection 741, box 19. Marine Corps Archives.

He was almost always to be found in camouflage utilities, stressing to his Marines that they were warriors first and foremost. This was much more consistent of the combat leader Webb had idealized in his novels. As Turley described, Webb had "set out to find a special Marine officer who was—first and foremost—a 'warrior'…"[1475]

One of Webb's subordinates and an insider to the Reagan Pentagon described Gray as a logical choice for Webb because he would be a repudiation of Kelley in two ways. First, it would also be a very public rejection of Kelley's image. Second, it would repudiate the nomination of the general Kelley had identified as his preferred successor, and therefore most likely to preserve his legacy. As his former Assistant Undersecretary put it, Webb's choice was "…reportedly opposed by P.X. Kelley, perhaps because Al is so gloriously a grunt and lacks P.X.'s inner-beltway classiness."[1476] Dispelling any doubt that may remain, Webb himself described Gray as the candidate that "P.X. hates even more" than all the others.[1477] Webb's unexpected selection of Gray to be Commandant just as Gray was preparing to retirement, then, must be seen as an effort to reform the Corps by revitalizing its leadership. It cannot be looked at as a deliberate effort to promote maneuver warfare. As Turley explained in a speech in 1990, Webb only served as SecNav for 11 months, but he had two major accomplishments for the Corps in that time. The first was preserving funding for the MV-22 Osprey tiltrotor aircraft program. The second was selecting Alfred M. Gray, "an individual who did not enjoy working in an institutional structure," as commandant, in essence placing a "non-conformist" at the head of the institution.[1478]

---

[1475] Turley, 256-257.
[1476] Untermeyer, 229.
[1477] Untermeyer, 241.
[1478] Anonymous. "Speech Notes 90," notes, 1990, Gerald R. Turley/Alfred M. Gray Research Collection #5251, box 2, folder 23: Speech Notes '90, Marine Corps Archives, 2.

The appointment of James Webb to be Secretary of the Navy and Alfred M. Gray to be Commandant of the Marine Corps were also coincident with larger changes in the political context more conducive to reformist change within the Marine Corps. SecNav John Lehman and Commandant General Kelley had been key members of the uppermost echelons of Department of Defense leadership at a time when President Reagan's defense policy was spending massive sums of money. Chapter 3 has shown that this spending was a major factor, if not the most significant factor, in energizing support for the Military Reform Movement and the Congressional Military Reform Caucus. As chapter 3 has shown, Lehman had very negative attitudes towards the reformers, who he saw as a threat to his aggressive plan to build the 600-ship Navy that Reagan had promised in his first presidential campaign. Chapter 8 showed that Kelley had cultivated a relationship with the senior officials who saw this movement as a threat, which made him that much more suspicious of maneuver-minded reformers like William S. Lind. Lind aggravated this with his caustic public criticism of Kelley and the Marine Corps, and this had a chilling effect on the Marine debate over maneuver warfare within the Corps. The situation was very different by 1987.

As this had been happening, Reagan's second-term Cold War strategy was already evolving to engage politically with the Soviet Union and be less militarily confrontational. This permitted a reduction in the defense spending which undercut a central grievance of the Military Reform Movement, even as the Military Reform Caucus was beginning to be co-opted and splintered by the reform gestures within the Reagan Pentagon. As the Military Reform Movement petered out, there was much less risk for Secretary of Defense Weinberger to accept Webb's nomination of Gray as Commandant of the Marine Corps, regardless of his association with Lind. Further, the senior leadership of the Pentagon, and even the senior generals in the

Marine Corps were no longer operating in an environment where military reformers were perceived to be an imminent threat. Based on General Gray's personality and past efforts, it is likely that he would have made aggressive reform efforts in any case once he became commandant. The commandant did, however, depend on Pentagon support and Congressional support for major changes that involved the structure of the Marine corps, or obtaining resources for new initiatives. The political tensions over the military reform movement were ebbing just as he took charge of the Corps, providing him greater freedom of action, and opportunity to gain support he needed for major changes in the Marine Corps.

**Commandant General Gray and his Wider Maneuverist Reforms**

Although General Gray is closely associated with maneuver warfare and was the decisive agent for promoting its development in the 2d Marine Division, and for adopting it as doctrine in FMFM-1, this was not Gray's first or central priority when he became CMC. Gray's unexpected nomination to lead the Marine Corps after he had already requested and been approved for retirement meant he had little time to think about his priorities before becoming commandant. In one of his first speeches two weeks after becoming commandant, he addressed the officers at one of the Marine Corps' largest bases, Camp Pendleton, California, but the gave no sense that he had a clear direction figured out. He talked about basic leadership principles and the need to restore the Marine Corps' reputation after the scandals of the previous years, and charged his audience to refocus itself on providing better leadership, training, and discipline.[1479] His only comment relating to maneuver itself stated simply, "…we're going to get far better than we are

[1479] Alfred M. Gray, Jr. "General A. Gray, Commandant of the Marine Corps Addressing Officers at Marine Corps Base Camp Pendleton, CA – July 13, 1987," transcript, Camp Pendleton, California, July 13, 1987, Gerald R. Turley/Alfred M. Gray Research Collection #5251, box 2, folder 10: General A. Gray Addressing Officers at Marine Corps Base Camp Pendleton, Marine Corps Archives, 1-15.

today at matters of maneuver and firepower. I happen to believe you win by combinations of firepower and maneuver, and I want to make sure everybody understands this."[1480]

Even as Gray was making his first public appearances as commandant, he was working with his staff to figure out how to move the Marine Corps in a positive direction. One product of that was "Directions for the US Marine Corps," a 67-page bulleted list of specific initiatives grouped by functional areas, and this staff paper does offer some insight into the relative importance of certain concerns. "Doctrinal Development" took up less than half a page, and focused on improvements needed to the process of developing doctrine, with no mention of any changes to doctrine itself, such as the adoption of maneuver warfare.[1481] "Education and Training," meanwhile, was described as "only adequate" and targeted the Amphibious Warfare School and Command and Staff College for improvements because "The orientation of these two schools should be on warfighting (ie. theory, doctrine, strategy of what war is) and not the managerial process."[1482] Such staff products clearly show that Gray and his staff were clearly aligning with key elements of the Military Reform Movement agenda, but in these early weeks the adoption of maneuver warfare was not among them.

Before long, Gray did develop some clear priorities. In a speech to the 1st Marine Division Association Reunion about a month after he became commandant, Gray explained at length that a comprehensive effort was needed to make training more realistic. He then outlined changes that would affect everything from the initial training of recruits all the way through the

[1480] Gray, "General A. Gray, Commandant of the Marine Corps Addressing Officers at Marine Corps Base Camp Pendleton, CA – July 13, 1987," 10.
[1481] Anonymous, "Directions for the US Marine Corps," talking paper, 1987, Gerald R. Turley/Alfred M. Gray Research Collection #5251, box 2, folder 8: Directions for the U.S. Marine Corps, 1987, Marine Corps Archives, 20.
[1482] Anonymous, "Directions for the US Marine Corps," 20-21.

daily physical fitness regimens of individual Marines and the field training of combat units.[1483] He briefly mentioned that improvements could be expected in the Marine Corps' educational system, and indicated that organizational changes would be made in Quantico, stating,

> We are also going to make some changes at Quantico again. Quantico needs to be the crossroads of the Marine Corps. We need to do out thinking and have our conceptual thoughts, studies and the like. We've kind of drifted away from that a little bit in the last decade or so as well. So we're going to establish something called a warfighting center there at Quantico or something like that and we're going to move in some of the young officers and some of the young staff noncommissioned officers and warrant officers and turn their brainpower loose and see if we can't get some ideas that will be worth taking us into the next century.[1484]

These different initiatives did align with the wider agenda for professional reform that the maneuver warfare advocates called for, but Gray was much slower to publicly endorse the concept of maneuver warfare itself.

General Gray's first mention of maneuver warfare in a speech as commandant was not until November 9, 1988, when about a third of his four-year term as Commandant of the Marine Corps was over. In the outline for that speech, which focused on command and control and intelligence, he referred to maneuver warfare only briefly, as "modern maneuver warfare," implying that it was a new application of a timeless concept.[1485] Even then, maneuver warfare did not become a central feature of his speeches for some time. This may have been an intentional strategy to deemphasize conflict and facilitate change in the long term. Chapter 8 showed, for example, that when Gray was interviewed during his time in command of the 2d Marine Division, the general had explained maneuver warfare to be something Marines had

[1483] Alfred M. Gray, Jr. "General Gray's Speech, 1st Marine Division Association Reunion," transcript, Phoenix, Arizona, 8 August 1987, Alfred M. Gray, Jr. Papers, Collection #2580, box 56, folder: Speeches by General Gray Mar – Dec 1987, Marine Corps Archives, Quantico, VA, 2-6.
[1484] Gray, "General Gray's Speech, 1st Marine Division Association Reunion," 6
[1485] Anonymous, "C4I2 – A New Era –," Alfred M. Gray, Jr. Papers, Collection #2580, box 56, folder: Speeches by General Gray Oct-Dec 1988." Marine Corps Archives, Quantico, VA, 1.

practiced throughout their history, even as his division was working hard to figure out how to practice that style. Later sections of this chapter will also show, that this relatively late mention of maneuver warfare was not meant to disguise a deeper agenda, because Gray did not initiate the development of FMFM 1 until about the same time, in the fall of 1988. The development of a doctrine based upon maneuver warfare was likely simply a lower priority than reforming how the Corps prepared to fight, which meant focusing on the training, education, and organizational adjustments first. Once those efforts were underway, he was able to initiate other projects that he considered less immediate and critical, such as defining a new approach to war in doctrine.

General Gray's larger agenda for the Marine Corps was broad, but tied to the central theme of increasing the combat effectiveness of Marine forces, what he called their warfighting capability. It had three major efforts which related to Quantico. The first was the consolidation of the various efforts going on around Washington, D.C. to procure new weapons and equipment into a more holistic process that was properly integrated with the development of doctrine for future conflicts and the preparation of Marine Corps leaders through education and training. This was to be accomplished by reorganizing the Marine Corps Development and Education Center (MCDEC) and several other organizations into a new major command at Quantico to be called the Mariner Corps Combat Development Command (MCCDC). The second was the establishment of an effective system for the professional military education (PME) for both officers and enlisted Marines. This included several educational policy changes, but the central feature of this effort was the establishment of the Marine Corps University. The third, initiated only after the other two were well underway, was the writing of a foundational doctrine for the Marine Corps based upon maneuver warfare. This was simply called "the maneuver warfare effort" by one of the staff officers involved in all three programs, further indicating that adopting

maneuver warfare in doctrine was never Grey's central agenda, but part of a much larger and comprehensive plan for reforming the Marine Corps into a better fighting organization.[1486] That third effort, the writing of FMFM-1, is the subject of the remainder of this chapter, but before turning to that the first two efforts warrant examination.

General Gray's first major initiative at Quantico was to reorganize the various functions there to impart greater coherency toward the ultimate goal of generating combat power. In this respect, it was also consistent with a central argument of the Military Reform Movement, which decried the loss of combat effectiveness in the U.S. military services brought about by managerialism and unnecessary bureaucratic processes. Reorganizing the bureaucracy was the surest means to disrupt its processes and refocus them toward a unified goal. Such an effort had to eb deliberate, however, and required time. Gray directed his staff to study the problem and make recommendations, and the final plan deconstructed the Doctrine Center and Education Center, which had become stove piped since Gray and Trainor left in 1981. Marine Corps University would replace the Education Center as the headquarters for the schools in Quantico, while all training and education activities were brought under a newly-established Marine Corps Training and Education Center. Also, several new centers were established for intelligence collection and wargaming, all co-located at Quantico. If one center was to have a leading role, it was the newly established Warfighting Center, which was responsible for bringing conceptual coherency to all the other efforts. One of the components of the Warfighting Center would be the new Doctrine Branch, where the new ideas, once tested and refined, would be encoded into formal publications. Gray understood that the Warfighting Center played the most critical role, and equipped it with his most valuable intellectual resources. General Kelley had maintained his

[1486] Jeff D. Grelson, interview by Shawn Callahan, digital recording, Quantico, VA, January 27, 2020. Oral and Video History Section, History Division, Marine Corps University, Quantico, VA.

own think-tank of talented majors and lieutenant colonels known as the Advanced Amphibious Study Group (AASG), and kept it close at hand in Washington. Gray had these officers reassigned to the Warfighting Center, where they would be isolated from the routine activities of Headquarters Marine Corps, and could focus on building a bigger picture for the combat development efforts in Quantico. One of their major projects was the development of the Marine Air Ground Task Force (MAGTF) Master Plan, a holistic scheme for identifying the most important needs of the Corps' combat forces, and aligning MCCDC's intelligence, doctrinal, educational, acquisitions, and testing efforts to support those needs. On November 10, 1987, the Marine Corps' first birthday while Gray was commandant, MCCDC was formally established. Even before that point, the underlying changes were being made, and people working in Quantico were experiencing a new sense of mission and urgency, supported by an influx of resources directed by the Commandant.

General Gray's second major effort was reforming the Marine Corps' professional military education (PME) system to promote the intellectual growth of Marine Corps leaders. As with increasing the efficiency of the Corps' combat development efforts, this was another element of the Military Reform Movement's agenda, and of the Marine maneuver warfare advocates. Gray's vision was to turn the Corps' learning establishment based in Quantico into "a world-class educational institution, unprecedented in military history."[1487] To do that he planned to consolidate all the five schools in Quantico which had been administered by the Education Center under a collegiate structure to be called Marine Corps University. In some ways this could be looked at as a rebranding of the Education Center, but it also meant creating an educational infrastructure that looked a lot more like a civilian college or university. This

[1487] Michael D. Wyly, "Marine Corps University Established at Quantico," *Marine Corps Gazette* 73, no. 10 (October 1989), 11.

included hiring civilian PhDs and accreditation to confer masters' degrees. It also meant building a research library that would support their studies, but also the wider Marine Corps by acting as "the central repository for studies of the doctrine, tactics, techniques, and procedures of expeditionary and amphibious warfare."[1488] Ground was finally broken on the Marine Corps Research Library in the final days of Gray's term as commandant. Improving the PME infrastructure also included an investment in nonresident education, with the vision that "The student body is the whole Marine Corps, Regular and Reserve" and the charge "…every Marine should anticipate enrollment in at least one of the University's programs."[1489]

Gray selected the Director of the Command and Staff College to be the first president of MCU. This was Colonel Paul K. Van Riper, soon to be promoted to the rank a brigadier general. To assist him in the efforts, General Gray assigned Michael Wyly, now a full colonel, as an action officer to develop the plan, and eventually to serve as the first vice president of MCU. Their initiatives included hiring civilian professors to teach at the Command and Staff College, establishing the Marine Corps' own War College for senior officer PME, and establishing the School of Advanced Warfighting on the model of the U.S. Army's very successful School of Advanced Military Studies.

General Gray was after much broader change, and understood that reforming the formal schools was only part of the solution. He sought to promote continuous learning within Marines, and understood that this meant constant individual study. To promote this, in 1988 he began instituting required reading programs. The first lists of titles were only required for the Corps' generals, but in July 1989 Gray published a personal to all Marines on the topic. He directed all commands to initiate supervised reading programs and discussion groups for their Marines, and

[1488] Wyly, "Marine Corps University Established at Quantico," 12.
[1489] Wyly, "Marine Corps University Established at Quantico," 11.

provided reading lists for each rank from corporal through colonel. Enlisted Marines were encouraged to read four books a year, and required to read at least two, while officers were encouraged to read six, but charged to read at least three.[1490] This list was to be revised each November.[1491] Long before Gray got around to implementing these requirements, however, his message had already caught on. By the fifth month of his commandancy, schools in Quantico had begun publishing their own reading lists.[1492]

Having taken a closer look at General Gray's institutional efforts, then, it can be seen that the writing of a doctrine based upon maneuver warfare was far from his single driving agenda for the Corps. It was but one portion, and came only after he had initiated major efforts in two other areas, which could each have been noteworthy improvements even without maneuver warfare. Though these each complemented and facilitated the success of the new doctrine, General Gray's vision for reform, like that of the Military Reform Movement and the Marine maneuver warfare advocates, was much broader. This is important context for the effort to write the Marine Corps' first foundational doctrine for war, one that would be based upon maneuver warfare.

**FMFM 1, *Warfighting*: Process**

While establishing a doctrinal basis for maneuver warfare was not General Gray's first priority, one of the reasons it has gotten so much attention is because it was, indeed, a significant and radical change. Even before Gray instructed that work begin, his subordinates anticipated that it was time to take action. The first manifestation of that was a project that had already been initiated, OH 6-1, *Ground Combat Operations*.

---

[1490] Anonymous, "The Commandant's Reading List," *Marine Corps Gazette* 73, no. 9 (September 1989), 17-19.
[1491] Anonymous, "*The Marine Corps Professional Reading Program:* 'Marines Fight Better When They Fight Smarter'," *Leatherneck* 72, no. 9 (September 1989), 60-62.
[1492] Anonymous, "Professional Reading," *Marine Corps Gazette* 71, no. 11 (November 1987), 81-82.

Captain Schmitt, working in the Doctrine Center, had argued for the creation of a new doctrine to provide a broader understanding of war that was lacking in the existing publications, and his superiors granted him the opportunity, As a result, in June 1987 he was on the second draft of the OH for an FMFM that he declared would "provide the conceptual basis on which all the subsequent manuals in the ground combat series will be based. Subsequent manuals will not repeat the principles contained here, but will assume them as understood and will build upon them.[1493] He completed the second draft in the final day of General Kelley's tenure as Commandant, and outlined the plan for moving forward. After circulating copies, a conference was to be held in Quantico a month later, at the end of July. This would lead to a longer period of comments and recommendations, with the OH formally published by October.[1494] Presumably, this would lead to wider study of the new ideas, more revision, and ultimately, formal adoption as doctrine in FMFM 6-1.

Schmitt had tried hard to include maneuver warfare concepts in the drafts he produced, only to have each effort stymied by his superiors, so that the draft produced on the eve of Gray's appointment had no overt trace. When Gray became Commandant, Schmitt recalled,

> …my boss comes back to me and he says, "You gotta put maneuver warfare into it." So I wrote a very short chapter, really a very superficial chapter, about maneuver warfare, and we shoehorned it in to the front of the book. It has nothing to do with anything else that's in the book, it just stands out like a sore thumb, but at least it was there.[1495]

This was reflected in the next draft of OH 6-1, completed in October 1987. A three page-section was titled "Maneuver Warfare" was added to the end of the Introduction chapter, just before Chapter 3, "Fundamentals" began the usual recapitulation of the principles of war. Though Schmitt wasn't happy to have this section "shoehorned" in and disconnected from the

[1493] U.S. Marine Corps, OH 6-1, 2nd draft, front matter.
[1494] U.S. Marine Corps, OH 6-1, 2nd draft, front matter.
[1495] Schmitt, interview.

rest of the book, it was bold in its opening assertion, "The Marine Corps' basic ground combat doctrine is called Maneuver Warfare."[1496] The next three pages explained the concept of maneuver warfare and listed ten "Fundamentals of Maneuver Warfare," each with an explanatory paragraph. These included "Focus on the enemy; not terrain objectives," "Act more quickly than the enemy can react," "Support maneuver by fire, "Issue mission type orders," "Avoid enemy strength and attack enemy weaknesses," and "Always designate a main effort."[1497]

In Schmitt's recollection this was "received fairly well."[1498] Though General Gray's appointment may have created an environment more conducive to the maneuverists ideas than had been the case with General Kelley as Commandant, these ideas were not universally accepted. One reviewer, for example, added a handwritten note on the draft under the subsection title "Maneuver Warfare" asking "Why use term?" apparently implying that the concept could be explained without invoking the resistance that many had developed towards the maneuverists and their brand of warfare. The reviewer further edited Schmitt's first two lines to read, "The Marine Corps' basic combat doctrine ~~is called Maneuver Warfare. Maneuver warfare~~ is a style or approach to war which emphasizes disrupting the cohesion of the enemy's tactical units and the mental process of the enemy commander…"[1499] Toward the end of the paragraph, where "Maneuver Warfare" was not lined through entirely, the reviewer indicated that it should be decapitalized.[1500] Collectively, these comments suggest that the unknown reviewer thought the

[1496] U.S. Marine Corps, Operational Handbook 6-1 (OH 6-1), *Ground Combat Operations*, 3d draft, unpublished draft by Ground Branch, Doctrine Center, Marine Corps Development and Education Command, October 1987, in the holdings of the Marine Corps University Research Library, Quantico, VA, 1-4. Hereafter, "U.S. Marine Corps, OH 6-1, 3d draft."
[1497] U.S. Marine Corps, OH 6-1, 3d draft, 1-5 to 1-7.
[1498] U.S. Marine Corps, OH 6-1, 2nd draft, 1-4.
[1499] U.S. Marine Corps, OH 6-1, 2nd draft, 1-4.
[1500] U.S. Marine Corps, OH 6-1, 2nd draft, 1-4.

concept of maneuver warfare was valid, but understood that the concept's brand carried baggage. When OH 6-1 was formally published in January 1988, Schmitt's original words remained, but maneuver warfare had been decapitalized.[1501]

When OH 6-1 was formally published in January 1988 to being the process of Corps-wide circulation and feedback, ultimately leading to a new FMFM-1, its contents had expanded significantly since the second draft finished on the eve of General Gray's appointment six months earlier, and the third draft finished three months earlier.[1502] Discussion of maneuver warfare, however, remained confined to Schmitt's one introductory subsection, which had been "shoehorned" in. These expanded sections, however, did not elaborate what was meant by the term "maneuver warfare," expand upon the concept, or explain how it applied to their various topics. This suggests that though Schmitt had always looked for opportunities to include maneuver concepts, some external force prevented this, whether that was the limited time available, or bureaucratic steering that wished to see the new commandant appeased, but without changing the essence of how things had been done up to that point. The Doctrine Center's leader may also have noticed that General Gray had not been talking much about maneuver warfare, and was waiting to see if and when the commandant would actually call for the concept to be implemented.

