A New Conception of War
Brown, Ia T.

Published by Marine Corps University Press

Brown, Ia T.
A New Conception of War: John Boyd, the U.S. Marines, and Maneuver Warfare.

For additional information about this book
https://muse.jhu.edu/book/85800
borrowed the perspective of Lieutenant General Robert H. Barrow—then commander of Fleet Marine Force Atlantic—on their use: “What technology has done for the infantryman boggles the mind. The Corps is exploiting that technology and would not be too light for any armor the Warsaw Pact sent against it.” Finally, Army Major John P. Gritz argued against the use of a light armored vehicle as an antiarmor option. He believed that the increased requirements it would foist on both strategic and tactical lift, its lack of protection against any weapon larger than a small arm, and its significant logistical footprint offset any possible advantages.

MISSING PIECES
Overall, the pages of the Gazette saw Marine Corps officers—with the occasional outside comment from other Services and civilians—trying to adapt to the modern battlefield. These officers could find reasons for and against heavying up, but without an overriding concept (grabby or not) to tie their thoughts together, their voices were a discordant chorus. Major Gritz and others believed that an infantry-centric force like the Marine Corps could still thrive under the right conditions. It was defining those conditions that proved elusive. Gritz argued an infantryman or helicopter equipped with antiarmor PGMs was just as enduring and lethal as another tank on the battlefield. Helicopters could provide required mobility, and in many instances the infantry rifleman, not bound to roads, enjoyed greater mobility than a tank or APC. A compromise of sorts was reached between the mechanizers and infantry-philes in the light armored vehicle (LAV) program that began in 1980 and fielded a Canadian eight-wheeled variant in 1983. The LAV offered the greater mobility and firepower that mechanization advocates wanted—as it could cross rough terrain, travel fast on roads and flat ground, and featured a 25mm chain

---

29 Millett, Semper Fidelis, 619.
gun—without overwhelming amphibious lift capacity, thus addressing the concerns of officers who wanted to keep the MAUs and MABs relatively lightweight.

As shown here, in the aftermath of Vietnam and the 1976 Brookings report, the Marine Corps enjoyed what Lieutenant General Paul K. Van Riper called an “intellectual renaissance” as it grappled with its place in the modern world. This was in addition to many other positive changes in an era of reform that tackled many of the problems suffered by the Corps at the end

---

An LAV-25 transports Marines through the Norwegian countryside during Operation Cold Winter 1987, a NATO-sponsored military exercise. The LAV offered the additional firepower and mobility desired by mechanization advocates in a package that did not overwhelm amphibious lift capability. Its employment in Norway also demonstrated its utility in helping the Marine Corps execute the assigned task of defending NATO’s northern flank.

*Defense Imagery Management Operations Center*

---

of Vietnam, such as indiscipline, racial tension, and aging equipment. But as stated at the beginning of this chapter, for some Marines thinking and writing about the topic, these