Schmitt's completion of the OH 6-1 project slightly behind the schedule laid out before General Gray became commandant, and the meager inclusion of maneuver warfare within it, further illustrates that the Doctrine Center did not get a lot of Commandant's attention early on; he was more focused with reorganizing Quantico's MCDEC into the MCCDC for the important

[1501] U.S. Marine Corps, Operational Handbook 6-1 (OH 6-1), *Ground |Combat Operations* (Quantico, VA: Marine Corps Combat Development Command, 1988), 1-5. Hereafter, "U.S. Marine Corps, OH 6-1."
[1502] U.S. Marine Corps, OH 6-1, 2nd draft, table of contents; U.S. Marine Corps, OH 6-1, 3d draft, table of contents; and U.S. Marine Corps, OH 6-1, table of contents.

work that would follow. With that accomplished, however, things began to change. In Schmitt's words, "this little sort of back water thing, was growing into something very big and important very quickly."[1503] A new officer had been assigned to lead the Doctrine Center, Colonel Robert Mastreon, though it was now known as the Doctrine Division. One of Gray's trusted action officers also arrived, and in the fall of 1988, more than a year after Gray had become commandant, brought news that an officer needed to be found who could write a new foundational doctrine for the entire Marine Corps.[1504] Schmitt was the obvious choice based on the OH 6-1 project, but the Commandant wanted to interview any candidates before the project began.

On his next visit to Quantico, Schmitt was given an appointment with the commandant. It would be the first time he talked to the general since answering his question at a 2d Marine Division exercise debrief four years earlier, and Schmitt had no reason to expect the Commandant would recall that event. Schmitt was ushered into the room where he remembers another general officer sitting on the side, and given a seat facing the commandant. Schmitt had a copy of OH 6-1 with him, and after a few introductory questions, Gray asked him what he would do to improve the book. Being passionate on the subject, feeling his frustrations with the OH 6-1 project well up, and seeing an opportunity, Schmitt grew bolder. In his words,

> I started lecturing the [] Commandant of the Marine Corps and saying to him, "General Gray, it's all well and good to write a new book that says maneuver warfare," and I held my book up, and I sort of waved it at him… But I said, "If you're not willing to make the institutional changes that are necessary to training and personnel policy and education and everything else, you might as well just throw it in the trash."[1505]

---

[1503] Schmitt, interview.

[1504] No documentary evidence pinpoints the start of the project, but Schmitt, interview indicates it took Schmitt about five months to write FMFM 1, and the book was signed by the commandant on March 6, 1989. See U.S. Marine Corps, Fleet Marine Force Manual 1 (FMFM 1), *Warfighting* (Washington, D.C.: Headquarters, United States Marine Corps, 1989), foreword.

[1505] Alfred M. Gray, Paul K. Van Riper, and John F. Schmitt, "Warfighting Discussion Panel," transcript, Quantico, Virginia, February 24, 2015. Video 150224-M-DW556-001 released by Marine Corps Base Quantico Combat

As he said this, Schmitt tossed the book back over his shoulder, where it happened to land in a large metal trashcan with a loud bang. At that moment the room grew silent, and General Gray stared at Schmitt, with one eyebrow raised. Schmitt suddenly realized that in his effort to make his point he had gone way beyond any standard of decorum expected between a mere captain and the four-star general appointed as the Commandant of the Marine Corps.[1506] Schmitt was dismissed, and soon afterwards learned that he had the job.

Schmitt met with the Commandant to get guidance for the project, but found it a frustrating experience. Schmitt recalled that his superiors could only tell him, "The mission was to write the foundational doctrinal manual that captured Gray's philosophy of war, which was maneuver warfare."[1507] Meeting with the Commandant would therefore be important for Schmitt to get an idea what was specifically wanted. In the first meeting, which lasted about four hours, he recalled, "What he did is he told me sea stories. And if I'd asked him a specific question about the book, he would just tell me another sea story. He just refused to give me that kind of guidance. So I got very little specific guidance at all."[1508]

Over the course of that time, with Schmitt asking specific questions, and Gray only suggesting answers allegorically, Schmitt had as much guidance as he was going to get. Gray was clear about one thing, however: Schmitt would be the sole author and he would be working directly for the Commandant when it came to the contents of the new doctrine. Schmitt recalled,

> I was told by Gray, "You have to satisfy me, and nobody else. You don't answer to anybody except for me. If anybody tries to unduly influence what you're saying or you're writing, you tell me about it and I'll take care of it." So there was no editorial board, there

Camera available at https://grc-usmcu.libguides.com/c.php?g=756767&p=5426039, 12. Hereafter, "Gray, Van Riper, and Schmitt, 'Warfighting Discussion Panel'."
[1506] Gray, Van Riper, and Schmitt, "Warfighting Discussion Panel," 12-13.
[1507] Schmitt, interview.
[1508] Schmitt, interview.

> was no staffing process. I was, I literally was answerable to nobody but the Commandant.[1509]

General Gray's decision to place a relatively junior officer, a captain with only six years of military experience, in charge of writing the foundational philosophy of war for the Marine Corps was a radical one. Even more radical was his decision to circumvent the staffing process. This was the standard procedure within the military bureaucracy, vetting ideas up through the chain of command and laterally through stakeholder organizations. Because such processes required a high degree of consensus, they often attenuated now ideas, especially when they conflicted with organizational norms. Gray's bypassing of bureaucratic staffing was a clear indication of the commandant's intention to create something bold, coherent, and effective at achieving organizational change.

It is important not to exaggerate the liberation of this project from bureaucratic influences. Colonel Mastreon, the head of the Doctrine Branch, for example, still had responsibility for seeing that the project was completed on time.[1510] What is not clear is whether the deadlines were set by the commandant, Schmitt, or perhaps even Mastreon as a measure of bureaucratic control over the process of writing FMFM-1, if not the contents. Even if the timelines were set through an agreement between Mastreon and Schmitt, and Colonel Mastreon made it clear "time was not the primary factor, quality was," the colonel was accountable to the bureaucracy to get the job done in a timely way, and felt pressure because of it.[1511]

General Gray had assured Captain Schmitt would enjoy the widest authorial discretion, and he was also free to consult with a wide range of sources and experts. Schmitt saw his three primary historical sources to be Sun Tzu's *Art of War*, Carl von Clausewitz's *On War*, and John

[1509] Schmitt, interview.
[1510] Schmitt, interview.
[1511] Schmitt, interview.

Boyd's "Patterns of Conflict" slides, and saw FMFM-1 as "essentially a synthesis of those three." Schmitt had witnessed Boyd presenting "Pattens of Conflict" at an earlier time, but as FMFM-1 was being written Boyd had moved to Florida, and was ill. Schmitt did consult with a relatively small group of people including Zinni and officers who had learned maneuver warfare in General Gray's 2d Marine Division. The three people Schmitt consulted with most often, however, were not part of that group. They were Colonel Paul K. Van Riper, Colonel Michael Wyly, and William S. Lind.

Colonel Van Riper was the Director of the Command and Staff College, and would become the first President of Marine Corps University about six months after FMFM-1 was published. Van Riper was one of the generation of officers who served at the company level in Vietnam and since his time as a student at the Naval War College in the year Admiral Stansfield Turner had radically changed the curriculum, Van Riper became an aggressive promoter of a professional study. While Van Riper had remained on the sidelines of the maneuver warfare debate prior to Gray's appointment as commandant, from that point forward he would be one of its chief advocates. Schmidt had met Van Riper at a doctrine conference, where

> we'd started talking and realized that we had a very similar interest in military theory and I remember getting out a white board and we just started diagramming things on the white board together, and it just seemed like we were very sympatico. … he obviously was a very thoughtful and very intelligent kind of a guy. So that when he came back to Quantico as the director of Command and Staff College, it just seemed natural for me to look him up. He became kind of a mentor to me, I think, and he was very open, he'd let me walk into his office practically any time, and he gave me all kinds of time to talk about these sorts of things.[1512]

[1512] Schmitt, interview.

When Schmitt began the FMFM 1 project, he met with Van Riper three to four times a week. In those meetings they would talk over a specific idea, or Van Riper would provide feedback on a paragraph or a larger portion of a chapter Schmitt had written.[1513]

Colonel Wyly was also working nearby, helping to prepare for the establishment of MCU, and helped Schmitt in a similar way as Van Riper, though the two only met about once a week. Schmitt met with Lind even less frequently, but the role Lind played would prove to be important. Schmitt later recalled,

> Usually I would go see Bill when I had a complete chapter. I would drive up to his office in DC, and we would… he actually helped me, you know, edit and rewrite it and that kind of thing, we'd sit at the typewriter together and work through and edit things. He's a very good editor.[1514]

Lind was therefore the final person to shape the expression of the ideas Schmitt had included in FMFM-1 before the commandant read the work and approved it as doctrine.

Schmitt worked on the project for about 6 months. Part way through that time he had his second meeting with the commandant, the meeting described at the opening of this chapter when Gray helped Schmitt see that the principles of war should have no place in this document. If the appointment of Alfred M. Gray to be commandant was the decisive moment in the Marine maneuver warfare movement, then Schmitt's second meeting with the commandant must be considered the decisive moment in the encoding of maneuver warfare as doctrine. It was this meeting where Gray liberated the project from the principles of war, a system of thinking which had undergirded Marine Corps and Army doctrine for decades, one that imposed an ordered model on a disordered world. As a result, Schmitt would be forced to reconsider how to relate military decision-making to the inherently chaotic and nonlinear nature of war, and develop an

[1513] Schmitt, interview.
[1514] Schmitt, interview.

explanation which emphasized moral and mental factors rather than material ones. Here the idea that maneuver warfare was to be a philosophy of war took on a new meaning, one that Schmitt, and perhaps even Gray, did not fully appreciate.

Schmitt and his superiors had understood that his task was to "write the foundational doctrinal manual that captured Gray's philosophy of war, which was maneuver warfare."[1515] What he really needed to do was define a new philosophy of war and military decision-making for the Marine Corps, one in which the maneuver warfare style, which sought to weaponize uncertainty, disorder, and time, made sense. This relationship, between the doctrinal concept of maneuver warfare and the way of thinking about war that it expressed, would continue to be clouded by the use of the word "philosophy" within FMFM 1, and even today the important distinction is underappreciated.

Schmitt may not have been able to annunciate the full implications the new direction that would be required in his writing of FMFM 1, but he clearly understood that he was being asked to produce something much bolder and more innovative than he had originally anticipated. As a result, he recalled,

> I completely threw it out, I redid the outline and it ended up being a much more revolutionary book than it would have been. I think, if he had not given me that guidance, it would have looked a lot like a standard Army FM, like FM 100-5 or something like that. It would have been much more conventional, much more stale than the book that it became.[1516]

With this fresh start and with the encouragement to be bolder in explaining a philosophy of war, Schmitt continued writing and consulting with Van Riper, Wyly, and Lind. He finished the project a few months later, and sent a copy of the draft to Gray.

[1515] Schmitt, interview.
[1516] Schmitt, interview.

Shortly afterwards, Schmitt was summoned to the commandants' quarters early one morning with a printed version for the commandant's signature. Schmitt was surprised to be ushered into the kitchen, and even more surprised that Gray had only one change to the entire document. Where the foreword Schmitt had drafted for the commandant charged all Marines to read the document, Grey wanted to see "read and reread." After the Commandant signed the document Captain Schmitt drove the Marine Corps' first foundational conception of war down to Quantico, from where it would be printed in massive numbers and spread throughout the Corps.

General Gray sought a foundational "philosophical" doctrine to undergird all of the Marine Corps' other efforts, and used a highly unorthodox method to get the new doctrine written. In so doing, he was requiring that Schmitt abandon the orthodox U.S. approach to understanding war, and develop a new explanation for what war was, one that was as conducive to the maneuverist style as the former had been to an attritional style. To understand how radical the product of that unorthodox process was, an assessment of the text of FMFM 1 itself is required.

**FMFM 1, *Warfighting*: Contents**

Considering the magnitude of the task, FMFM 1 was a surprisingly short document, only 88 pages long (including end notes) when it was printed as a 5½ by 8-inch booklet, small enough to fit in the cargo pocket of the camouflage utility uniform every Marine wore. OH 6-1 had been more than 300 pages long printed in a full-page format, but FMFM-1 was not intended to replace this work, with its great detail on the many aspects of ground combat operations.[1517] Gray's foreword explained "It is not intended as a reference manual, but is designed to be read from

[1517] U.S. Marine Corps, OH 6-1, table of contents.

cover to cover" by every officer.[1518] Gray was a leading advocate of developing the minds of enlisted Marines and empowering them to lead, so it is likely he wanted the publication to be accessible to all Marines. Gray had not asked for a book that would tell Marines the many things they had to do to execute maneuver warfare, but was looking for something to define how they should understand war, and the individual and institutional values necessary to adopt the new style of warfare. In 1984, he had observed, "I know Mr. Lind would agree that the concept of maneuver war is as much a state of mind as it is a theory."[1519] Now, five years later in his foreword he wrote, "this book does not contain specific techniques and procedures for conduct. Rather it provides broad guidance in the form of concepts and values."[1520] He introduced the new manual by declaring "This book describes my philosophy on warfighting" and closed his foreword by reminding Marines, "This book describes a philosophy for action which, in war and in peace, in the field and in the rear, dictates our approach to duty."[1521]

When Schmitt selected the title of the book, he did not choose "Maneuver Warfare." Schmitt later specifically rejected the idea that there might be a political reason for this, or that he wanted to avoid any resistance that might be generated by this title.[1522] That being said, he must have remembered the intensity of the debate over maneuver warfare, the resistance to including those ideas in OH 6-1, and the resistance to including that term even after Gray became commandant. Even so, Schmitt had a very sound reason for calling the new doctrine "Warfighting," as it represented Gray's brand, and was closer to the wider program of reform Gray was trying to accomplish in the Marine Corps. In Schmitt's words,

---

[1518] U.S. Marine Corps, FMFM 1, foreword.
[1519] John C. Scharfen, "Tactics and Theory: Interview with Major General Alfred M. Gray, Jr. USMC," *Amphibious Warfare Review* 2, no. 1 (July 1984), 10.
[1520] U.S. Marine Corps, FMFM 1, foreword.
[1521] U.S. Marine Corps, FMFM 1, foreword.
[1522] Schmitt, interview.

> …as I recall, that choice got left up to me again, because nobody said this is what it's going to be called. Gray just said I want a book to discuss my philosophy. When you listen to him talk, and remember I sat there and listened to him tell sea story after sea story after sea story, it seemed like the phrase that was sort of the label he was using most often was not maneuver warfare, it was warfighting. He only talked about… in fact he invented the word warfighting basically, no one had put those two words together to make one word out of them. And he was the guy that did that. And at that time, although it's become a much more generic word now, at that time the word warfighting was largely associated with Gray. So that seemed to me to be a natural thing to call the book.[1523]

The structure of FMFM-1 reflects its purpose. Earlier doctrinal publications rarely mentioned theory, and when they did it was usually in the form of briefly summarizing the principles of war in an introductory section before getting to the details of how to fight. *Warfighting* was divided into four chapters, "The Nature of War," "The Theory of War," "Preparing for War," and "The Conduct of War." The content of each bears close examination in a dissertation focused on this publication as the first doctrinal expression of maneuver warfare.

Chapter 1 began by explaining its purpose,

> To understand the Marine Corps' philosophy of warfighting, we first need an appreciation for the nature of war itself — its moral and physical characteristics and demands. A common view among Marines of the nature of war is a necessary base for the development of a cohesive doctrine.[1524]

This chapter then defined war, and reflected a Clausewitzian approach to the topic, describing war first in simple terms that defined its essence, then adding nuance and detail to show the many complex forms war could take in reality. This section began by asserting,

> War is a state of hostilities that exists between or among nations, characterized by the use of military force. The essence of war is a violent clash between two hostile, independent, and irreconcilable wills, each trying to impose itself on the other.[1525]

[1523] Schmitt, interview. Schmitt was probably incorrect in claiming that Gray invented the term "warfighting," but it is clear that this word was closely associated with Gray and his focus on improving combat effectiveness.
[1524] U.S. Marine Corps, FMFM 1, 3.
[1525] U.S. Marine Corps, FMFM 1, 3.

A page later it concluded the discussion with, "Thus, for our purposes war may range from intense clashes between large military forces backed by an official declaration of war to covert hostilities which barely reach the threshold of violence.[1526]

The next section of chapter 1 discussed friction, and began by quoting Clausewitz, but then expanded the discussion into a broader concept. Where Clausewitz had emphasized friction as a product of largely internal physical and mental factors which could be counteracted by a commander's will, Schmitt's writing reflected Boyd's emphasis on friction as moral and mental factor which could be weaponized.[1527] Schmitt wrote,

> The enemy seeks to resist our will and impose his own will on us. It is the dynamic interplay between his will and ours that makes war difficult and complex. In this environment, friction abounds.
>
> Friction may be mental, as in indecision over a course of action. Or it may be physical, as in effective enemy fire or a terrain obstacle that must be overcome. Friction may be external, imposed by enemy action, the terrain, weather, or mere chance. Or friction may be self-induced, caused by such factors as lack of a clearly defined goal, lack of coordination, unclear or complicated plans, complex task organizations or command relationships, or complicated communication systems. Whatever form it takes, because war is a human enterprise, friction will always have a psychological as well as a physical impact.[1528]

Schmitt then synthesized Clausewitz and Boyd when he got to the point of this discussion, concluding,

> While we should attempt to minimize self induced friction, the greater requirement is to *fight effectively, within the medium of friction*. The means to overcome friction is the will; we prevail over friction through persistent strength of mind and spirit. While striving to overcome the effects of friction ourselves, we must attempt at the same time to raise our enemy's friction to a level that destroys his ability to fight.[1529]

---

[1526] U.S. Marine Corps, FMFM 1, 4.
[1527] Carl von Clausewitz, *On War*, ed. Michael Howard and Peter Paret, trans. Michael Howard and Peter Paret (Princeton, NJ: Princeton University Press, 1976), 117-121. Clausewitz, 104 also states, "To begin with, clear thought demands that we keep one point in mind: of the weight, the burden, the resistance—call it what you like—that challenges the psychological strength of the soldier, only a small part is the *direct result of the enemy's activity, his resistance, or his operations*."
[1528] U.S. Marine Corps, FMFM 1, 4-5.
[1529] U.S. Marine Corps, FMFM 1, 5.

FMFM-1's next section of chapter 1 addressed uncertainty as an inherent attribute of war, opening with the statement, "We might argue that uncertainty is just one of many sources of friction, but because it is such a pervasive trait of war we will treat it singly."[1530] Explicitly addressing uncertainty served to counteract the mindset described in chapter 2 which had been promoted with the military services by the Department of Defense emphasis on Systems Analyses. This approach to analyzing problems had privileged quantifiable variables, which in turn tended to focus on more tangible physical factors. This way of thinking was very conducive to an attritional approach to warfare, and alien to a theory of victory through moral and mental effects. Schmitt explained,

> All actions in war take place in an atmosphere of uncertainty, or the *fog of war*. Uncertainty pervades battle in the form of unknowns about the enemy, about the environment, and even about the friendly situation. While we try to reduce these unknowns by gathering information, we must realize we cannot eliminate them. The very nature of war makes absolute certainty impossible; all actions in war will be based on incomplete, inaccurate, or even contradictory information.[1531]

Schmitt urged, "We must learn to fight in an environment of uncertainty, which we can do by developing simple, flexible plans; planning for contingencies; developing standing operating procedures; and fostering initiative among subordinates."[1532] In so doing he was making a direct connection between the inherent uncertainty of war, and the maneuverist way of thinking and fighting which would be promoted as doctrine later in the manual.

After some discussion of risk and chance as factors which cerate "psychological friction" for both belligerents in a war, and which could therefore be exploited, Schmitt devoted an entire section to fluidity. These ideas were clearly drawn from Sun Tzu and Boyd. Schmitt began,

> Like friction and uncertainty, fluidity is an integral attribute of the nature of war. Each episode in war is the temporary result of a unique combination of circumstances, requiring

[1530] U.S. Marine Corps, FMFM 1, 6.
[1531] U.S. Marine Corps, FMFM 1, 6.
[1532] U.S. Marine Corps, FMFM 1, 6.

> an original solution. But no episode can be viewed in isolation. Rather, each merges with those that precede and follow it - shaped by the former and shaping the conditions of the latter - creating a continuous, fluctuating fabric of activity replete with fleeting opportunities and unforeseen events. Success depends in large part on the ability to adapt to a constantly changing situation.[1533]

If Boyd's influence, distinct from his "intellectual father" Sun Tzu, is not clear here, it is obvious in the next subsection on disorder. Suggestive of Boyd's ideas on entropy, Schmitt began,

> In an environment of friction, uncertainty, and fluidity, war gravitates naturally toward disorder. Like the other attributes of the environment of war, disorder is an integral characteristic of war; we can never eliminate it. In the heat of battle, plans will go awry, instructions and information will be unclear and misinterpreted, communications will fail, and mistakes and unforeseen events will be commonplace.[1534]

FMFM-1 explained Boyd's ideas on entropy through a more accessible and familiar term, disorder. The discussion which followed explained how disorder, considered by some to be the vey antithesis of military organization, was not only unavoidable, but created opportunity. Schmitt wrote,

> It is precisely this natural disorder which creates the conditions ripe for exploitation by an opportunistic will.
>
> Each encounter in war will usually tend to grow increasingly disordered over time. As the situation changes continuously, we are forced to improvise again and again until finally our actions have little, if any, resemblance to the original scheme….
>
> The occurrences of war will not unfold like clockwork. Thus, we cannot hope to impose precise, positive control over events. The best we can hope for is to impose a general framework of order on the disorder, to prescribe the general flow of action rather than to try to control each event.
>
> If we are to win, we must be able to operate in a disorderly environment. In fact, we must not only be able to fight effectively in the face of disorder, we should seek to generate disorder for our opponent and use it as a weapon against him.[1535]

The next subsection, "Moral and Physical Forces" was an explicit reminder of something that should have become clear to FMFM-1's readers by this point, that Marines should think of war not merely as a physical contest to shape another force's will, but a moral and mental

[1533] U.S. Marine Corps, FMFM 1, 7-8.
[1534] U.S. Marine Corps, FMFM 1, 8-9.
[1535] U.S. Marine Corps, FMFM 1, 9-10

struggle as well. This was a common theme of Schmitt's major theoretical sources; Clausewitz, Sun Tu, and Boyd; and others he drew upon, such as Liddell Hart. Its opening discussion appeared to have been written for the explicit purpose of counteracting ways of thinking that were focused on the physical and quantitative, explaining,

> War is characterized by the interaction of both moral and physical forces. The physical characteristics of war are generally easily seen, understood, and measured: hardware, technology, physical objectives seized, force ratios, losses of materiel or life, terrain lost or gained, prisoners or materiel captured. The moral characteristics are less tangible. (The term *moral* as used here is not restricted to ethics although ethics are certainly included, but pertains to those forces of psychological rather than tangible nature, to include the mental aspects of War.) Moral forces are difficult to grasp and impossible to quantify. We cannot easily gauge forces like national and military resolve, national or individual conscience, emotion, fear, courage, morale, leadership, or esprit. Yet moral forces exert a greater influence on the nature and outcome of war than do physical. This is not to lessen the importance of physical forces, for the physical forces in war can have a significant impact on the moral. For example, the greatest effect of fires on the enemy is generally not the amount of physical destruction they cause, but the effect of that physical destruction on his moral strength.[1536]

This discussion also served to clarify what was meant by the moral forces in war, but its most important contribution was its emphasis on the moral and mental aspects of war as the decisive domain, with physical action serving to create effects there. Communicating this as one of the fundamental assumptions about the nature of war was important for Marines if they were going to understand how maneuver warfare worked, and therefore believe that it could work, rather than becoming fixated on its deemphasis of physical destruction.

The next section of Chapter 1, "The Evolution of War" had little to do with specific aspects of war that maneuver warfare might depend upon, but which were nonetheless important. Regarding the "The Evolution of War" Schmitt explained, War is both timeless and ever changing. While the basic nature of war is constant, the means and methods we use evolve

[1536] U.S. Marine Corps, FMFM 1, 12-13

continuously."[1537] Here Schmitt was drawing from Clausewitz, in an early form of what today had become a maxim of U.S. military PME, that the nature of war is enduring, while the character of war is constantly changing. This was an important concept, as it prevented one from adopting an ahistorical perspective of war by asserting an officer must be as aware of the common characteristics that have defined all wars as he is about the circumstances unique to any particular conflict, and the way they shape the conduct of that war.

The final section, "Art and Science of War," made it clear that while science, calculation, and management played important roles in the conduct of war, they could not be a sound basis for combat decision-making and leadership. Schmitt wrote,

> From the discussion to this point, we can conclude that war demonstrates characteristics of both art and science. Various aspects of war, particularly its technical aspects, fall principally in the realm of science, which we will describe as the methodical application of the empirical laws of nature. The science of war includes those activities directly subject to the laws of physics, chemistry, and like disciplines; for example, the application of fires, the effects of Weapons [sic], and the rates and methods of movement and resupply. However, these are among the components of war; they do not describe the whole phenomenon. Owing to the vagaries of human behavior and the countless other intangible factors which contribute to it, there is far more to the conduct of war than can be explained by science. The science of war stops short of the need for military judgment, the impact of moral forces, the influence of chance, and other similar factors. We thus conclude that the conduct of war is ultimately an art, an activity of human creativity and intuition powered by the strength of the human will. The art of war requires the intuitive ability to grasp the essence of a unique battlefield situation, the creative ability to devise a practical solution, and the strength of purpose to execute the act.[1538]

This paragraph's emphasis on human creativity and intuition was highly suggestive of Clausewitz's conception of military genius with its many elements such as powers of intellect, *coup d'oeil*, presence of mind, and sense of locality, though these ideas were expressed in terms that would be familiar to any Marine reading the document.[1539] In ending on this point, FMFM-1

[1537] U.S. Marine Corps, FMFM 1, 13.
[1538] U.S. Marine Corps, FMFM 1, 14-15.
[1539] Clausewitz, *On War*, 100-112.

explained to Marines that success in war required adopting a certain attitude toward war that could accommodate its fundamentally uncertain and chaotic nature. This final point was driven home by Schmitt's conclusion for chapter 1, a single paragraph which read,

> At first glance, war seems a rather simple clash of interests. But at closer examination, it takes shape as one of the most demanding and trying of man's endeavors. Fog, friction, and chaos are its natural habitat. Each episode is the unique product of the dynamic interaction of myriad moral and physical forces. While founded on the laws of science, war demands, ultimately, the intuition and creativity of art.[1540]

Chapter 1 was certainly theoretical, but it was presented distinct from Chapter 2, "The Theory of War," and before that discussion, because it was meant to encompass those ideas which could not be dismissed as academic or unfalsifiable. Instead, the aspects in chapter 1 were presented as truths, beliefs that Marines needed to adopt as articles of faith, serving at the levels of assumptions for the ideas on fighting maneuver warfare and how to prepare for that style of warfare, the subject of the last two chapters. Before that, FMFM-1 did address a number of other theoretical aspects which could be accepted as somewhat speculative and therefore open to some debate.

Chapter 2, "The theory of War," opened by explaining, "Having arrived at a common view of the nature of war, we proceed to develop from it a theory of war. Our theory of war will in turn be the foundation for the way we prepare for and wage war."[1541] Again, these ideas were really no more theoretical than those expressed in chapter 1, but they were less central to adopting a fundamentally new way of thinking about war. The first section, "War as an Instrument of Policy," succinctly captured Clausewitz's ideas that war exists to serve policy, an inescapable truth that the conduct of war and form it takes at any given time and place is shaped

[1540] U.S. Marine Corps, FMFM 1, 15.
[1541] U.S. Marine Corps, FMFM 1, 19.

by politics.[1542] The next section, "Means in War," briefly explained that military force was just one element of national power, and was interdependent on the other aspects. Schmitt wrote,

> At the national level, war involves the use of all the elements of national power, including diplomacy, military force, economics, ideology, technology, and culture. Our primary concern is with the use of military force as an instrument of policy. But while we will focus on the use of military force, we must not consider it in isolation from the other elements of national power. The use of military force may take any number of forms, from intense warfare with sophisticated weaponry to mere demonstrations.[1543]

This provided a segue to "The Spectrum of Conflict," which highlighted the many forms "war" could take on a scale from lower to higher intensity. It showed a keen awareness of the importance "small wars" and counterinsurgencies had occupied in Marine Cops history by reminding Marines,

> The Marine Corps, as the nation's force in readiness, must have the versatility and flexibility to deal with military and paramilitary situations across the entire spectrum of conflict. This is a greater challenge than it may appear; conflicts of low intensity are not simply lesser forms of high-intensity war. A modern military force capable of waging a war of high intensity may find itself ill-prepared for a "small" war against a poorly equipped guerrilla force.[1544]

Chapter 2 continued with a prosaic discussion of the "Levels of War" describing the "correlated" strategic, operational, and tactical level of war, and then "Offense and Defense" establishing "The Defense is inherently the stronger form of combat," but "The offense, with its positive aim, would always be preferable."[1545] With these basics out of the way, Schmitt turned to the relationship between firepower and maneuver in a section titled "Styles of Warfare."

"Styles of Warfare" began by asserting, "Just as there are two basic forms of combat, there are two essential components: fire and movement. Of all the countless activities in combat,

[1542] U.S. Marine Corps, FMFM 1, 19-20.
[1543] U.S. Marine Corps, FMFM 1, 20.
[1544] U.S. Marine Corps, FMFM 1, 22.
[1545] U.S. Marine Corps, FMFM 1, 23-24.

we can distill them to these."[1546] A little further on, Schmitt connected these two "forms of combat" to "two distinct styles of warfare: an *attrition* style, based on firepower, and a *maneuver* style, based on movement."[1547] Schmitt did attempt to clarify that fire and maneuver were not mutually exclusive, but interrelated, stating,

> It would seem in theory that fire and movement represent opposite ends of a spectrum. But in reality, one cannot exist without the other, for fire and movement are complementary and mutually dependent. It is movement that allows us to bring our fires to bear on the enemy just as it is the protection of fires that allows us to move in the face of the enemy. It is through movement that we exploit the effects of fires while it is the destructive force of fires that adds menace to our movements.[1548]

In describing the attrition style and maneuver style afterward, though, Schmitt wrote, "The different styles can exist simultaneously at different levels."[1549] FMFM-1 made it clear that a campaign of maneuver might involve an attritional battle, but by implying that the two styles could not coexist or be blended at the same level of war, such as in tactics, doctrine was adopting an essentially dichotomous model.[1550]

In its explanation of the two styles, attrition was clearly associated with a managerial approach focusing on the material dimension of war, while maneuver focused on the moral and mental element of war, and depended on sound military judgement. "Warfare by attrition," FMFM 1 explained,

> …seeks victory through the cumulative destruction of the enemy's material assets by superior firepower and technology. An attritionist sees the enemy as targets to be engaged and destroyed systematically. Thus, the focus is on efficiency, leading to a methodical, almost scientific, approach to war. With the emphasis on the efficient application of massed, accurate fires, movement tends to be ponderous and tempo relatively unimportant. The attritionist gauges progress in quantitative terms: battle damage assessments, "body counts," and terrain captured. He seeks battle under any and all conditions, pitting strength against strength to exact the greatest toll from his enemy. Results are generally

[1546] U.S. Marine Corps, FMFM 1, 27.
[1547] U.S. Marine Corps, FMFM 1, 28.
[1548] U.S. Marine Corps, FMFM 1, 27.
[1549] U.S. Marine Corps, FMFM 1, 28.
[1550] U.S. Marine Corps, FMFM 1, 28.

> proportionate to efforts; greater expenditures net greater results that is, greater attrition. The desire for volume and accuracy of fire tends to lead toward centralized control, just as the emphasis on efficiency tends to lead to-an inward focus on procedures and techniques.[1551]

After some elaboration, chapter 2 continued,

> In contrast, warfare by maneuver stems from a desire to circumvent a problem and attack it from a position of advantage rather than meet it straight on… While attrition operates principally in the physical realm of war, the results of maneuver are both physical and moral. The object of maneuver is not so much to destroy physically as it is to shatter the enemy's cohesion, organization, command, and psychological balance. Successful maneuver depends on the ability to identify and exploit enemy weakness, not simply on the expenditure of superior might. To win by maneuver, we cannot substitute numbers for skill. Maneuver thus makes a greater demand on military judgment.[1552]

If there was any doubt that FMFM 1 was establishing maneuver as the superior approach to war early, in its first mention of the subject in a chapter on theory, it was made clear within these same paragraphs. In discussing attrition, FMFM 1 explained that little skill or military judgment was required. Schmitt wrote,

> Success through attrition demands the willingness and ability also to withstand attrition, because warfare by attrition is costly. The greatest necessity for success is numerical superiority, and at the national level war becomes as much an industrial as a military problem. Victory does not depend so much on military competence as on sheer superiority of numbers in men and equipment.[1553]

Maneuver, on the other hand, represented a smarter approach, for,

> In contrast, warfare by maneuver stems from a desire to circumvent a problem and attack it from a position of advantage rather than meet it straight on. The goal is the application of strength against selected enemy weakness. By definition, maneuver relies on speed and surprise, for without either we cannot concentrate strength against enemy weakness. Tempo is itself a weapon often the most important. The need for speed in turn requires decentralized control.[1554]

This was not simply a matter of fighting smarter. FMFM 1 made it clear maneuver would place "greater demand on military judgment" at all levels, for while it offered a higher payoff, it also

[1551] U.S. Marine Corps, FMFM 1, 28.
[1552] U.S. Marine Corps, FMFM 1, 29.
[1553] U.S. Marine Corps, FMFM 1, 28-29
[1554] U.S. Marine Corps, FMFM 1, 29.

increased risk. It continued, "Potential success by maneuver unlike attrition is often disproportionate to the effort made. But for exactly the same reasons, maneuver incompetently applied carries with it a greater chance for catastrophic failure, while attrition is inherently less risky."[1555] This was an appeal to the professionalism of Marine leaders, as it challenged them to develop their military judgement and leadership. In maneuver warfare this would be the decisive resource that determined risk or failure in war, not numerical superiority.

FMFM 1's explanation of the two styles of war in Chapter 2 also used more subtle semantic devices to further suggest the superiority of maneuver over attrition. This dissertation's Chapter 8 showed that the in the *Marine Corps Gazette* debates maneuver warfare advocates sometimes described their opponents as "attritionists," even though there was no coherent group arguing for an attritional approach to warfare. This served to promote maneuver warfare by taking a group of people with diverse range of objections to various aspects of the maneuver warfare movement and making it seem as if they had come together to defend a bankrupt approach to war. Chapter 2 leveraged this, never using the term "maneuverist," but castigating the "attritionist" for merely seeing the enemy as an array of targets to be destroyed, and again later for taking a managerial approach to war that privileged quantitative measures of success. Offering body counts as an example was a damning example, for it invoked the failures of the Vietnam War.[1556] If there was any doubt as to the essential superiority of warfare by maneuver, chapter 2 departed from theory to make the concrete implications clear, stating, "Because we have long enjoyed vast numerical and technological superiority, the United States has

[1555] U.S. Marine Corps, FMFM 1, 29.
[1556] U.S. Marine Corps, FMFM 1, 28.

traditionally waged war by attrition. However, Marine Corps doctrine today is based on warfare by maneuver, as we will see in the fourth chapter, 'The Conduct of War.'"[1557]

Chapter 2, "The Theory of War" did not use or define the term "maneuver warfare," but it used Lind's dichotomous model to explain the essential differences between attrition warfare and maneuver warfare, and it incorporated other aspects of the debate over maneuver warfare from the preceding decade to argue the inherent superiority of warfare by maneuver. The inclusion of Lind's model, and its portrayal of maneuver warfare as a superior approach to war over the "Strawman" concept of attrition warfare within the chapter titled, "The Theory of War" elevated that model to a theory, with the same apparent authority as more fundamental and widely accepted ideas about the relationship between war and policy, the levels of war, and the difference between offense and defense.

Having induced the dichotomy of warfare by maneuver and warfare by attrition as polar opposites, chapter 2 returned to other theoretical subjects which were much less controversial. Indeed, some even backed off from the stark contrast the section on "Styles of Warfare" had presented. A short section on "Combat Power" for example, argued that maneuver, tempo, surprise, morale, and leadership should be considered factors, while also quoting Clausewitz for identifying superior numbers as "the most common element in victory."[1558] This chapter also invoked Clausewitz to say that there were "two concepts of such significance and universality that we can advance them as principles: concentration and speed," though this section also showed Boyd's influence. [1559] From the earliest versions of "Patters of Conflict" Boyd had

[1557] U.S. Marine Corps, FMFM 1, 30.
[1558] U.S. Marine Corps, FMFM 1, 30.
[1559] U.S. Marine Corps, FMFM 1, 31.

argued that war should be thought of as a game of concentration and dispersion where time and timing was as important as space. Chapter 2's discussion of "Concentration and Speed" argued,

> Since war is fluid and opportunities fleeting, concentration applies to time as well as to space. We must concentrate not only as [sic] the decisive location, but also at the decisive moment. Furthermore, physical concentration - massing makes us vulnerable to enemy fires, necessitating dispersion. Thus, a pattern develops: disperse, concentrate, disperse again.[1560]

This section argued that since concentration could not be followed as a universal principle, time was an equally important weapon, with speed, in the form of relative tempo, being the factor that permitted advantageous concentration in space. This meant that speed was not merely an enabler of favorable combats, rather "*speed is a weapon*. Superior speed allows us to seize the initiative and dictate the terms of combat, forcing the enemy to react to us."[1561]

Next, "The Theory of War" addressed "Surprise and Boldness." Surprise and boldness were emphasized as "multipliers of combat power" which could generate decisive concentration of force, but which were also valuable for the psychological effects they could produce, and "decisively affect the outcome of combat far beyond the physical means at hand."[1562]

The final section of chapter 2, "Exploiting Vulnerability and Opportunity," was an attempt to resolve an inconsistency between the ideas of the three most important theorists in the work, Clausewitz, Sun Tzu, and Boyd. As such this was the most creative aspect of Schmitt's work. Chapters 4 and 6 identified that Boyd was highly impressed by Sun Tzu, including the Chinese theorist's emphasis on avoiding enemy strengths to pit one's own strength against enemy weakness. When Boyd encountered Clausewitz's concept of a center of gravity he found it difficult to reconcile it with Sun Tzu. Clausewitz had described an enemy's center of gravity

[1560] U.S. Marine Corps, FMFM 1, 31.
[1561] U.S. Marine Corps, FMFM 1, 31.
[1562] U.S. Marine Corps, FMFM 1, 33.

as "the hub of all power and movement, on which everything depends."[1563] Clausewitz continued, "That is the point against which all of our energies should be directed."[1564] Boyd saw Clausewitz as advocating that an army should place maximum effort against its enemy's center of mass and power, which appeared to be putting one's own strength against an enemy strength, and criticized Clausewitz for using physics metaphor too literally. Instead, Boyd argued, any enemy military system was composed of many smaller centers of gravity, and these were naturally prone to disorder. Boyd modified Clausewitz's ideas in his own concept of noncooperative centers of gravity, arguing effort should be devoted towards disrupting the forces that gave an enemy system an artificial order to act as a larger whole united in purpose. In so doing, this comported with Sun Tzu's emphasis on attacking weakness to off balance and disrupt an enemy force's cohesion. Noncooperative centers of gravity was an important element of Boyd's larger theory that explained how and why maneuver warfare actually worked, but Schmitt did not incorporate this idea in FMFM 1. Most likely, Schmitt did not fully appreciate this idea. Though he had heard Boyd present "Patterns of Conflict" at some time in the past, at the time of writing *Warfighting* he was not in contact with Boyd, and could only reference the "Patterns of Conflict" slide deck. Reading through these slides, the importance of this concept is not nearly as clear as it was with Boyd's supporting explanation.

Schmitt certainly appreciated the essence of Sun Tzu explaining,

> We obviously stand a better chance of success by concentrating strength against enemy weakness rather than against strength. So we seek to strike the enemy where, when, and how he is most vulnerable. This means that we should generally avoid his front, where his attention is focused and he is strongest, and seek out his flanks and rear, where he does not expect us and where we can also cause the greatest psychological damage. We should

[1563] Clausewitz, *On War*, 595-596.
[1564] Clausewitz, *On War*, 596.

also strike at that moment in time when he is most vulnerable.[1565]

This explanation, expressed as common-sense logic, shows that Schmitt was persuaded by Sun Tu, and appreciated that pitting strength against weakness was as important for the moral and mental effects as it was for any physical effects it yielded. Schmitt was aware of Clausewitz's center of gravity, and wary of it, writing in a footnote,

> …there is a danger in using this term. Introducing the term into the theory of war, Clausewitz wrote (p. 485): "A center of gravity is always found where the mass is concentrated the most densely. It presents the most effective target for a blow; furthermore, the heaviest blow is that struck by the center of gravity." Clearly, Clausewitz was advocating a climactic test of strength against strength "by daring all to will all" (p. 596). This approach is consistent with Clausewitz' historical perspective. But we have since come to prefer pitting strength against weakness. Applying the term to modern warfare, we must make it clear that by the enemy's center of gravity we do not mean a source of strength, but rather a critical vulnerability.[1566]

Schmitt therefore solved the impasse by inverting Clausewitz's notion that a center of gravity was a source of strength, and instead redefined it as a critical weakness. It was clear that Schmitt believed, or tried to portray that he remained consistent with Clausewitz, as he began the footnote by explaining that the critical enemy vulnerability was "Sometimes known as *the center of gravity*" and tried to explain the reversal as a result of "Applying the term to modern warfare."[1567] Readers who did not delve into this end-note at the back of the book, however, would miss this entire discussion, and learn only

> Of all the vulnerabilities we might choose to exploit, some are more critical to the enemy than others. It follows that the most effective way to defeat our enemy is to destroy that which is most critical to him. We should focus our efforts on the one thing which, if eliminated, will do the most decisive damage to his ability to resist us. By taking this from him we defeat him outright or at least weaken him severely.
>
> Therefore, we should focus our efforts against a *critical enemy vulnerability*. Obviously, the more critical and vulnerable, the better. But this is by no means an easy decision, since the most critical object may not be the most vulnerable. In selecting an aim, we thus recognize the need for sound military judgment to compare the degree of criticality with

[1565] U.S. Marine Corps, FMFM 1, 35.
[1566] U.S. Marine Corps, FMFM 1, 85.
[1567] U.S. Marine Corps, FMFM 1, 85.

> the degree of vulnerability and to balance both against our own capabilities. Reduced to its simplest terms, *we should strike our enemy where and when we can hurt him most*.[1568]

By inventing the concept of a critical vulnerability, then, Schmitt took a different path than Boyd to resolving an apparent inconsistency between Sun Tzu and Clausewitz, one that would allow the overarching theory to invoke the authority of Clausewitz, while maintaining Sun Tzu's and Boyd's emphasis on avoiding enemy strengths to attack enemy weaknesses. This was the theoretical explanation for a central maneuverist point, one that was captured in the maxim that one should avoid enemy surfaces to attack enemy gaps.

Clausewitz's authority was apparently important to Schmitt in FMFM 1. The Prussian was by far the most frequently referenced and cited theorist in chapters 1 and 2. Though Boyd's influence is evident in the ideas in FMFM 1's first chapters, Boyd was explicitly mentioned only once, and not in the basic text, but deep in the footnotes. When chapter 2 introduced the idea of tempo as "Speed over time" and "the consistent ability to operate fast" some readers would have noticed the end note, and followed it to page 84, at the very back of the book. There the note explained,

> Tempo is often associated with a mental process known variously as the "Decision Cycle," "OODA Loop," or "Boyd Cycle," after retired Air Force Colonel John Boyd who pioneered the concept in his lecture, "The Patterns of Conflict." Boyd identified a four-step mental process: observation, orientation, decision, and action. Boyd theorized that each party to a conflict first observes the situation. On the basis of the observation, he orients; that is, he makes an estimate of the situation. On the basis of the orientation, he makes a decision. And, finally, he implements the decision he acts. Because his action has created a new situation, the process begins anew. Boyd argued that the party that consistently completes the cycle faster gains an advantage that increases with each cycle. His enemy's reactions become increasingly slower by comparison and therefore less effective until, finally, he is overcome by events.[1569]

[1568] U.S. Marine Corps, FMFM 1, 35-36.
[1569] U.S. Marine Corps, FMFM 1, 84.

This, the only mention of Boyd and OODA within FMFM 1, would not in and of itself support the notion that Boyd was the "father of maneuver warfare." However, for maneuverists who had already come to believe that since Lind's 1980 *Marine Corps Gazette* article asserted "The Boyd Theory is the theory of maneuver warfare," this footnote would assume much greater significance. The note clearly did suggest that the heart of Boyd's theory was the OODA Loop, and the wide publication of FMFM 1 and its reputation as the first doctrine based on maneuver warfare served to reinforce that misconception.

Chapters 4 and 6 of this dissertation have shown how much richer Boyd's theory was, and this chapter has shown how many of those rich ideas shaped the first two chapters of FMFM 1. Lind's influence in *Warfighting*, though never directly attributed in that publication, is also clear. His dichotomy of maneuver warfare versus attrition/firepower warfare was an argumentative device originally meant to dislodge the U.S. Army from attritional habits. Over time, however, it became a central explanatory device within the Marine maneuver warfare movement, and its adoption in FMFM 1 shows that Schmitt was either influenced by the eight years of debate before he wrote FMFM 1, or by his consultation with Lind and the editorial advice that included, or both. In describing warfare by attrition and warfare by maneuver as mutually exclusive styles, with maneuver being the clearly superior form, Lind's ideas were elevated to the level of theory, and Lind must be recognized as the fourth "theoretical" influence on FMFM 1, along with Sun Tzu, Clausewitz, and Boyd. As was the case with the maneuver warfare movement over the preceding decade, Lind's ideas, fleshed out through the practical ideas of Marines, yielded the concept of maneuver warfare, while Boyd provided a much larger explanation of conflict that made it clear why maneuver warfare would work. Though many thought this was the OODA Loop concept, Boyd's theory shaped the first two chapters in many

and deeper ways. What Schmitt provided was a Boydian synthesis of Clausewitz and Sun Tzu, that presented Marines with an understanding of war as a dynamic, inherently uncertain contest where the moral and mental aspects were as important, if not more important, than the physical dimensions. This broader understanding of war communicated in the first two chapters of *Warfighting* was far more important than the more practical aspects covered in the last two chapters.

The conclusion of Chapter 2 made clear that the last half of the book would address more practical aspects. It explained,

> The theory of war we have described will provide the foundation for the discussion of the conduct of war in the final chapter. The warfighting doctrine which we derive from our theory is one based on maneuver. This represents a change since, with a few notable exceptions Stonewall Jackson in the Valley, Patton in Europe, MacArthur at Inchon the American way of war traditionally has been one of attrition. This style of warfare generally has worked for us because, with our allies, we have enjoyed vast numerical and technological superiority. But we can no longer presume such a luxury. In fact, an expeditionary force in particular must be prepared to win quickly, with minimal casualties and limited external support, against a physically superior foe. This requirement mandates a doctrine of maneuver warfare.[1570]

This final line, the first use of the term "maneuver warfare" in FMFM 1, also made it clear that FMFM 1 was, in effect, really about maneuver warfare. Before getting to the details of how to fight in that style, chapter 3 addressed a series of other thigs that needed to happen to make it possible.

Chapter 3, "Preparing for War," was divided into six subsections addressing the crucial tasks a military needed to do in peacetime to prepare for war. The first "Planning" was very short and served largely to remind readers that efforts in the remaining five areas (organization, doctrine, equipment acquisition, training, and education) needed to be focused to obtain unity of

[1570] U.S. Marine Corps, FMFM 1, 37.

effort in increasing the readiness of the Marine Corps for war.[1571] Chapter 3's discussion of "Organization" was also noncontroversial, reminding Marines that the Corps existed not just for amphibious warfare, but to respond to a wide range of conflicts on short notice, which manifested as "two central requirements of *deployability and the ability to task-organize according to specific situations*."[1572] An equally short discussion of "Doctrine" reminded Marines of its purpose, explaining,

> Doctrine establishes a particular way of thinking about war and a way of fighting, a philosophy for leading Marines in combat, a mandate for professionalism, and a common language. In short, it establishes the way we practice our profession. In this manner, doctrine provides the basis for harmonious actions and mutual understanding.[1573]

While none of the first three sections of chapter 3 might be considered controversial, or even important to maneuver warfare, the last three did relate more closely to that subject. Signifying this, the discussions in each were longer. "Leadership" began by asserting that Marine leaders,

> …must be men of action and of intellect both, skilled at "getting things done" while at the same time conversant in the military art. Resolute and self-reliant in their decisions, they must also be energetic and insistent in execution.
>
> The military profession is a thinking profession. Officers particularly are expected to be students of the art and science of war at all levels tactical, operational, and strategic with a solid foundation in military theory and a knowledge of military history and the timeless lessons to be gained from it.[1574]

This reflected a central argument of the maneuver warfare advocates, who saw the lack of interest in the professional study of the art of war to be both a symptom of what had been wrong with the Corps, and a critical obstacle to progress in adopting a more effective style of warfare.

[1571] U.S. Marine Corps, FMFM 1, 41.
[1572] U.S. Marine Corps, FMFM 1, 43.
[1573] U.S. Marine Corps, FMFM 1, 43.
[1574] U.S. Marine Corps, FMFM 1, 45.

The subsection of leadership also emphasized initiative as a central trait the Marine Corps needed to inculcate in its leaders as

> The Marine Corps' style of warfare requires intelligent leaders with a penchant for boldness and initiative down to the lowest levels. Boldness is an essential moral trait in a leader, for it generates combat power beyond the physical means at hand. Initiative, the willingness to act on one's own judgment, is a prerequisite for boldness. …We will not accept lack of orders as justification for inaction; it is each Marine's *duty* to take initiative as the situation demands.[1575]

FMFM 1 was careful to explain that fostering initiative would require caution to avoid promoting rashness, and toleration of mistakes to avoid a zero defects mentality, so that Marine leaders could learn from their mistakes. It also emphasized the importance of building trust and mutual confidence throughout the Corps, where "Relations among all leaders from corporal to general should he based on honesty and frankness, regardless of disparity between grades."[1576]

Chapter 3's subsection on "Training" also emphasized key components of the maneuverist agenda, many of which Lind had identified as important components of the German model of tactical success, but which had been validated through the experimentation of the 2d Marine Division. It explained,

> Exercises should approximate the conditions of battle as much as possible; that is, they should introduce friction in the form of uncertainty, stress, disorder, and opposing wills. This last characteristic is most important; only in opposed, free-play exercises can we practice the art of war. Dictated or "canned', scenarios eliminate the element of independent, opposing wills that is the essence of combat.
>
> Critiques are an important part of training because critical self-analysis, even after success, is essential to improvement. Their purpose is to draw out the lessons of training. As a result, we should conduct critiques immediately after completing the training, before the memory of the events has faded. Critiques should be held in an atmosphere of open and frank dialogue in which all hands are encouraged to contribute. We learn as much from mistakes as from things done well, so we must be willing to admit and discuss them. Of course, a subordinate's willingness to admit mistakes depends on the commander's willingness to tolerate them. Because we recognize that no two situations in war are the same, our critiques should focus not so much on the actions we took as on why we took

[1575] U.S. Marine Corps, FMFM 1, 45.
[1576] U.S. Marine Corps, FMFM 1, 45-46.

those actions and why they brought the results they did.[1577]

This was an approach to training and learning that comported with the theory described in the first two chapters. Rather than basing the evaluation of exercises on the application of a system of principles or adherence to doctrinal prescription, it placed a premium on understanding how decisions were made and the results they yielded in conditions of uncertainty, constant change, and friction.

The section on "Professional Military Education" likewise reflected the broader agenda of the Marine maneuver warfare advocates, and the even larger Military Reform Movement. It opened by explaining, "Professional military education is designed to develop creative, thinking leaders. A leader's career, from the initial stages of leadership training, should be viewed as a continuous, progressive process of development. At each stage of his career, he should be preparing for the subsequent stage."[1578] After delineating how an officer or enlisted Marine should focus first on developing tactical competence, then expand to operational matters, FMFM 1 clearly explained that career-long professional development needed to be a comprehensive effort with responsibility residing, "not only with the education establishment, but also with the commander and the individual."[1579] Formal education in the Marine Corps schools should focus on "developing a talent for military judgment, not on imparting knowledge through rote learning," but this would only "build[] upon the base provided by commanders and by individual study."[1580] The maneuverists understood for Marines to truly grow, learning had to be occurring outside the schools, and unit leaders were the key to promoting this. FMFM 1 explained,

[1577] U.S. Marine Corps, FMFM 1, 48-49.
[1578] U.S. Marine Corps, FMFM 1, 49.
[1579] U.S. Marine Corps, FMFM 1, 50.
[1580] U.S. Marine Corps, FMFM 1, 50-51.

> All commanders should consider the professional development of their subordinates a principal responsibility of command. Commanders should foster a personal teacher-student relationship with their subordinates. Commanders are expected to conduct a continuing professional education program for their subordinates which includes developing military judgment and decision making and teaches general professional subjects and specific technical subjects pertinent to occupational specialties. Useful tools for general professional development include supervised reading programs, map exercises, war games, battle studies, and terrain studies. *Commanders should see the development of their subordinates as a direct reflection on themselves*.[1581]

The ultimate goal, was to promote individual investment, and FMFM 1 concluded its discussion of professional military education on this point, stating,

> Finally, every Marine has a basic responsibility to study the profession of arms on his own. A leader without either interest in or knowledge of the history and theory of warfare the intellectual content of his profession is a leader in appearance only. Self-study in the art and science of war is at least equal in importance and should receive at least equal time to maintaining physical condition. This is particularly true among officers; after all, an officer's principal weapon is his mind.[1582]

At the surface, this could be viewed as simply requiring officers to invest more effort in the study of military history and theory, but there was a deeper implication. FMFM 1 was arguing that this needed to be a continuous process of career-long development, the kind needed to develop and hone the intuitive decision-making skills needed to succeed in the open system of military competition and warfare, rather than resting upon a closed system like the principles of war, one which might be easily taught and mastered in a formal school environment, but left to academics when a Marine was engaged in other assignments, at least until it was time to apply those principles again in time of war. Having a mandate for constant self-study and intellectual development sanctioned as official doctrine, signed by the Commandant of the Marine Corps, established these reformist ideas as a new fundamental truth to guide all Marines. They could no

[1581] U.S. Marine Corps, FMFM 1, 51.
[1582] U.S. Marine Corps, FMFM 1, 51.

longer be dismissed as the agenda of an academic without military experience, or the eccentric ideas of a few over-intellectual officers.

Chapter 3's final subsection, "Equipping" had little to do with maneuver warfare. It did not even prioritize the acquisition of high-mobility systems, but it did end with an admonition clearly informed by the Military Reform Movement,

> We must guard against overreliance on technology. Technology can enhance the ways and means of war by improving man's ability to wage it, but technology cannot and should not attempt to eliminate man from the process of waging war. Better equipment is not the cure for all ills; doctrinal and tactical solutions to combat deficiencies must also be sought.[1583]

Chapter 3, then, served as a bridge between the theory of war presented in the first two chapters, and chapter 4's treatment of the conduct of war, which would focus on maneuver warfare. As such, it identified a number of organizational changes that would be necessary to actually fight war in the maneuverist style, and demonstrates that maneuver warfare was never just about a new way of fighting, but was inseparably tied to a wider agenda of processional reform, one undergirded by a fundamentally new conception of war.

Chapter 4, "The Conduct of War," was the longest chapter in FMFM 1, and opened with a section titled "The Challenge." This section presented the conception of war described in the first two chapters as a problem in need of a solution. It read,

> The challenge is to identify and adopt a concept of warfighting consistent with our understanding of the nature and theory of war and the realities of the modern battlefield. What exactly does this require? It requires a concept of warfighting that will function effectively in an uncertain, chaotic, and fluid environment in fact, one that will exploit these conditions to advantage. It requires a concept that, recognizing the time-competitive rhythm of war, generates and exploits superior tempo and velocity. It requires a concept that is consistently effective across the full spectrum of conflict, because we cannot attempt to change our basic doctrine from situation to situation and expect to be proficient. It requires a concept which recognizes and exploits the fleeting opportunities which naturally occur in war.

[1583] U.S. Marine Corps, FMFM 1, 53.

> It requires a concept which takes into account the moral as well as the physical forces of war, because we have already concluded that moral forces form the greater part of war.[1584]

"The Challenge" also situated this problem in the current strategic situation the Marine Corps would need to operate within, adding,

> It requires a concept with which we can succeed against a numerically superior foe, because we can no longer presume a numerical advantage. And, especially in expeditionary situations in which public support for military action may be tepid and short-lived, it requires a concept with which we can win quickly against a larger foe on his home soil, with minimal casualties and limited external support.[1585]

The answer was presented in the next section, "Maneuver Warfare" which began, "The Marine Corps concept for winning under these conditions is a warfighting doctrine based on rapid, flexible, and opportunistic maneuver."[1586] It clarified that maneuver was traditionally understood to be a spatial term, but Marines needed to understand that maneuver took place in time as well, to gain "temporal advantage," for "It is through maneuver in both dimensions that an inferior force can achieve decisive superiority at the necessary time and place."[1587] What followed was the definition of maneuver warfare, inset and in italics to stand out: "*Maneuver warfare is a warfighting philosophy that seeks to shatter the enemy's cohesion through a series of rapid, violent, and unexpected actions which create a turbulent and rapidly deteriorating situation with which he cannot cope*."[1588] The discussion which followed reminded readers that "the aim in maneuver warfare is to render the enemy incapable of resisting by shattering his

[1584] U.S. Marine Corps, FMFM 1, 57-58.
[1585] U.S. Marine Corps, FMFM 1, 58.
[1586] U.S. Marine Corps, FMFM 1, 58.
[1587] U.S. Marine Corps, FMFM 1, 58.
[1588] U.S. Marine Corps, FMFM 1, 59.

moral and physical cohesion his ability to fight as an effective, coordinated whole rather than to destroy him physically through incremental attrition." It also cautioned readers not to underestimate the importance of firepower, elaborating,

> This is not to imply that firepower is unimportant. On the contrary, the suppressive effects of firepower are essential to our ability to maneuver. Nor do we mean to imply that we will pass up the opportunity to physically destroy the enemy. We will concentrate fires and forces at decisive points to destroy enemy elements when the opportunity presents itself and when it fits our larger purposes. But the aim is not an unfocused application of firepower for the purpose of incrementally reducing the enemy's physical strength. Rather, it is the *selective* application of firepower in support of maneuver to contribute to the enemy's shock and moral disruption. The greatest value of firepower is not physical destruction the cumulative effects of which are felt only slowly but the moral dislocation it causes.[1589]

Chapter 5 has already shown that this definition, and the explanatory paragraphs which followed, reflected the essential elements of maneuver doctrine as first explained by William S. Lind in 1976.[1590] What had changed slightly over the intervening thirteen years was that the language used to communicate these ideas showed some Boydian influence, with FMFM 1's emphasis on creating "a turbulent and rapidly deteriorating situation with which [the enemy] cannot cope, and its goal of rendering "the enemy incapable of resisting by shattering his moral and physical cohesion his ability to fight as an effective, coordinated whole."[1591] Its discussion of the relationship between fire and maneuver also suggested an awareness that the debate over maneuver warfare had at times gotten bogged down over the notion that the maneuverists appeared to be naively calling for a way of war that could win without bloodshed and violence.

[1589] U.S. Marine Corps, FMFM 1, 59-60.
[1590] William S. Lind, "DRAFT, Some Questions for TRADOC," unpublished draft, William S. Lind Papers, Collection 4939, Box 32, Unnumbered and unlabeled brown folder. Marine Corps Archives, Quantico, Virginia, 8; and William S. Lind, "Some Doctrinal Questions for the United States Army," *Military Review* 59, no. 3 (March 1977), 58.
[1591] U.S. Marine Corps, FMFM 1, 59.

Further discussion of maneuver warfare referred back to earlier chapters on the nature of war, stressing the need for speed to seize the initiative and "keep the enemy off balance, thereby increasing his friction" and striking quickly and boldly to "concentrate strength against *critical* enemy vulnerabilities."[1592] It stressed that surprise was a weapon, and leveraged important elements of Boyd's broader theory of conflict such as leveraging enemy expectations, ambiguity, and menace through its explanation,

> By studying our enemy we will attempt to appreciate his perceptions. Through deception we will try to shape his expectations. Then we will dislocate them by striking at an unexpected time and place. In order to appear unpredictable, we must avoid set rules and patterns, which inhibit imagination and initiative. In order to appear ambiguous and threatening, we should operate on axes that offer several courses of action, keeping the enemy unclear as to which we will choose.[1593]

With its definition of maneuver warfare and clarifying explanation complete, chapter 4 moved on to address a series of supporting concepts. "Philosophy of Command," which the debate in the pages of the *Gazette* suggested would be a topic over which significant resistance, stated by reminding readers,

> *in order to generate the tempo of operations we desire and to best cope with the uncertainty, disorder, and fluidity of combat, command must be decentralized*. That is, subordinate commanders must make decisions on their own initiative, based on their understanding of their senior's intent, rather than passing information up the chain of command and waiting for the decision to be passed down. Further, a competent subordinate commander who is at the point of decision will naturally have a better appreciation for the true situation than a senior some distance removed. Individual initiative and responsibility are of paramount importance. The principal means by which we implement decentralized control is through the use of mission tactics…[1594]

This section also cautioned against overreliance on technology, and urged readers to adopt command and control architectures that served human decision making, rather than sacrificing the "human element of command," and stressed "*implicit communication,"* communicating

[1592] U.S. Marine Corps, FMFM 1, 60-61.
[1593] U.S. Marine Corps, FMFM 1, 61.
[1594] U.S. Marine Corps, FMFM 1, 61-62.

through "*mutual understanding,* using a minimum of key, well-understood phrases or even *anticipating* each other's thoughts" as "a faster, more effective way to communicate than through the use of detailed, explicit instructions."[1595] Where the language used to express these ideas bear the marks of Boyd's more abstract thinking, the more practical aspects of leadership learned from studying the German experience were also evident in discussion admonishing, "A commander should command from well forward." In addition to the need to "gain an intuitive appreciation for the situation which he cannot obtain from reports" it also stressed the importance of personal leadership, for "It allows him to exert his personal influence at decisive points during the action. It also allows him to locate himself closer to the events that will influence the situation so that "Only by his physical presence by demonstrating the willingness to share danger and privation can the commander fully gain the trust and confidence of his subordinates."[1596]

The "Philosophy of Command" section ended with another clear appeal to the theory in the first two chapters, apparently seeking to help leaders understand why a relaxation in control would be required. It argued,

> As part of our philosophy of command we must recognize that war is inherently disorderly, uncertain, dynamic, and dominated by friction. Moreover, maneuver warfare, with its emphasis on speed and initiative, is by nature a particularly disorderly style of war. The conditions ripe for exploitation are normally also very disorderly. For commanders to try to gain certainty as a basis for actions, maintain positive control of events at all times, or shape events to fit their plans is to deny the very nature of war. We must therefore be prepared to cope even better, to *thrive* in an environment of chaos, uncertainty, constant change, and friction. If we can come to terms with those conditions and thereby limit their debilitating effects, we can use them as a weapon against a foe who does not cope as well.
>
> In practical terms this means that we must not strive for certainty before we act for in so doing we will surrender the initiative and pass up opportunities. We must not try to maintain positive control over subordinates since this will necessarily slow our tempo and inhibit initiative. We must not attempt to impose precise order to the events of combat since this leads to a formulistic approach to war. And we must be prepared to adapt to

[1595] U.S. Marine Corps, FMFM 1, 62-63
[1596] U.S. Marine Corps, FMFM 1, 64.

> changing circumstances and exploit opportunities as they arise, rather than adhering insistently to predetermined plans.[1597]

In so explaining, FMFM 1 was both rejecting the managerial approach to officership, and arguing that Marine leaders need not fear a loss of direct control, but could turn it to their advantage.

The next section, "Shaping the Battle," is one of the more original portions of FMFM 1, balancing the need for a schema or vision as a basis for tactics and operations with the equally essential need for fluidity. It established that a commander should have clear intent that would focus strength against a critical enemy vulnerability, yet remain flexible enough so that it constitutes "a certain measure of ordered disorder."[1598] This meant to influence enemy actions in a general way, such a channeling his movement, "shaping enemy expectations through deception so that we can exploit those expectations," and preserving the freedom of action of one's own forces.[1599]

This was followed by a section titled "Decision Making" which stressed the need for flexible perceptions, timely decisions to maximize tempo, and balancing the hard logic and computational aspects of decision making with intuition and the moral courage to make weighty and bold decisions. This section ended by stressing the importance of becoming comfortable with conditions of uncertainty, arguing,

> Finally, since all decisions must be made in the face of uncertainty and since every situation is unique, there is no perfect solution to any battlefield problem. Therefore, we should not agonize over one. The essence of the problem is to select a promising course of action with an acceptable degree of risk, and to do it more quickly than our foe. In this respect, "a good plan violently executed *now* is better than a perfect plan executed next week."[1600]

[1597] U.S. Marine Corps, FMFM 1, 64-65.
[1598] U.S. Marine Corps, FMFM 1, 66-67.
[1599] U.S. Marine Corps, FMFM 1, 67.
[1600] U.S. Marine Corps, FMFM 1, 70.

With its emphasis on the importance of intuition and quickness as key components of effective military decision-making, this section again illustrated how the Boydian explanation of war presented in the first two chapters provided an overarching conception in which many aspects of the reform agenda fit and made collective sense.

Chapter 4 finished with brief discussion of several important supporting concepts, many of which matched the "filters" first identified by Lind in 1981 and fleshed out in Lieutenant Colonel Wyly's tactics lectures at the Amphibious Warfare School. The discussion of "Mission Tactics," and "Commander's Intent" was unremarkable. "Focus of Effort," showed more innovative thinking. First, Schmitt tied it into his newly-developed concept of a critical enemy vulnerability, now identified as the proper target of such an effort.[1601] Second, by using "focus of effort" instead of "main effort" Schmitt was making it clear that this was not merely a unit to be assigned primary responsibility for accomplishing a mission, as Wyly had explained in his tactics lectures.[1602] Instead, Schmitt wanted readers to think of this as the objective of an operation, as Boyd and Lind had had.[1603] As Lind had explained "It is a conceptual focus, not just a physical one," Schmitt was providing a concept that could be used more flexibly, and was less likely to be interpreted as a purely spatial concept, a terrain objective or a particular enemy unit to be attacked.[1604] One of the first reviews of FMFM 1 applauded this choice and declared, "This paragraph is one of the best in the book."[1605]

"Surfaces and Gaps" deserves specific mention only because Schmitt made sure to specify that "Gaps may in fact be physical gaps in the enemy's dispositions, but they may also be any

[1601] U.S. Marine Corps, FMFM 1, 70-73.
[1602] William S. Lind, *Maneuver Warfare Handbook* (Boulder, Colorado: Westview Press, Inc., 1985), 107-112.
[1603] Lind, *Maneuver Warfare Handbook*, 17-18.
[1604] Lind, *Maneuver Warfare Handbook*, 18.
[1605] E.J. Robeson, IV, "Critique of *FMFM 1, Warfighting*," *Marine Corps Gazette* 73, no. 11 (November 1989), 29.

weakness in time or space: a moment in time when the enemy is overexposed and vulnerable, a seam in an air defense umbrella, an infantry unit caught unprepared in open terrain, or a boundary between two units." All of these examples, however, included some physical element. It will be shown that the concept of surfaces and gaps was especially prone to misinterpretation, leading many to understand maneuver warfare as simply a search for gaps in enemy defenses, so this may have represented a missed opportunity to preempt that. Chapter 4's last section was a brief discussion of "Combined Arms" directly reflecting the conception Lind had developed early in his engagement with AWS, the use of different combat capabilities to "pose the enemy not just with a problem, but with a dilemma -- a no-win situation" that would break his will to resist.[1606]

FMFM 1's final paragraph was designed to elevate the reader from the detailed discussions he had just read to appreciate the bigger picture. Consistent with General Gray's realization that this was really the product of an entirely different way of thinking about warfare, maneuver warfare required a fundamentally different frame of mind, and could not be adopted though the mastery of techniques and procedures. Schmitt concluded,

> Maneuver warfare is a way of thinking in and about war that should shape our every action. It is a state of mind born of a bold will, intellect, initiative, and ruthless opportunism. It is a state of mind bent on shattering the enemy morally and physically by paralyzing and confounding him, by avoiding his strength, by quickly and aggressively exploiting his vulnerabilities, and by striking him in the way that will hurt him most. In short, maneuver warfare is a philosophy for generating the greatest decisive effect against the enemy at the least possible cost to ourselves–a philosophy for "fighting smart."[1607]

In its effort to establish that maneuver warfare constituted a fundamentally different approach to war, however, this final paragraph reinforced a problem that existed throughout the book, equating maneuver warfare with a philosophy. *Warfighting* was a fundamentally new

[1606] U.S. Marine Corps, FMFM 1, 75.
[1607] U.S. Marine Corps, FMFM 1, 77.

explanation of war, one that could foster the common way of thinking needed to change how the Marine Corps would fight; maneuver warfare was its tactical and operational doctrine that defined that new way of fighting.

The final two chapters of FMFM 1, being the more pragmatic components, reflect the larger arguments of the Military Reform Movement and the practical ideas developed by Lind from the German model for military success, expanded through the participation of Marines like Michael Wyly who sought to teach the new style, and Marines of the 2d Marine Division who experimented with them. Boyd's influence in these chapters is still clear, but it is more in the expression of certain explanatory ideas, rather than in any actionable concepts. This further supports the argument in chapters 4 through 7 that Boyd provided an overarching theory of conflict within which a way of fighting that attacked the enemy's cognition, will, and cohesion made sense. Boyd's theory helped explain the operation of maneuver warfare, but it was far broader than the concept of maneuver warfare. That was much more a product of Lind's efforts to persuade the Marines to adopt the German model, Lind's interaction with Marines intrigued with the new concept, and Captain Schmitt's synthesis in a doctrine that fused a particular understanding of the nature of war with a particular way of operating to exploit that nature.

**Assessing FMFM 1 and its Legacy**

Shortly after FMFM 1 was published in March 1989 a copy was provided to Boyd, who congratulated the Marines for their achievement. Consistent with his belief that any system of thinking needed constant revision to ensure it remained in touch with reality, he urged the Marine Corps to immediately begin the process of revising it.[1608] Characteristically, he did not

[1608] Robert Coram, *Boyd: The Fighter Pilot Who Changed the Art of War* (New York: Little Brown and Company, 2002), 390 reports that after the manual was published, "…Boyd and Wyly went to see General Gray. The commandant was immensely pleased and thought Boyd would be also. But Boyd looked at the ninety-eight-page

withhold his suggestions. Schmitt recalled, "After I finished *Warfighting*, I got a phone call from Boyd saying he liked it, but he had some comments, and he proceeded to, you know, in his sort of fire hose kind of a way, take me through the book with a bunch of comments."[1609]

FMFM 1 was never intended to be the whole answer to the Marine Corps' doctrinal needs. Schmitt did write a supporting publication, FMFM 1-1, *Campaigning*, before completing his assignment in Quantico, and another officer completed FMFM 1-3, *Tactics*, in 1991.[1610] Colonel Wyly was also working with select students from AWS to create a ground combat tactics manual when he retired in 1991.[1611] The full series of supporting publications would not be completed until after Paul K. Van Riper returned to take command of MCCDC as a lieutenant general in 1995, and the FMFM series was redesignated Marine Corps Doctrinal Publications (MCDPs). That effort began with a revision of FMFM 1, republished as MCDP 1, *Warfighting*, in 1997. Schmitt was brought back as one of several authors of this publication, and consulted with respected experts such as Clausewitz scholar Christopher Bassford. Schmitt recalled, "when I revised *Warfighting* as MCDP 1, I would say probably three quarters of the changes were things that Boyd had given me after FMFM 1 had come out."[1612] That effort, the changes that were made, and the changes that were not made, are worthy of their own analysis. For the sake of this dissertation, though, it is enough to say that while those changes did incorporate nuances, they did not change the essence of FMFM 1 or the substance of its explanation of the

manual and said, 'Okay, General. Now you have to start changing it." Coram does not provide a citation to his source for that quote, and the inaccuracy of other quotes he provides suggests he may have taken artistic license in his popular history.

[1609] Schmitt, interview.

[1610] U.S. Marine Corps, Fleet Marine Force Manual 1-3 (FMFM 1-3), *Tactics* (Washington, D.C.: Headquarters, United States Marine Corps, 1991), foreword.

[1611] T.J. Jackson, "Ground Combat Tactics," student paper, 13 May 1991, William S. Lind Papers, Collection 4939. Box 32, no folder. Marine Corps Archives; and Timothy J. Jackson, interview by Shawn P. Callahan, 11 September 2019, digital recording. Oral Histories Collection, Marine Corps Archives, History Division, Marine Corps University, Quantico, Virginia.

[1612] Schmitt, interview.

nature of war, the theory of war, preparations for war, or the conduct of war though maneuver warfare.[1613] MCDP 1 has only been revised once in the time since, in 2018, to remove gender-specific language, but no other aspect of its content.[1614] The reasons why *Warfighting* has not undergone substantive revision over the last two decades are again worthy of their own study, especially considering the problems and objections that have been encountered since FMFM 1 was first published in 1989. Rather than address why a revision was not made, it is more appropriate to this dissertation to consider the achievements and shortcomings of FMFM 1.

The month after FMFM 1 was published, the editor of the *Marine Corps Gazette* observed that the debate over maneuver warfare of the preceding decade had "broadened and clarified the underlying ideas and contributed to the growth and evolution of the concepts," and encouraged the Gazette's readers to continue to write about the ideas which had just been adopted as doctrine as they matured.[1615] That same issue contained three articles on maneuver warfare, for the debate had been rekindled in the time since General Kelley's retirement, but it took six months for critical discussion of FMFM 1 to begin. Part of the reason for this was that large portions of the Marine Corps had been content to sit on the sidelines during the debate over maneuver warfare in the *Gazette*, and had waited until the new ideas were adopted as doctrine to begin making sense of them.

Numerous units requested support for explaining the new manual. Colonel Van Riper assembled a team from among his instructors at the Command and Staff College to travel to commands requesting assistance and brief them on the new doctrine and its key concepts.[1616] In

[1613] Damian, 2.
[1614] U.S. Marine Corps, Marine Corps Doctrinal Publication 1 (MCDP 1), *Warfighting*, Change 1 (Washington, D.C: Headquarters United States Marine Corps, 2018), front matter.
[1615] John E. Greenwood, "Editors and Authors," *Marine Corps Gazette* 73, no. 4 (April 1989), 2.
[1616] Paul K. Van Riper, interview by Shawn Callahan, tape recording, Quantico, VA, May 12, 2014. Oral and Video History Section, History Division, Marine Corps University, Quantico, VA.

July 1989, MCCDC also convened a week-long conference at Quantico with representatives attending from all the schools and training programs run by the Marine Corps, as well as Marine representatives who served in schools run by the other military services. This conference, the one where Colonel Anthony Zinni presented his pragmatic explanation for why maneuver warfare needed to be adopted, included briefings by William S. Lind and Steven Canby, and John Boyd presented "Patterns of Conflict."[1617]

When articles on FMFM 1 finally began appearing in the *Gazette* in November 1989, the editor's introduction hinted at another problem. He wrote,

> You will certainly not agree with every point made by their authors, but the issues raised are important ones, and above all, they illustrate the thoroughness with which the new manual ought to be studied and analyzed by every Marine. If you gave your copy a quick once-over and decided you "already know this stuff," these articles may send you back for a second look.[1618]

This implied that many Marines had read FMFM 1, which was exceptionally brief compared to publications like OH 6-1, but decided that it was unremarkable or unhelpful. This is consistent with the requests that had been made from numerous Marine Corps units for assistance in interpreting the new document, and understanding how it should be implemented.

The first articles reacting to FMFM 1 indicate that some, indeed, did not appreciate the radical nature of the ideas in *Warfighting*. Even while being critical of major aspects of FMFM 1, Lieutenant Colonel Jeffrey Lloyd wrote, "…*Warfighting* is no radical thesis. Most of its small pages are devoted to preaching to the choir. Although it may eschew many traditional phrases, it reinforces many traditional values."[1619] This apparently reflected one of the more common reactions to *Warfighting* among Marines, for the author of FMFM 1 himself, Captain John

[1617] Anonymous, "PME Workshop Held," *Marine Corps Gazette* 73, no. 9 (September 1989), 7.
[1618] John E. Greenwood, "Editors and Authors," *Marine Corps Gazette* 73, no. 11 (November 1989), 2.
[1619] Jeffrey J. Lloyd, Our Warfighting Philosophy," *Marine Corps Gazette* 73, no. 11 (November 1989), 24.

Schmitt, wrote an entire article on that subject titled, "The Great FMFM 1 Debate: Is There Anything New Here?" Schmitt began,

> It seems that one of the most common criticisms of *FMFM 1*--and by association of maneuver warfare in general--is that it contains nothing new. Perhaps these critics read the Commandant's keystone manual, *Warfighting*, expecting to be given some radical insight that would guarantee success in this heretofore uncertain business called war. Perhaps they were disappointed. Perhaps they listened to the "maneuverists," civilian and Marine alike (of whom I am one), who advocate this entirely "new" way of doing things, but failed to see anything revolutionary.
>
> And so, as if a reply in the negative were reason enough to repudiate the book and its doctrine, they ask the question "Is there anything new here?" The unequivocal answer is: "Yes and no."
>
> In purely conceptual terms, there is nothing new in *Warfighting*.[1620]

Schmitt went on to admit that truly exceptional military leaders, those "in the elite company of Great Captains" would probably learn little from FMFM 1, but he reminded readers the manual was intended for the many Marines "not gifted with the same clarity of vision."[1621] He alluded back to Wyly's tactics curriculum at AWS when he observed,

> There was a time not too long ago when maneuver warfare was being taught as "commonsense tactics." There does in fact appear to be a certain common sensibility to the principles of maneuver warfare. But if these tactics are merely common sense, why do they need to be taught at all? Would not the average tactician apply them naturally? History has proven that these tactics are actually anything but common. Rather, they have been quite uncommon, reserved for the gifted few. The maneuver warfare advocates are simply trying to identify and formalize for the merely able among us what the geniuses seem to have grasped innately. Geniuses and true idiots will always be the exception to the rule, and we cannot hope to have much influence over their numbers (other than to give them the opportunity to demonstrate their true abilities). But we can strive to raise the general level of competence of the vast majority in between.[1622]

[1620] John F. Schmitt, "The Great FMFM 1 Debate: Is There Anything New Here?" *Marine Corps Gazette* 73, no. 11 (November 1989), 25.
[1621] Schmitt, "The Great FMFM 1 Debate: Is There Anything New Here?" 26.
[1622] Schmitt, "The Great FMFM 1 Debate: Is There Anything New Here?" 26.

Schmitt argued that the idea of maneuver warfare was not new, but it needed to be explained in a way that most Marines could learn to practice. The first step, however, was to be self-aware and open-minded about its contents. He asked,

> …how many of us can honestly say we would have practiced maneuver warfare naturally had we not read the book? How many of us even after reading *Warfighting* and criticizing its obviousness, will still miss the point? Some of us? Most of us? Unfortunately, far more than are willing to admit it.[1623]

Schmitt ended on the admonition,

> Ultimately, the thing that scares me most about the mostly true "nothing new" argument is that from there it is a very short step to "This is the way we've always done things," which is not true at all. From there it is another very short step to convincing ourselves that, since we have always done things this way, we do not need to try to get any better. And that is a very dangerous attitude indeed.[1624]

The debate over *Warfighting* contained other familiar elements. Some officers thought FMFM 1 implied, or could be read, to suggest that maneuver warfare meant an enemy could be defeated without actual fighting. Lieutenant Colonel Lloyd thought it might "be construed as advocating a form of tactical shadowboxing," and that it needed to be made clear,

> Gen[eral] Gray and his maneuver warfare band aren't talking about shadowboxing. What they are striving for is the tactical equivalent of a karate punch. *Warfighting*, however, fails to make this key point. It fails to mention the aggressive end sought by the maneuver, the ultimate mission of Marines, "to close with and destroy the enemy by fire and close combat."[1625]

Lloyd did not see the definition of maneuver warfare provided in chapter 4 of FMFM 1 as very helpful. He recounted, "I have read, and reread, that definition and it still sounds a lot like 'dazzle 'em 'til they drop.' Might not some reader be seduced into thinking 'there was some ingenious way to disarm or defeat the enemy without too much bloodshed'?"[1626] The solution in

[1623] Schmitt, "The Great FMFM 1 Debate: Is There Anything New Here?" 26.
[1624] Schmitt, "The Great FMFM 1 Debate: Is There Anything New Here?" 26.
[1625] Lloyd, 24.
[1626] Lloyd, 24.

Lloyd's mind was to revise FMFM 1, "putting more fight into *Warfighting*" to impress upon its readers that "our version of *cheng* and *ch'i* does indeed conclude with a swift and powerful kick."[1627]

Lloyd understood that a major source of this misperception was the adoption of the dichotomous model making disruptive maneuver and destructive attrition opposite poles, especially as it was used to promote the former and castigate the latter. As he wrote, "The most disagreeable aspect of *Warfighting* is its penchant for depicting maneuver warfare as one of but two options in a maneuver warrior (good guy) versus attrition (bad guy) debate. To the extent that it supports this fiction of two camps, it ill serves its readers.[1628] Lloyd considered this a problem because he did not believe maneuver warfare was suitable to every situation, and since "No style of warfare is appropriate to all occasions," "The overriding rule of warfare is 'whatever works.'"[1629]

Lieutenant Colonel E.J. Robeson IV, who had been an active participant in the *Gazette* debates over maneuver warfare since 1981, agreed. He explained that employing Lind's dichotomous model to move the Corps from an attritional style to a maneuverist approach to warfare had obscured the value of attrition in winning some of the Marine Corps' greatest battles. Pointing out that the most well-known Marine combat leaders had on some occasions employed attrition, and on others maneuver, Robeson wrote, "The past giants of the Corps might not agree that all warfare can simply be dumped into one of two piles, i.e., that it is either 'attrition style' or 'maneuver style,' and that they belong in the first pile."[1630] To Robeson, Marine battle history demonstrated, "maneuver is a vital component, but maneuver alone will not

[1627] Lloyd, 25.
[1628] Lloyd, 25.
[1629] Lloyd, 25.
[1630] Robeson, 28.

necessarily dislocate a professional opponent."[1631] Robeson thought the problem could be rectified simply by editing the content of FMFM 1 to remove the dichotomy and instead highlight the interdependence of the two approaches, to "emphasize that, although all warfare uses both fire and maneuver, commanders greatly improve their chances of success when they apply these two concepts simultaneously rather than sequentially, and at a higher tempo than their opponent."[1632]

There were other objections to the ideas in *Warfighting* that reflected the earlier debates. There was still resistance to the idea that command and control should be decentralized. Robeson, for example, objected to the sentence, "We must not try to maintain positive control over subordinates since this will necessarily slow our tempo and inhibit initiative."[1633] Robeson argued that positive control was actually necessary for mission accomplishment, and the text needed to be rewritten to warn against "overcontrol" of subordinates. He also argued that FMFM 1 should include language indicating that there might be occasions when leaders needed to prescribe specific tasks to subordinates.[1634] These suggestions represented semantics and nuance, but they reflected discomfort with the loss of control that many believed was implied by mission tactics.

Finally, even though FMFM 1 only mentioned Boyd and OODA in a footnote, this invited criticism. Because Boyd was widely associated with maneuver warfare, and it was generally believed that OODA was the heart of the theory behind maneuver warfare, misunderstandings about the origin of his theory continued to come up. Lieutenant Colonel Lloyd wrote,

---

[1631] Robeson, 28.
[1632] Robeson, 28.
[1633] U.S. Marine Corps, FMFM 1, 64.
[1634] Robeson, 29.

> The OODA loop concept supposedly grew out of an observation made by a fighter pilot while dogfighting to the effect that success would follow automatically whenever the enemy was forced to think too much and too fast to maintain his orientation. Analogies with successful ground tactics were discovered, which led back to Sun Tzu and became the basis for the new philosophy of maneuver warfare. Fighter tactics can prove difficult, however, to transfer to land combat where "flying by the seat of your pants" is likely to be a fatal experience.[1635]

Misunderstandings of Boyd's process, message, and relationship with maneuver warfare, then, were promoted by the brief mention of his OODA concept in a footnote within FMFM 1, and continued to present problems for the acceptance of maneuver warfare.

The initial reactions to FMFM 1, indicated that the publication did not successfully resolve the tensions which had been revealed in the debate over maneuver warfare in the preceding decade. Its explanation of maneuver warfare still left Marines confused about how it would work to defeat an adversary, and believing it was making unrealistic promises of victory without violence. They saw that this was a product of the dichotomous model which presented maneuver warfare and attrition warfare as polar opposites. They questioned the validity of this model, which appeared to allow no blend of the two approaches, and claimed that maneuver warfare was always the superior mode. They also questioned the origin of these ideas, from the historical basis for the dichotomous model to the notion that the entire theory of maneuver warfare was built upon a theory derived from aerial combat.

The one matter that FMFM 1 did seem to resolve, was *ad hominem* attacks on its advocates. Lind had begun writing articles for the *Gazette* again after General Kelley retired. These were generally received by Marines positively, probably because they sensed Lind's recommendations aligned with the new commandant's agenda. The month before FMFM 1 was published, however, one lieutenant colonel decried the "seemingly endless dialog of William S.

[1635] Lloyd, 25.

Lind, self-appointed expert on all military matters," as part of "the mad rush to theory, often devoid of practical experience."[1636] This officer continued,

> This is not to imply that there is no place for theory on the battlefield. Only a fool ignores history, and I applaud Bill Lind for his many contributions to the Corps. His fine articles always stimulate ideas and discussion on vital issues. His provocative ideas always generate equally provocative retorts from Marines of every rank. But enough is enough!
> …The difference between Mr. Lind and those who take exception to him is experience and a lifetime of selfless devotion to the Marine Corps. The officers he accuses of being out of touch with reality are in fact reality in this case. They have gone beyond theory to wrestling daily with the issues of which Mr. Lind can only theorize. Their grasp of the problems facing the Marine Corps and how to solve them far exceeds theory.[1637]

After the publication of FMFM 1 there were no such attacks on the basic credibility of the maneuverists, even those who promoted it on an academic basis. Lind remained a target, but this was only for his lack of expertise on specific matters such as aviation, where he was accused of arguing "In the classic manner of the TV evangelist glibly quoting Biblical passages out of context to "prove" a point of convenience…"[1638] He received no such criticism for advocating the adoption of maneuver warfare and reforming the Corps to achieve the vision in FMFM 1. The concept of maneuver warfare itself had been sanctioned as doctrine under the imprimatur of the commandant. In this case, the doctrine was signed by a commandant with an exceptional reputation as a combat leader, and who was known for personifying a warrior ethos and being relentlessly focused on military effectiveness, while also exercising a keen intellect. With this blessing, maneuver warfare could no longer be dismissed as an academic concept dreamed up by amateurs without military experience.[1639]

---

[1636] Samuel J. Strotman, Patrick F. Gould, and Rafael Negron, Jr., "Reform Dialog Continued," *Marine Corps Gazette* 73, no. 2 (February 1989), 11.
[1637] Strotman, Gould, and Negron, 11.
[1638] Alfred J. Ponnwitz, "Understanding Survivability," *Marine Corps Gazette* 73, no. 8 (August 1989), 69.
[1639] The editor of the Marine Corps Gazette did write an article for the *U.S. Naval Institute Proceedings* suggesting, "It may be that FMFM 1 stands too close in language and tenor to the work of these reformers to be readily accepted." See John E. Greenwood, "FMFM 1: The Line of Departure," *United States Naval Institute Proceedings* 116, no. 5 (May 1990), 156.

The publication of FMFM 1 did create one new problem, and this would become a long-standing issue. As the concept of maneuver warfare had been incepted, argued, and refined, it was generally understood to apply to tactics and perhaps operations, though General Gray had for several years thought if it as an entirely different philosophy of war, and argued that it applied universally, with "applications across the spectrum of war from air to surface, from tactics to strategy, from operations to logistics."[1640] By officially describing both *Warfighting* and maneuver warfare as a "philosophy" the distinction between the two was lost, if there ever was one. The vague equation of both *Warfighting* and maneuver warfare as a philosophy of war did served to help Marines understand that maneuver warfare would require a particular frame of mind. It also helped to promote a culture change within the Marine Corps, but it also led Marines to different conclusions about what the manual meant for operations and strategy. Some assumed maneuver warfare to be an operational and tactical concept, and saw that other sources were needed to study strategy.[1641] At least one officer considered FMFM 1 to be lacking because it addressed neither operations nor strategy. In an award-winning paper written while a student at the Marine Corps Command and Staff College, and an Air Force major wrote, the "main problem" with the "doctrinal concept of maneuver warfare" to be that it tended "to focus on the tactical level of war and emphasize winning battles, rather than focus on the operational and strategic levels and emphasize winning wars."[1642] As a result, he wrote, the "emphasis on

[1640] Scharfen, 10-11. The month after FMFM 1 was published Gary W. Anderson, "When Maneuver Fails," *Marine Corps Gazette* 73, no. 4 (April 1989), 59, argued that several armies in recent history had "not been able to string these tactical successes together into operational victories in the manner prescribed by theorists such as John Boyd and William Lind." This article quotes OH 6-1's definition of maneuver warfare, suggesting that the author submitted this article before reading FMFM 1. Even if that shows Marines saw problems with maneuver warfare being applied above the tactical level, FMFM 1 at certainly exacerbated the problem because it applied to the Marine Corps more broadly than *Ground Combat Operations*, and was published more widely.

[1641] Harries-Clichy Peterson, Jr., "A Case for the Corps," *Marine Corps Gazette* 74, no. 1 (January 1990), 81.

[1642] John B. Saxman, "The Role of Marine Aviation in Maneuver Warfare," *Marine Corps Gazette* 73, no. 8 (August 1989), 59.

maneuver warfare at the tactical level overlooks the fact that a nation must be decisive at the operational and strategic levels in order to win a war."[1643] To others, describing *Warfighting* doctrine as a philosophy suggested that the ideas within, including maneuver warfare, were universal, and therefore applied to all levels of war. One officer, a major teaching captains at the Amphibious Warfare School, even argued that maneuver warfare transcended war itself, explaining that it applied to sports.[1644]

Each of these problems with the concept of maneuver warfare, developed during the thirteen-year process of inventing the concept, arguing for its adoption, and encoding it in doctrine, continued to present challenges to understanding and acceptance of maneuver warfare up to the present day. To begin with, Marines have consistently failed to appreciate the cognitive and temporal aspects of maneuver warfare, tending to think of maneuver as simply relative movement in space to gain a position of advantage. In 2017, Major Scott Helminski wrote a research paper for the Marine Corps Command and Staff College arguing this case, based upon articles that continued to appear in the *Marine Corps Gazette* more than two decades after FMFM 1 was written. Helminski even showed that this misconception was represented in the language in the 2016 *Marine Corps Operating Concept*, the Corps' official vision for preparing for the challenges it would face in 2025 and beyond.[1645] Numerous other conceptual obstacles persisted. In 2020 the first place winner of the *Marine Corps Gazette's* annual Major General Harold W. Chase Prize for boldness and daring in professional writing was Lieutenant Colonel Thaddeus Drake, Jr. for his essay titled "The Fantasy of MCDP 1." In his article Drake argued,

[1643] Saxman, 60.
[1644] Kevin G. Brickhouse, "A Primer on Maneuver Warfare," *Marine Corps Gazette* 73, no. 10 (October 1989), 10.
[1645] Scott H. Helminski, "No Room for Maneuver: The Reduction of Maneuver Warfare from Cognitive Approach to Physical Concept in Marine Corps Doctrine, Discourse, and Education," research paper (Quantico, VA: U.S. Marine Corps Command and Staff College, 2017), 12-17.

> Since its original publication in 1989, MCDP 1, then known as Fleet Marine Force Manual (FMFM 1), has been elevated beyond the bounds of even an organizational philosophy and has instead become more akin to a service orthodoxy. MCDP 1 has become an unquestionable dogma that Marines reference in a way similar to that of holy writ such as the Bible or *On War*—generally quoted out of context and only used when it provides ammunition to support one's argument.[1646]

Though Drake was generally positive about *Warfighting*, seeing it as "probably the most effective military doctrinal publication since the *Wehrmacht's Truppenfuhrung,*" he was pointed in his critique of its contents.[1647] Among the faults he pointed out, Drake questioned whether the Marine Corps could actually adopt a culture that would permit decentralized command in mission tactics, assessed that *Warfighting* was based upon "a false dichotomy between maneuver and attrition," and charged that MCDP 1 underestimated the difficulty of causing systemic collapse in an adversary.[1648]

The most telling analyses of the misconceptions perpetuated by *Warfighting* have come from the maneuverists themselves. In August 2020 a group writing for the *Gazette* under the pen name "Marinus" began a series known as "The Maneuverist Papers" to reignite conversation about maneuver warfare, ideally leading to a revision of *Warfighting*.[1649] "Marinus" is generally understood to be a small group of officers who were involved in the writing of FMFM 1 in 1988 and 1989. These articles provide important perspective on how *Warfighting* has been misunderstood, and how improvements to its explanations might promote better understanding of the concept. The first article in the series, for example, agreed with Helminski's observations, admitted that branding the new concept "maneuver warfare" had created misconceptions. In

[1646] Thaddeus Drake, Jr., "The Fantasy of MCDP 1," *Marine Corps Gazette* 104, no. 10 (October 2020), 33.
[1647] Drake, 33.
[1648] Drake, 34-36.
[1649] Marinus, "Marine Corps Maneuver Warfare," *Marine Corps Gazette* 104, no. 8 (August 2020), 85. The title of the series "The Maneuverist Papers," was meant to suggest the role of the Federalist Papers in the adoption of the U.S. Constitution, promoting debate about the underlying concepts and a deeper understanding of the meaning of the draft constitution itself, and thereby promoting its acceptance.

retrospect, Marinus observed, maneuver was a term many "understood narrowly to mean relational movement, but which the maneuverists imbued with deeper meaning that they sometimes struggled to explain."[1650]

Marinus recognized that treating maneuver warfare and attrition warfare as a dichotomy was one of the most significant errors in the long run, explaining

> Perhaps the biggest controversy to arise during the development of maneuver warfare was the maneuver warfare vs. attrition warfare debate. The early maneuverists chose to describe maneuver warfare by comparing it with its opposite, which they called attrition warfare. In retrospect, this may have been an operational error that delayed the eventual acceptance of maneuver warfare. The simplistic interpretation of the argument was: maneuver good, attrition bad. In reality, the problem was partly semantic. All warfare involves attrition—that is, incremental degradation of combat power because of accumulating losses. And all warfare involves relational movement, if only to bring weapons into position to cause more attrition. Maneuver and attrition are not a matter of either/or, but that is how proponents came to frame the issue.[1651]

"Marinus" proposed that the explanation in FMFM 1 had not had the benefit of a conceptual tool which had emerged in recent years, the defeat mechanism, explaining,

> The issue was not whether it was better to maneuver or to inflict attrition, because both again are inherent in warfare. In retrospect, the issue is what you choose as *the mechanism by which you propose to impose defeat on the enemy*. The important concept of *defeat mechanism* was not explicitly recognized at the time.[1652]

With the benefit of complexity theory emerging in the 1990s, Marinus argued,

> We now understand that the defeat mechanism of maneuver warfare is *systemic disruption*—eliminating the enemy's ability to operate as a coherent and cohesive whole. …Boyd used to talk about "tearing the enemy apart from the inside." In other words, where attrition warfare attacks the components of the enemy system to degrade them, maneuver warfare attacks the relationships between those components to break the coherent functioning of the system.[1653]

[1650] Marinus, 88.
[1651] Marinus, 87.
[1652] Marinus, 87.
[1653] Marinus, 88.

Even as Marinus has attempted to improve the case for maneuver warfare, however, these explanations have drawn familiar responses. For example, in response to a two-part article by Marinus titled "Learning from the Germans" in the December 2020 and January 2021 issues of the *Gazette*, Captain Zachary Swartz wrote,

> Recent articles in the *Marine Corps Gazette* have shed renewed light on the influence of German Military [sic] history, particularly the German military of World War II, on the Marine Corps, and the Maneuver Warfare Movement. This influence is undeniable and has been critical to the development of our warfighting doctrine; however, a series of biases are inherent to our embrace of the German military experience.[1654]

These ongoing criticisms of *Warfighting* and maneuver warfare advocacy show that it is now as important as ever to get to the bottom of the many misconceptions about the origins of the concept of maneuver warfare. This is critical to enabling this doctrine and the body of ideas upon which it is based to be subjected to meaningful scrutiny.

**Conclusion**

This chapter has focused on the final process through which the ideas behind maneuver warfare first became comprehensively encoded in Marine Corps doctrine. Most accounts have portrayed this to be the result of Alfred M. Gray, the product champion, becoming the Commandant of the Marine Corps, and circumventing the service's bureaucracy by harnessing a talented young officer to write the new doctrine, precipitating radical change in the Marine Corps. This chapter intervenes in that narrative in several ways.

First, this chapter has shown that in the earliest years of collaboration between Marines and William S. Lind, even as maneuver warfare was being defined in print for the first time, Marines were already incorporating the new ideas in doctrine. The extinction of those ideas in

[1654] Zachary Schwartz, "Thinking Beyond Dead Germans," *Marine Corps Gazette* 105, no. 3 Web Extra (March 2021) available at https://mca-marines.org/wp-content/uploads/Thinking-Beyond-Dead-Germans.pdf, WE60.

official publications was as much due to changes in the process for developing doctrine as with any suppression of new thinking by an anti-maneuverist commandant. The restoration of that process for exploring new ideas in doctrine several years later, and the assignment of a young maneuver warfare advocate to the Doctrine Center, provided new opportunities for rebeginning the integration of maneuver warfare in doctrine. The subsequent efforts did not produce decisive results because the doctrinal bureaucracy hampered the adoption of bold new ideas. Even after General Gray became commandant and there was a perceived mandate for maneuver warfare, the changes in OH 6-1 of October 1987 were limited. The fact that it was the same author, Captain John Schmitt, who envisioned the need for OH 6-1, then attempted to incorporate maneuverist ideas, then enjoyed only limited success after being allowed to do so, and finally wrote FMFM 1, provides an excellent opportunity to isolate the effects of structural limitations. In the case of OH 6-1, radical change was not possible within bureaucratic processes and without a mandate for fundamental change. This speaks to General Gray's wisdom in starting from scratch with a single author unbounded by restrictions, and accountable only to him. It also explains why Gray made it his first priority to reorganize the various agencies involved in the combat development process.

Second, it is important to note that while General Gray's appointment as Commandant of the Marine Corps was truly a decisive moment in the maneuver warfare movement, it was by no means a certain, or even probable event. Contingency acted in several ways. First, James Webb, a man with acute interest in the Marine Corps, was suddenly appointed as Secretary of the Navy for reasons that had nothing to do with the Marine Corps or maneuver warfare. Webb was highly critical of the military reform advocates, and of William S. Lind in particular. Webb despised the meddling of academics and policymakers in matters better left to Marine leaders,

and selected Gray to be the next commandant because of his reputation and focus on combat effectiveness, not because of his interest in maneuver warfare. In so doing, Webb placed an officer interested in bringing radical change to the Corps at the head of the service, including through the implementation of maneuver warfare, a central component of the military reformers' agenda.

Third, though the encoding of maneuver warfare in FMFM 1 was a significant achievement, it was not because it made maneuver warfare doctrine. Rather, it was because *Warfighting* provided a comprehensive explanation of war that overturned the traditional assumptions which made attrition warfare a logical approach. *Warfighting's* Boydian synthesis of Sun Tzu and Clausewitz provided a conception of war within which Lind's concept of maneuver warfare made sense, and it also helped Marines understand why a host of other changes were needed. The conception of war explained in *Warfighting* provided the rationale for a command and control style that exploited disorder rather than trying to prevent it. It also demanded leaders committed to a deep and continuous study of military history and theory that would better prepare them for making the rapid intuitive decisions that maneuver warfare required, rather than relying on a closed system of analysis such as the principles of war. These other aspects clearly aligned with the wider agendas of the Military Reform Movement and the Marine maneuver warfare advocates. This makes it clear that adopting maneuver warfare was just one part of a larger program of reform, and was never in and of itself intended as to be a viable solution to the much larger problem, one that got to the very heart of how military leaders thought about war and their profession. Even more fundamentally, maneuver warfare was a product of a very different way of thinking, a very different conception of war that undergirded the broader agenda of military reform, that was itself intended as an antidote to the habits of

mind cultivated by Operations Research and Systems Analysis (ORSA) and Pentagon managerialism.

Finally, though the publication of FMFM 1 was a critical event in the Military Reform Movement and in the Marine maneuver warfare movement, the final product failed to resolve many of the issues that had energized contentious debate over the preceding eight years. These included misconceptions about John Boyd's role, the meaning of maneuver warfare, and the dichotomous model of attrition warfare versus maneuver warfare. Rather than resolving these misconceptions and the tensions they generated, FMFM 1 served to perpetuate these problems, and undercut further progress with the concept and its adoption.

# Chapter 10: Conclusion

The prevailing narrative of John Boyd, the maneuver warfare movement, and the adoption of maneuver warfare by the U.S. Marine Corps is as follows: In the aftermath of the Vietnam War, fighter pilot John Boyd developed a new theory of war known as maneuver warfare, based upon his concept of the Observe-Orient-Decide-Act (OODA) Loop which was derived from his experience as a fighter pilot. His approach to war sought victory by disruptive maneuver rather than heavy firepower and destructive attrition. Some relatively junior officers of the Marine Corps were attracted to Boyd's new ideas, and began arguing for the adoption of maneuver warfare in Marine Corps doctrine. They were opposed by the Corps' conservative leaders until one exceptional general, Alfred M. Gray, Jr. became Commandant of the Marine Corps, and directed that maneuver warfare be formally adopted. This effort yielded the first military doctrine explicitly based on the concept of maneuver warfare, Fleet Marine Force Manual 1 (FMFM 1), *Warfighting*, in 1989.

This narrative is consistent with a broad range of works on this subject. They include the first widely-published popular history to address this topic, Robert Coram's 2002 *Boyd: The Fighter Pilot who Changed the Art of War*, to the most thorough study written to date, Major Ian Brown's 2018 *A New Conception of War: John Boyd, The U.S Marines, and Maneuver Warfare*. This narrative took root, and as a new orthodoxy provided an unsteady historical foundation for a wide range of studies that were meant to address deeper questions, and which advanced bold claims. On one extreme Anthony Piscatelli's 2017 *The Marine Corps Way of War: The Evolution of the U.S. Marine Corps from Attrition to Maneuver Warfare in the Post-Vietnam Era* argues that throughout its history the Marine Corps had fought "maneuver-type warfare," and the only conflict was over how to formally institutionalize a way of war that was already part of the

Corps' "DNA."[1655] On the other extreme Stephen Robinson's 2021 *The Blind Strategist: John Boyd and the American Art of War* depicts Boyd as a historical amateur whose inept theorizing led a generation of Marines and other maneuver warfare advocates down a blind alley, adopting an intellectually bankrupt approach to warfare.[1656]

This dissertation argues that this narrative is a result of historical analyses which have focused on a few prominent products through which maneuver warfare was developed and encoded in doctrine, rather than a deep investigation of the process itself. Most of these works have been based on a few readily available documentary artifacts, such as the final version of John Boyd's "Patterns of Conflict" briefing, William S. Lind's 1980 "Defining maneuver warfare for the Marine Corps" article, and FMFM 1. These few textual products of the debate over maneuver warfare have been augmented by the accounts of a few members of the maneuver warfare movement to provide limited insight into the process. With so little to go on, the evidence has been made to fit a wide range of interpretations, from Robert Coram's claim that the Marines recognized and harnessed Boyd's genius to change the art of war, to Stephen Robinson's claim that maneuver warfare advocates have been hoodwinked by an amateur.

To intervene in the prevailing narrative this dissertation draws from a deeper investigation of the archive to understand the processes through which Boyd and others were involved with the concept of maneuver warfare starting in 1976, and how that concept was eventually adopted as doctrine by the Marine Corps in 1989. The most important sources are found in the Marine Corps Archive in Quantico, Virginia. Thirty-two different versions of Boyd's "Patterns of Conflict" briefing allow a close analysis of the ideas he argued, the sources

[1655] Anthony J. Piscitelli, *The Marine Corps Way of War: The Evolution of the U.S. Marine Corps from Attrition to Maneuver Warfare in the Post-Vietnam Era* (El Dorado Hills, CA: Savas Beatie, 2021), 202-204.
[1656] Stephen Robinson, *The Blind Strategist: John Boyd and the American Art of War* (Dunedin, New Zealand: Exisle Publishing, 2021), 20.

that inspired those ideas, and the way his theory of conflict grew and evolved over time. Twenty-nine boxes of previously unavailable personal papers deposited by William S. Lind permit the researcher to trace the development of maneuver warfare as a concept, as well as the debate over its ideas, more precisely locating their origins and analyzing the way different military and political organizations engaged with those ideas. These sources permit a true process history of both the ideas behind maneuver warfare and their integration by the Marine Corps. In so doing, this dissertation yields a deeper understanding of John Boyd's complex arguments about military conflict, and a fundamentally different view of the process through which maneuver warfare was incepted, developed, and encoded in Marine Corps doctrine. This dissertation redresses the prevailing narrative in several ways.

With regard to John Boyd and the theory he developed, this dissertation shows that the OODA concept was not simply derived from Boyd's aviation experience, but was developed only after two years of broad study of military history and theory. While some argue Boyd was too dependent on a questionable interpretation of *Wehrmacht* history, he was most heavily influenced by ancient Chinese theorist Sun Tzu and by Basil Liddell Hart in his early historical inquiry. Further, though Boyd privileged German military history for a time, his decade-long investigation in military history and theory was in fact exceptionally broad. Further, while many believe OODA to be Boyd's most important theoretical contribution, OODA was never the point of Boyd's ten-year "Patterns of Conflict" project. OODA was but one portion of his theory, the descriptive element. Rather, Boyd's main argument was that military organizations seeking competitive advantages should seek to promote four qualities: variety, rapidity, harmony, and initiative. Contrary to the prevailing narrative, Boyd was not the inventor of the concept of maneuver warfare. He did incorporate the idea of maneuver conflict in his "Patterns of Conflict"

briefing, but not until almost two years after "maneuver doctrine" was first described by William S. Lind. Boyd did not integrate his notion of maneuver conflict as a dichotomous opposite to attrition warfare, as Lind had contrasted the two styles and as the other maneuver warfare advocates tended to argue. Instead, Boyd developed his own tripartite concept recognizing three "Categories of Conflict": Attrition Warfare, Maneuver Conflict, and Moral Conflict.

John Boyd was a maneuver warfare advocate in that he did consider it a better approach than attrition for the strategic problems the U.S. faced in the 1970s and 1980s, but this did not distinguish him from the other members of the Military Reform Movement, who also generally promoted the adoption of maneuver warfare. As the maneuver warfare movement gathered energy in the Marine Corps in the 1980s, Boyd did provide his "Patterns of Conflict" briefing to Marines interested in understanding why maneuver warfare worked, but he did not take an acute interest in the way the Marines were developing the concept of maneuver warfare into an actionable approach to fighting. As important work was being done to accomplish this, Boyd's interests turned in the other direction, away from specific details and techniques, toward generalizing his ideas in ways that became more abstract and universal.

With regard to the development of maneuver warfare, this dissertation has shown that John Boyd was not the originator of the concept and had nothing directly to do with developing it into an actionable approach to fighting. The person who must be assigned primary responsibility for developing and promoting the concept of maneuver warfare is William S. Lind, who in the prevailing narratives is portrayed merely as a promoter of Boyd's ideas. Rather, it was Lind who invented the concept of maneuver doctrine in 1976. Lind did this with the specific objective of helping the U.S. Army move away from its dependence on firepower, which he judged would not be a successful approach if the U.S. and its NATO allies needed to fight the

Warsaw Pact in Europe. Lind believed the proper example for the U.S. military to emulate was the German model of military professionalism and the style of fighting practiced by the German army in its most successful campaigns of World War II. Indeed, Lind was more interested in promoting the German model of military professionalism than he was with promoting a specific style of fighting. This is because he saw the Prussian model as an antidote to the bureaucratic ways of thinking promoted by Systems Analysis and the managerialism that he felt had become prevalent in the U.S. military by the 1970s. Lind wasn't attempting to promote maneuver warfare simply as a better way of fighting, but instead as one element of a much larger agenda for military reform and strategic reorientation.

A key device Lind developed for explaining the need for maneuver doctrine was a model contrasting maneuver doctrine with firepower/attrition doctrine, placing these two idealized forms as opposed elements of a dichotomy. The U.S. Army proved generally uninterested in Lind's ideas, but over time he was able to promote experimentation with mechanization in the U.S. Marine Corps, and Lind decided his efforts should be focused there. In the process, however, Lind discovered that the German style of fighting made little sense to Marines without a better conceptual basis, and he made renewed efforts to explain his concept, now called maneuver warfare. While Lind and Boyd became allies in the Military Reform Movement, they did not collaborate on matters of theory. However, Lind did see utility in Boyd's ideas, particularly the OODA loop, in his project to help Marines understand how his concept of maneuver warfare functioned. Lind's claim, "The Boyd Theory is the theory of maneuver warfare in a 1980 *Marine Corps Gazette* article did much to inadvertently foster misunderstandings of Boyd's role and ideas. As the Marine Corps began to devote less attention to mechanization in the 1980s, Lind worked with Marines at the Amphibious Warfare School

and later in the 2d Marine Division to flesh out the concept of maneuver warfare. In 1985 he published the *Maneuver Warfare Handbook* in 1985, a document that was close to providing a basic doctrine of maneuver warfare for any service that chose to adopt it. It was this active collaboration between Lind and the Marines that made maneuver warfare an actionable approach to warfare.

At the time that Boyd was still forming his wider theory of conflict, and Lind and the Marines were developing maneuver warfare as an actionable concept complete with supporting conceptual tools and techniques, there were objections to their focus on German military history as the basis for their new ideas. At the time, no one took exception to their German sources or to the historical accounts the maneuverists referenced. Instead, contemporary critiques disparaged the idea that Americans had anything to learn from a military that had lost two world wars. In the decades since that time, however, the concept of maneuver warfare has been subjected to greater criticism for its association with *Wehrmacht* history, often based on the misconception that Boyd, the alleged architect of maneuver warfare, derived his ideas from an inappropriate fixation on Blitzkrieg, the German invasion of France in 1940. Such critiques reflect the general ignorance that Boyd's ideas were formed from a much wider synthesis of military history and theory, one where Sun Tzu and Liddell Hart proved much more influential than any German. If these critics were aware of Lind's much more significant role in developing the concept of maneuver warfare, their argument would hold more weight, but even in Lind's case the new ideas were drawn from a much deeper understanding. Lind argued that Prussian military professionalism was the decisive element, and believed the origins of maneuver warfare were found not in the campaign of 1940, but instead in the storm troop tactics of World War I. Scholarship has yielded important revisions on *Wehrmacht* history since Boyd's time. For

example, John Mearsheimer's 1988 *Liddell Hart and the Weight of History* showed that the post-war accounts of the German generals could not be taken at face value. Eugenia Kiesling's *Arming Against Hitler: France the Limits of Military Planning* (1996), Roger Reese's *Stalin's Reluctant Soldiers: A Social History of the Red Army, 1925-1941* (1996), and David French's *Raising Churchill's Army: The British Army and the War against Germany 1919-1945* (2000) demonstrated that German successes early in World War II were as much a product of the unique circumstances that limited each of the *Wehrmacht's* adversaries as they were the military competence of the German army. None of these revisions, however, have overturned the analyses of either Boyd or Lind based on the best available sources at the time. Until such time as revisions to the historical record can be traced to specific faults in Boyd's theory or the concept of maneuver warfare, today's critiques hold no more weight than those of the 1980s arguing that Marines had nothing to learn from "losers" like the Germans.[1657]

Regarding the U.S. Marine Corps adoption of maneuver warfare, this dissertation has shown that this was a contested process, but not in the ways it has commonly been understood. Resistance was not a result of simple institutional conservatism, or organized around a coherent group of opponents who argued for the utility of attrition warfare. First, there was extensive debate over the meaning of the new ideas, including what maneuver warfare actually was and whether the model contrasting it with attrition warfare was a valid one. Within these debates some cultural resistance was also evident, including rejection of what was viewed as political and academic influence on military matters, suspicion of a way of war which seemed to naively

[1657] Critics of maneuver warfare have pointed out inconsistencies between how Boyd and the maneuver warfare advocates explained their ideas and how the Germans saw their own operations. For example, Robinson 157-177, argues that General Hermann Black, a stormtroop veteran, did not recognize the American maneuverists' explanation of stormtroop techniques as infiltration tactics. Whether or not such inconsistencies expose fraudulent employment of history or merely represent differences in expression, however, deserves much closer study.

promise victory without bloodshed, and concerns that its concept of decentralized command would lead to a dangerous loss of control. The debate over maneuver warfare peaked in the years when the 2d Marine Division began experimenting with maneuver warfare, but trailed off after General P.X. Kelley became commandant. However, this was not simply a result Kelley suppressing debate and new ideas; the political and organizational context is important. The debate over maneuver warfare was occurring as the Military Reform Movement and its Military Reform Caucus in the U.S. Congress was gaining influence, and the reform agenda was perceived to be a threat to President Ronald Reagan's military policy. This is important context for understanding how General Kelley and other Marines reacted to Lind, especially as he began using more aggressive political tactics to pressure Kelley and the Marine Corps. While the appointment of Alfred M. Gray, Jr. was decisive in setting the stage for the adoption of maneuver warfare as doctrine, the coincident diffusion of political tensions was also important. The way ideas about maneuver warfare were encoded in FMFM 1, meanwhile, did little to resolve the underlying conceptual tensions; rather it perpetuated them.

This dissertation also intervenes in the prevailing narrative about the U.S. Marine Corps' adoption of maneuver warfare by showing that this was not merely a contested process, but a highly contingent one. Contingency was evident in numerous ways. Interest in maneuver warfare among Marines was particularly prominent among the Vietnam veterans who had early experience in that war as advisors and later served at the company level and below. They became interested in maneuver warfare not because they were persuaded that the U.S. made mistakes in pursuing an attritional approach to the war in Vietnam, but because they saw the Marine Corps failing to adapt to its experiences in that war. While many of these advocates understood that the Marine Corps might need to fight outnumbered in Europe, they were more

interested in promoting greater intellectual engagement by Marine leaders, and a smarter way of fighting. Contingency is also evident in several key events in the maneuver warfare movement, important events resulting from decisions which had nothing to do with maneuver warfare itself. Brigadier General Bernard Trainor, the head of the Education Center, was suspicious of the concept of maneuver warfare, and selected Lieutenant Colonel Michael Wyly to take over the Tactics program as at the Amphibious Warfare School because he believed that program needed an injection of fresh ideas. Trainor then put Wyly in touch with William Lind, the leading advocate of professional reform and maneuver warfare at the time. Trainor did this not because he expected them to collaborate in the development of maneuver warfare, but because he wanted to demonstrate to Lind that the Marine Corps was investigating new ideas on tactics. Once Lind and Wyly realized they had similar aims, their relationship led to the initiation of Lind's maneuver warfare seminars. Lind also put Wyly in contact with Boyd, with Wyly eventually becoming one of Boyd's Acolytes. However, it was Lind's and Wyly's collaboration at AWS that led to the development of specific concepts for making maneuver warfare an actionable approach to war. Meanwhile, the Marine Corps, which had been experimenting with mechanization, turned away from that effort under a commandant who had little interest in the topic. Major General Alfred M. Gray, Jr.'s routine reassignment from the Development Center to the 2d Marine Division, however, placed a leader with an interest in the new ideas of maneuver warfare in an ideal position to begin experimenting with those ideas on a much larger scale. Those efforts were blessed by the arrival of many of Lind's recent seminarians in Gray's division. Though the maneuver warfare movement appeared to ebb in the last two years of General Kelley's commandancy, it was reinvigorated by the appointment of General Gray to succeed him. This was not done to promote maneuver warfare, but due to the intervention of

Secretary of the Navy James Webb. Webb was suspicious of the maneuverists, particularly Lind, and nominated Gray for his warrior image and professional reputation, not due to his association with maneuver warfare.

In making these interventions, this process history has yielded a more organic view of military innovation and adaptation. Traditional accounts of radical military change have privileged the roles of individual agents such as J.F.C. Fuller, Heinz Guderian, and even John Boyd as the creators and promotors of fully-formed ideas which were resisted by conservative military organizations. This dissertation argues that the development, reception, and integration of ideas is a product of many agents' individual engagement with those ideas. These processes and the way they are negotiated among individual actors shape the form those concepts ultimately take.

Where older studies of military innovation have privileged the role of individual actors, the more recent historiographic trend has tended towards another extreme, examining change as a product of broad organizational factors. Trent Hone's 2018 *Learning War: The Evolution of Fighting Doctrine in the U.S. Navy, 1989-1945*, for example, analyzed the U.S. Navy of the early 20th century as a learning organization. Hone argued the Navy configured itself as a learning system to experiment with and adopt new ideas.[1658] Representing a military service as a learning system, however, tends to discount the importance of individuals, and implies a high degree of intention. It indicates that the organization was either aware that something was wrong or that the situation was changing, and organizational leaders understood some form of adaptation was required. With this the service either used existing structures or built new organizations and processes to deliberately examine and test new ideas and capabilities. This was not the case for

[1658] Trent Hone, *Learning War: The Evolution of Fighting Doctrine in the U.S. Navy, 1989-1945* (Annapolis, MD: Naval Institute Press, 2018), xiv-xv.

the Marine Corps' adoption of maneuver warfare, where there was no clear organizational intent to fundamentally revise the service's approach to war until 1988, just six months before the new doctrine was completed. There was a period of experimentation with mechanization sanctioned by Headquarters Marine Corps from 1978 to 1981, and there were even very tentative steps to incorporate the concept of maneuver warfare in doctrine. However these efforts were short-lived, and never underwritten by a strong organizational impulse for fundamental change. As a result, the Marine Corps system for learning and improving its doctrine served first to promote only incremental doctrinal change, then it served to inhibit progressive change.

The most important events in the development of maneuver warfare as an actionable approach to fighting came about not due to a mandate expressed through bureaucratic action, but without such sanction, instead of bureaucratic action. These ideas were first encountered by individuals, not entire organizations, whether they acted as a matter of individual professional interest, as agents of the organization exercising their freedom of action, or both. It wasn't through their collective effort managed by the doctrinal bureaucracy, but rather through the sum of their efforts as individuals and some of the smaller units they made up, that the larger organism, the Marine Corps, came to see the potential of maneuver warfare and adopt it as its new, shared approach to warfare.

Regardless of whether a military organization deliberately seeks to experiment with a new concept or digests those ideas in a more organic way, to understand why organizations accept or reject new ideas it is important to consider how individuals perceived them. In this sense, ideas are scrutinized because they are forced upon an organization or have some initial appeal, and are propagated because they demonstrate organizational value to individuals. This study shows that new concepts are not considered and either accepted or rejected wholesale, but

rather as a product of their many component parts. Such ideas are assembled into coherent systems not in a modern, industrial way, based on a master design, but in a more postmodern, complex manner, where there can be enormous subjectivity in their acceptance and evolution. This process was akin to how the human brain forms impressions through induction and intuition, and how Boyd developed his wider theory of conflict. It was also akin to the whole approach to conflict that lay at the heart of Boyd's theory, rejecting rigid systems of thinking that could never tame the inherent uncertainty and complexity of war. What Boyd articulated was that advantage in conflict was a product of the adaptive qualities of variety, rapidity, harmony, and initiative, informed by the highly subjective process of inductive and intuitive sense-making of Orientation at the heart of the OODA cycle. The development of doctrine itself is a competitive process, designed to establish a shared way of thinking and acting that will constitute an advantage over future adversaries, so both the process and the product of the development of maneuver warfare reflect a very Boydian conception of human knowledge and competitive activity.

The very basis for the ideas behind maneuver warfare therefore depended on a rejection of war understood and fought by fixed principles, to instead embrace and leverage the inherent uncertainty and nonlinearity of war. This meant a new way of thinking about warfare, decision-making, and command. It does not appear many maneuverists understood they needed to adopt Boyd's particular way of thinking, though the ideas he expressed in "Patterns of Conflict" clearly appealed to many of them, often in ways they could not clearly articulate. Over time they did come to realize that the acceptance and utility of maneuver warfare depended on something that had been missing. What the archive shows is that the maneuverists realized they lacked *any* common way of thinking about war. If the Marine Corps was an attritional organization, it was

not because Marines had a doctrine upholding attrition as the proper approach to war. Instead, Marines were operating off some unstated assumptions about what war was, including the belief that destruction defined the essence of warfare. Rather than merely replacing an attritionist doctrine with a maneuver doctrine, the maneuverists needed to establish a new, common way of thinking about war within which maneuver warfare made sense. Without this Marines were left to accept or reject various component ideas of maneuver warfare that seemed to clash with their experiences and beliefs, sometimes missing the larger point.

FMFM 1, *Warfighting*, did more to define this new way of thinking than it told Marines how to actually practice maneuver warfare. That common way of thinking about war and military effectiveness reflected the anti-managerialism of the military reform movement and the Boyd's condemnation of deductively-derived principles and technocentrism in "Patterns of Conflict." Understanding this new conception of war, seeing it as a contest of timely perception and sense-making in chaotic and uncertain conditions, is central to understanding why the change that occurred, and what made FMFM 1 a revolutionary accomplishment.

Without understanding this basis for FMFM 1, it has also become far too easy for some to misrepresent maneuver warfare as the wishful thinking of Germanophile charlatans. It has also been easy to misrepresent John Boyd's entire theory as a simple four-step OODA cycle, one subject to rigid, mechanical, technocratic interpretation in ways that are the very antithesis of Boyd's thinking about how to secure advantage in a competitive world. Once again, this shows that the origin of ideas and the process through which they are developed can provide vital insights, and serve as a critical safeguard against the misinterpretation and misrepresentation of those ideas for other aims. Understanding Boyd's larger theory and its relationship with maneuver warfare is important for getting past arguments which dismiss that approach to warfare

on the basis of fundamental misconceptions. Only with these out of the way can maneuver warfare be subjected to meaningful critical evaluation to assess whether it might truly be an effective basis for military doctrine. This is a timely question, not a Cold War historical curiosity. The U.S. and its allies are now at a point where being prepared to win while fighting outnumbered, and finding a way of fighting which does not privilege destructive combat, may be more important than ever. Boyd's greatest contribution to this effort will not be any rationale he provided for the workings of maneuver warfare, a doctrine built for an analogous problem almost fifty years ago. Rather, it will be his insistence that all such future challenges will require their own unique solutions in an open-ended contest of competitive adaptation.

Bibliography

## Primary Sources

### Archival Collections

John R. Boyd Papers. Collection 2062. Marine Corps Archives, Quantico, Virginia.

Alfred M. Gray Papers. Collection 2580. Marine Corps Archives, Quantico, Virginia.

Paul X. Kelley Papers, Collection 741. Marine Corps Archives. Quantico, Virginia.

William S. Lind Papers. Collection 4939. Marine Corps Archives. Quantico, Virginia.

Donn A. Starry Collection. U.S. Army Heritage and Education Center. Carlisle, Pennsylvania.

Gerald R. Turley/Alfred M. Gray Research Collection. Collection 5251. Marine Corps Archives, Quantico, Virginia.

### Interviews

Grelson, Jeff D. Interview by Shawn P. Callahan, 27 January 2020. Digital recording. Oral Histories Collection, Marine Corps Archives, History Division, Marine Corps University, Quantico, Virginia.

Jackson, Timothy J. Interview by Shawn P. Callahan, 11 September 2019. Digital recording. Oral Histories Collection, Marine Corps Archives, History Division, Marine Corps University, Quantico, Virginia.

Lind, William S. Interview by Shawn P. Callahan, 28 October 2019. Digital recording. Oral Histories Collection, Marine Corps Archives, History Division, Marine Corps University, Quantico, Virginia.

Lind, William S. Interview by Shawn P. Callahan, 29 January 2020. Digital recording. Oral Histories Collection, Marine Corps Archives, History Division, Marine Corps University, Quantico, Virginia.

Schmitt, John F. Interview by Shawn Callahan. Tape recording. Quantico, VA, February 21, 2013. Oral and Video History Section, History Division, Marine Corps University, Quantico, VA.

Trainor, Bernard E. Interview by Benis M. Frank. Transcript. 12 December 1985 – 21 March 1988 Quantico, Virginia. History Division, U.S. Marine Corps.

U.S. Air Force. *Oral History Interview: Col John R. Boyd, 28 Jan 1977, Corona Ace Interview*. John R. Boyd Collection, Collection 2062, Box 24, Folder 10: General U.S. Air Force Oral History Interview – Col John R. Boyd, 28 January 1977. Marine Corps Archives.

Valentin, John. Interview by Shawn P. Callahan. Digital recording. Quantico, VA, July 9, 2019. Oral Histories Collection, Marine Corps Archives, History Division, Marine Corps University, Quantico, Virginia.

Van Riper, Paul K. Interview by Shawn Callahan. Tape recording. Quantico, VA, 21 February 2013. Oral and Video History Section, History Division, Marine Corps University, Quantico, VA.

Van Riper, Paul K. Interview by Shawn Callahan. Tape recording. Quantico, VA, February 11, 2014. Oral and Video History Section, History Division, Marine Corps University, Quantico, VA.

Van Riper, Paul K. Interview by Shawn Callahan. Tape recording. Quantico, VA, February 20, 2014. Oral and Video History Section, History Division, Marine Corps University, Quantico, VA.

Van Riper, Paul K. Interview by Shawn Callahan. Tape recording. Quantico, VA, May 12, 2014. Oral and Video History Section, History Division, Marine Corps University, Quantico, VA.

Wyly, Michael. Interview by Linda Magleby. Tape recording. Quantico, VA, July 3, 1996. Oral and Video History Section, History Division, Marine Corps University, Quantico, VA.

## Periodicals

*Air Force Magazine*

*Air University Review*

*Airpower Journal*

*Amphibious Warfare Review*

*Armed Forces & Society*

*Armed Forces Journal International*

*The Atlantic*

*Foreign Affairs*

*Journal of Military History*

*Leatherneck*

*International Security*

*Marine Corps Gazette*

*Military Review*

*Naval War College Review*

*New York Times*

*Parameters*

*Political Science Quarterly*

*Time*

*U.S. Naval Institute Proceedings*

*Wall Street Journal*

*Washington Post*

*The Washingtonian*

U.S. Government Documents

Battelle Columbus Laboratories. *Antitank Warfare Seminar (14-15 October 1976), Washington, D.C.* Alexandria, VA: Defense Technology Information Center, 1985.

Battelle Columbus Laboratories. *Armored Warfare in World War II Conference Featuring F.W. von Mellenthin, Generalmajor a.D., German Army*. Alexandria, VA: Defense Technology Information Center, 1985.

Battelle Columbus Laboratories. *"Conversations with a Stuka Pilot," Conference Featuring Paul-Werner Hozzel, Brig. General (Ret.), German Air Force at the National war College, November, 1978*. Alexandria, VA: Defense Technology Information Center, 1986.

Battelle Columbus Laboratories. *Proceedings of Seminar on Air Antitank Warfare (May 25-26, 1978).* Alexandria, VA: Defense Technology Information Center, 1982.

Battelle Columbus Laboratories. *Translation of a Taped Conversation with General Hermann Balck, 12 January 1979, and Brief Biographical Sketch*. Alexandria, VA: Defense Technology Information Center, 1985.

Battelle Columbus Laboratories. *Translation of a Taped Conversation with Lieutenant General Heinz Gaedcke, 12 April 1979*. Alexandria, VA: Defense Technology Information Center, 1985.

BDM Corporation, *Generals Balck and von Mellenthin on Tactics: Implications for NATO Military Doctrine*. Alexandria, VA: Defense Technology Information Center, 1981.

U.S. Code, 10 *Armed Forces* (1956).

U.S. Army, Field Manual 100-5 (FM 100-5), *Operations of Army Forces in the Field*. Washington, D.C.: Headquarters, Department of the Army, 1968.

U.S. Army, Field Manual 100-5 (FM 100-5), *Operations*. Washington, D.C.: Headquarters, Department of the Army, 1976.

U.S. Army, Field Manual 100-5 (FM 100-5), *Operations*. Washington, D.C.: Headquarters, Department of the Army, 1982.

U.S. Congress. Center for Legislative Archives and Historical Office, U.S. House of Representatives. "Military Reform Caucus Oral History Seminar." Unpublished draft transcript. 27 June 1992.

U.S. Congress. House Committee on Armed Services. "The Changing Strategic Naval Balance U.S.S.R. vs. U.S.A," 90th Cong. 2nd Sess.

U.S. Congress. Senate Committee on Armed Services. Hearings, Reports and Prints of the Senate Committee on Armed Services, 94th Cong. 2nd Sess.

U.S. Joint Chiefs of Staff. Joint Pub 3-01.2 (JP 3-01.2) *Joint Doctrine for Theater Counterair Operations*. Washington, D.C., Joint Chiefs of Staff, 1986.

U.S. Joint Chiefs of Staff, Chairman of the Joint Chiefs of Staff Instruction (CJCSI) 5120.02D, *Joint Doctrine Development System*. Washington, D.C., Joint Chiefs of Staff, 5 January 2015.

U.S. Marine Corps, *Combat Systems Library*. Quantico, VA: Marine Corps Development and Education Command, 1973.

U.S. Marine Corps, Education Center Publication 9-5 (ECP 9-5), *Marine Amphibious Brigade Mechanized and Countermechanized Operations*. Quantico, VA: Education Center: Marine Corps Development and Education Command, 1981.

U.S. Marine Corps, Fleet Marine Force Manual 0-3 (FMFM 0-3), *Doctrinal Publications Guide*. Washington, D.C: Headquarters United States Marine Corps, 1980.

U.S. Marine Corps. Fleet Marine Force Manual 1 (FMFM 1), *Warfighting*. Washington DC: Headquarters United States Marine Corps, 1989.

U.S. Marine Corps, Fleet Marine Force Manual 1-3 (FMFM 1-3), *Tactics*. Washington, D.C.: Headquarters, United States Marine Corps, 1991.

U.S. Marine Corps, Fleet Marine Force Manual 6-1 (FMFM 6-1), *Marine Division*. Washington, D.C: Headquarters United States Marine Corps, 1978.

U.S. Marine Corps, Fleet Marine Force Manual 6-4 (FMFM 6-4), *Marine Rifle Company/ Platoon*. Washington, D.C: Headquarters United States Marine Corps, 1978.

U.S. Marine Corps, Instructional Publication 1-4 (IP 1-4), *Fleet Marine Force Organization*. Quantico, VA: Education Center: Marine Corps Development and Education Command, 1981.

U.S. Marine Corps. Marine Corps Doctrinal Publication 1 (MCDP 1), *Warfighting*. Washington DC: Headquarters United States Marine Corps, 1997.

U.S. Marine Corps, Marine Corps Doctrinal Publication 1 (MCDP 1), *Warfighting*, Change 1. Washington, D.C: Headquarters United States Marine Corps, 2018.

U.S. Marine Corps. Operational Handbook 6-1 (OH 6-1), *Ground |Combat Operations*, 2nd Draft. Unpublished draft by Ground Branch, Doctrine Center, Marine Corps Development and Education Command, July 1987, in the holdings of the Marine Corps University Research Library, Quantico, VA.

U.S. Marine Corps. Operational Handbook 6-1 (OH 6-1), *Ground |Combat Operations*, 3d Draft. Unpublished draft by Ground Branch, Doctrine Center, Marine Corps Development and Education Command, October 1987, in the holdings of the Marine Corps University Research Library, Quantico, VA.

U.S. Marine Corps, Operational Handbook 9-3 (OH 9-3), *Mechanized Combined Arms Task* Forces (MCATF). Quantico, VA: Marine Corps Development and Education Command, 1979.

U.S. Marine Corps, Operational Handbook 9-3, Revision A (OH-9-3 (Rev. A)), *Mechanized Combined Arms Task Forces (MCATF)*. Quantico, Virginia: Marine Corps Development and Education Command, 1980.

U.S. National Security Council, Presidential Review Memorandum/NSC-10, Comprehensive Net Assessment and Military Force Posture Review," February 18, 1977.

North Atlantic Treaty Organization Documents

NATO Military Committee MC 14/2(Revised)(Final Decision) 23 May 1957, "A Report by the Military Committee on Overall Strategic Concept for the Defense of the North Atlantic Treaty Organization Area."

NATO Military Committee MC 14/3 (Final Decision) 16 January 1968, "A Report by the Military Committee to the Defense Planning Committee on Overall Strategic Concept for the Defense of the North Atlantic Treaty Organization Area."

Published Primary Sources

Baldwin, Hanson W. *Tiger Jack.* Fort Collins, Colorado: The Old Army Press, 1979.

Boyd, John R. *A Discourse on Winning and Losing*. Edited and compiled by Grant T. Hammond. Maxwell AFB, Alabama: Air University Press, 2018.

Boyd, John R. *A Discourse on Winning and Losing*. Unknown U.S. government agency, 1987.

Chiarelli, Peter W., and Raymond C. Gagnon, Jr. "The Politics of Military Reform." Newport, RI: Center for Naval Warfare Studies, Naval War College, 1985.

Cohen, Eliot A. *"Guessing Game: A Reappraisal of Systems Analysis.*" In *The Strategic Imperative: New Policies for American Security*, edited by Samuel P. Huntington, 163-191. Cambridge, MA: Ballenger Publishing Company, 1982.

Clancy, Tom; Zinni, Tony; and Klotz, Tony. *Battle Ready*. New York: G.P. Putnam & Sons, 2004.

Clausewitz, Carl. *On War*. Edited and translated by Michael Howard and Peter Paret. Princeton, NJ: Princeton University Press, 1976.

Delbrück, Hans. *The Dawn of Modern Warfare: History of the Art of War*. Vol. IV. Translated by Walter J. Renfroe, Jr. Lincoln, Nebraska: University of Nebraska Press, 1985.

Dupuy, Trevor N. *A Genius for War: The German Army and General Staff, 1807-1945*. Englewood Cliffs, NJ: Prentice-Hall, 1977.

Fuller, J.F.C. *The Conduct of War, 1789-1961*. New Brunswick, New Jersey: Da Capo Press, 1961.

Gabriel, Richard A. and Paul L. Savage. *Crisis in Command: Mismanagement in the Army*. Toronto: McGraw-Hill Ryerson Ltd., 1978.

Guderian, Heinz. *Panzer Leader*. New York: Da Capo Press, 1952.

Guevara, Che. *On Guerilla Warfare*. Translated by Harries-Clichy Peterson. New York: Praeger Publishers, 1961.

Hart, Gary, with William S. Lind. *America Can Win: The Case for Military Reform*. Bethesda, Maryland: Adler & Adler, 1986.

Hattendorf, John B. *The Evolution of the U.S. Navy's Maritime Strategy, 1977-1986*. Newport Paper 19 Newport, RI: Naval War College Press, 2004.

Hattendorf, John B., B. M. Simpson III, and J. R. Wadleigh, *Sailors and Scholars: The Centennial History of the Naval War College*. Newport: Naval War College Press, 1984.

Hattendorf, John B. ed. *U.S. Naval Strategy in the 1970s: Selected Documents*. Newport Paper 30. Newport, RI: Naval War College Press, 2007.

Hattendorf, John B., and Peter M. Swartz, eds. *U.S. Naval Strategy in the 1980s: Selected Documents*. Newport Paper 33. Newport, RI: Naval War College Press, 2008.

Hayden, H.T. *Warfighting: Maneuver Warfare in the Marine Corps*. Mechanicsburg, PA: Stackpole Books, 1995.

Hughes, Wayne P., Jr. *Fleet Tactics: theory and practice*. Annapolis, Naval Institute Press, 1986.

Huntington, Samuel P. *The Soldier and the State: The Theory and Politics of Civil–Military Relations*. Cambridge, MA: Harvard University Press, 1957.

Kesselring, Albert. *Small Unit Tactics Manual for Command and Combat Employment of Smaller Units*. Washington, D.C.: Department of the Army, Office of the Chief of Military History, 1952.

Lehman, John F., Jr. *Command of the Seas: Building the 600 Ship Navy*. New York: Charles Scribner's Sons, 1988.

Liddell Hart, B.H. *Strategy*, Second Revised Edition. New York: Frederick A. Praeger, Inc., Publishers, 1967.

Lind, William S. *Maneuver Warfare Handbook*. Boulder, Colorado: Westview Press, Inc., 1985.

Mao, Tse-Tung. *On Guerilla Warfare*. Translated by Samuel B. Griffith. New York: Praeger Publishers, 1961.

Montross, Lynn. *War Through the Ages*. Revised and Enlarged Edition. New York: Harper & Brothers Publishers, 1946.

Montross, Lynn. *War Through the Ages*. Revised and Enlarged Third Edition. New York: Harper & Row, Publishers, 1960.

Pedlow, Gregory W., ed. *NATO Strategy Documents, 1949-1969*. Brussels, Belgium: Historical Office, Supreme Headquarters Allied Powers Europe, 1997.

Sun Tzu, *The Art of Warfare*. Translated by Roger T. Ames. New York: Ballantine Books, 1993.

Swartz, Peter M., with Karin Duggan, *U.S. Navy Capstone Strategies and Documents: Introduction, Background and Analyses*. Washington, D.C.: Center for Naval Analyses, 2012.

Tehan III, William J. "Alternate Defensive Doctrine and Tactics for Light Infantry in NATO." Thesis, Marine Corps Command and Staff College, 1980.

Untermeyer, Chase. *Inside Reagan's Navy: The Pentagon Journals.* College Station, Texas: Texas A&M University Press, 2015.

Warden, John A., III. *The Air Campaign: Planning for Combat*. Washington, D.C.: National Defense University Press, 1988.

Webb, James H., Jr. *A Sense of Honor*. Englewood Cliffs, NJ: Prentice-Hall, Inc., 1981.

_____. *Fields of Fire.* Englewood Cliffs, NJ: Prentice-Hall, Inc., 1978.

_____. *I Heard My Country Calling: A Memoir*. New York: Simon and Schuster, 2014.

Weigley, Russell F. *The American Way of War: A History of United States Military Strategy and Policy*. Bloomington, Indiana: Indiana University Press, 1973.

Wheldon, John. *Machine Age Armies*. London, Abelard-Schuman Limited, 1968.

Zumwalt, Jr., Elmo R. *On Watch, A Memoir*. New York: The New York Times Book Co., 1976.

Online and Video Primary Resources

Gray, Alfred M. "Maneuver Warfare PME." Presentation. Videorecording. Washington, D.C., July 28, 2016. Army Multimedia & Visual Information Directorate, available at https://www.youtube.com/watch?v=PvU0nTickWo.

Gray, Alfred M., Van Riper, Paul K.; and Schmitt, John F. "Warfighting Discussion Panel." Videorecording. Quantico, Virginia, February 24, 2015. Unclassified video 150224-M-DW556-001 released by Marine Corps Base Quantico Combat Camera available at https://grc-usmcu.libguides.com/c.php?g=756767&p=5426039.

Webb, James H., Jr. "Military Competence." Speech, San Francisco, CA, August 28, 1986. Military Competence available at http://www.jameswebb.com/speeches-by-jim/military-competence.

Zinni, Anthony. "Combat Concepts." Presentation. Videotape recording. Quantico, VA, July 1989. Marine Corps Archives, Quantico, VA.

## Secondary Sources

Books


Brown, Ian T. *A New Conception of War: John Boyd, the U.S. Marines, and Maneuver Warfare*. Quantico, VA: Marine Corps University Press, 2018.

Cohen, Eliot A. *"Guessing Game: A Reappraisal of Systems Analysis.,"* In *The Strategic Imperative: New Policies for American Security*, edited by Samuel P. Huntington, 163-191. Cambridge, MA: Ballenger Publishing Company, 1982.

Coram, Robert. Boyd: *The Fighter Pilot Who Changed the Art of War*. New York: Back Bay Books, 2002.

Chapman, Bert. Military Doctrine: A Reference Handbook. Santa Barbara, CA: Praeger Security International, 2009.

Duncan, Francis. *Rickover and the Nuclear Navy: The Discipline of Technology*. Annapolis, Naval Institute Pres, 1990.

Echevarria, Antulio J., II. *War's Logic: Strategic Thought and the American Way of War*. New York: Cambridge University Press, 2021.

Friedman, Norman. *Network-Centric Warfare: How Navies Learned to Fight Smart Through Three World Wars*. Annapolis: Naval Institute Press, 2009.

Gole, Henry G. *General William E. DePuy: Preparing the Army for Modern War*. Lexington, KY: The University Press of Kentucky, 2008.

Hammond, Grant T. *The Mind of War: John Boyd and American Security*. Washington, D.C.: Smithsonian Books, 2001.

Hattendorf, John B. *The Evolution of the U.S. Navy's Maritime Strategy, 1977-1986*. Newport Paper 19 Newport, RI: Naval War College Press, 2004.

Hattendorf, John B., B. M. Simpson III, and J. R. Wadleigh, *Sailors and Scholars: The Centennial History of the Naval War College*. Newport: Naval War College Press, 1984.

Hone, Trent. *Learning War: The Evolution of Fighting Doctrine in the U.S. Navy, 1898-1945*. Annapolis, Naval Institute Press, 2018.

Huntington, Samuel P. *The Soldier and the State: The Theory and Politics of Civil–Military Relations*. Cambridge, MA: Harvard University Press, 1957.

Jensen, Benjamin M. *Forging the Sword: Doctrinal Change in the U.S. Army*. Stanford: Stanford University Press, 2016.

Laidig, Scott. *Al Gray, Marine: The Early Years 1950-1967*. Vol. 1. Arlington, VA: Potomac Institute Press, 2013.

Mearsheimer, John J. *Liddell Hart and the Weight of History*. Ithaca, New York: Cornell University Press, 1988.

Millett, Allan R. *Semper Fidelis: The History of the United States Marine Corps*, revised and expanded edition. New York: The Free Press, 1991.

Millett, Allan R. and Williamson Murray, eds. *Military Innovation in the Interwar Period*. Cambridge: Cambridge University Press, 1998.

Morningstar, James Kelly. *Patton's Way: A Radical Theory of War*. Annapolis, Naval Institute Press, 2017.

Murray, Williamson. *Air War in the Persian Gulf*. Baltimore, MD: The Nautical & Aviation Publishing Company of America, Inc., 1995.

Osinga, Frans P.B. *Science, Strategy, and War: The Strategic Theory of John Boyd*. New York: Routledge, 2007.

Pierce, Terry C. *Warfighting and Disruptive Technologies: Disguising Innovation*. New York: Frank Cass, 2004.

Piscitelli, Anthony J. *The Marine Corps Way of War: The Evolution of the U.S. Marine Corps from Attrition to Maneuver Warfare in the Post-Vietnam Era.* El Dorado Hills, CA: Savas Beatie, 2017.

Pierce, Terry. *Warfighting and Disruptive Technologies: Disguising Innovation*. New York: Frank Cass, 2004.

Posen, Barry. *The Sources of Military Doctrine: France, Britain, and Germany Between the World Wars*. New York: Cornell University Press, 1984.

Robinson, Stephen. *The Blind Strategist: John Boyd and the American Art of War*. Dunedin, New Zealand: Exisle Publishing, 2021.

Rosen, Stephen Peter. *Winning the Next War: Innovation and the Modern Military*. New York: Cornell University Press, 1991.

Slife, James C. *Creech Blue: Gen Bill Creech and the Reformation of the Tactical Air Forces, 1978–1984*. Maxwell AFB, AL: Air University Press, 2004.

Trauschweizer, Ingo. *The Cold War U.S. Army: Building Deterrence for Limited War*. Lawrence, KS: University Press of Kansas, 2008.

Van Creveld, Martin. *A History of Strategy: From Sun Tzu to William S. Lind*. Kouvola, Finland: Castalia House, 2015.

Yuen, Derek M.C. *Deciphering Sun Tzu: How to Read* The Art of War. New York: Oxford University Press, 2014.

Academic Papers, Theses, and Dissertations

Bassford, Christopher. “Jomini and Clausewitz: Their Interaction.” Paper presented to the 24th Meeting of the Consortium on Revolutionary Europe at Georgia State University, 26 February 1993. Proceedings of the Consortium on Revolutionary Europe, XX (1992). Tallahassee, FL: Florida State University, 1994.

Brehmer, Berndt. “The Dynamic OODA Loop: Amalgamating Boyd’s OODA Loop and the Cybernetic Approach to Command and Control.” Paper presented at the 10th International Command and Control Research and Technology Symposium, McLean, VA, June 2005.

Callahan, Shawn P. “The Contingency of Civilian Intervention in Military Affairs: James Webb and his Inadvertent Contribution to the Quantico Renaissance.” Research Paper. University of Maryland: College Park, 2016.

Chiarelli, Peter W., and Raymond C. Gagnon, Jr. “The Politics of Military Reform.” Newport, RI: Center for Naval Warfare Studies, Naval War College, 1985.

Damian, Fideleon. “The Road to FMFM1: The United States Marine Corps and Maneuver Warfare Doctrine, 1979-1989.” Master’s Thesis. Manhattan, KS: Kansas State University, 2008.

Doughty, Robert A. “The Evolution of US Army Tactical Doctrine, 1946-76.” Leavenworth Paper No. 1. Fort Leavenworth, KS: Combat Studies Institute, U.S. Army Command and General Staff College, 1979.

Hanner, Bradley F. “The Resignation of Secretary of the Navy James Webb: A Perspective from the Present.” Master’s thesis, U.S. Naval Postgraduate School, 2000.

Helminski, Scott H. “No Room for Maneuver: The Reduction of Maneuver Warfare from Cognitive Approach to Physical Concept in Marine Corps Doctrine, Discourse, and Education.” Research Paper. Quantico, VA: U.S. Marine Corps Command and Staff College, 2017.

Herbert, Paull H. “Deciding What Has to be done: General William E. DePuy and the 1976 Edition of FM 100-5, Operations.” Leavenworth Paper No. 16. Fort Leavenworth, Kansas: Combat Studies Institute, 1988.

Larsen, Todd M. “John Boyd and the AirLand Battle Doctrine.” Fort Leavenworth: KS: School of Advanced Military Studies, U.S. Army Command and General Staff College, 2012.

Long, Jefferey W. “The Evolution of U.S. Army Doctrine: From Active Defense to AirLand Battle and Beyond.” Master’s thesis. U.S. Army Command and General Staff College, Fort Leavenworth, Kansas, 1991.

Lupfer, Timothy T. *The Dynamics of Doctrine: The Changes in German Tactical Doctrine During the First World War*. Leavenworth Paper No. 4. Fort Leavenworth, KS: Combat Studies Institute, 1981.

Mälkki, Juha. “The Quest for Manoeuvre: The English Manoeuvre Warfare Theories and British Military Thought 1920-1911.” Thesis. London: National Defence College, 2002.

Reese, William G., III. "The Doctrine Gap: the 27 Year Wait for a New Air Force Operational Doctrine Document." Masters' thesis. U.S. Air Force School of Advanced Airpower Studies, Maxwell Air Force Base, Alabama, 1996.

Romjue, John L. "From Active Defense to AirLand Battle: The Development of Army Doctrine 1973-1982." Fort Monroe, VA: Historical Office, U.S. Army Training and Doctrine Command, 1984.

Timberg, Robert. *The Nightingale's Song*. New York: Simon and Schuster, 1995.

Turley, Gerald H. *The Journey of a Warrior, The Twenty-Ninth Commandant of the Marine Corps (1987-1991): General Alfred Mason Gray*. Bloomington, IN: iUniverse, Inc., 2010.

Articles

Bracken, Paul. "Net Assessment: A Practical Guide" *Parameters* 36 no. 1 (Spring 2006): 90-100.

Cares, Jeff. "Wayne Hughes and the Nature of Naval Combat Power: The Salvo Equations." *Phalanx* 53, no. 1 (March 2020): 34-35.

Craig, Gordon A. "Delbruck: The Military Historian." In *Makers of Modern Strategy from Machiavelli to the Nuclear Age*, ed. Peter Paret, 326-353, 896-899. Princeton, New Jersey: Princeton University Press, 1986.

Gady, Franz-Stefan. "The US Military's Enduring 'German Problem'." *Survival* 63, no. 5 (September 2021): 199-208.

Hankins, Michael W. "*The Blind Strategist: John Boyd and the American Art of War*." *Journal of Military History* 85, no. 4 (October 2021): 1153-1154.

Hasík, James. "Beyond the Briefing: Theoretical and Practical Problems in the Works and Legacy of John Boyd." *Contemporary Security Policy* 34, no. 3 (2013): 583-599.

Høiback, Harald. "What is doctrine?" in *Contemporary Military Innovation: Between anticipation and adaptation*. Dmitry Adamsky and Kjell Inge Bjerga, eds. New York: Routledge, 2012.

Hughes, Thomas. "The Cult of the Quick." *Aerospace Power Journal* 15, no. 4 (Winter 2201): 57-68.

Kiesling, Eugenia C. *Arming Against Hitler: France and the Limits of Military Planning*. Lawrence, KS: University Press of |Kansas, 1996.

Keisling, Eugenia C. "Illuminating *Strange Defeat* and *Pyrrhic Victory*: The Historian Robert A. Doughty." *Journal of Military History* 71, no. 3 (July 2007): 875-888.

Linn, Brian M. “The American Way of War Revisited.” *Journal of Military History* 66, no. 2 (April 2002): 501-530.

Malinshenko, Timothy P. “Congressional Dynamics of the Military Reform Caucus.” *National Contract Management Journal* 21, no. 1 (Summer 1987): 23-33.

Ormsbee, Matthew H. “War’s Logic: Strategic Thought and the American Way of War.” *Air & Space Power Journal* 34, no. 4 (Winter 2021): 86-88.

Osinga, Frans. “‘Getting’ *A Discourse on Winning and Losing*: A Primer on Boyd’s ‘Theory of Intellectual Evolution’.” *Contemporary Security Policy* 34, no. 3 (2013): 603-624.

Owen, William F. “The Manoeuvre Warfare Fraud.” *Royal United Services Institute Journal* 103, no. 4 (August 2008): 62-67.

Rosen, Stephen Peter. “New Ways of War: Understanding Military Innovation.” *International Security* 13, no. 1 (Summer 1988): 134-168.

Terriff, Terry. “‘Innovate or die’: Organizational culture and the origins of maneuver warfare in the United States Marine Corps.” *Journal of Strategic Studies* 29, vol. 3 (August 2006): 475-503.

Toprani, Anand. “Budgets and Strategy: The Enduring Legacy of the Revolt of the Admirals.” *Political Science Quarterly* 134, No. 1 (Spring 2019): 117-146.

Turley, Gerald H. *The Journey of a Warrior, The Twenty-Ninth Commandant of the Marine Corps (1987-1991): General Alfred Mason Gray*. Bloomington, IN: iUniverse, Inc., 2010.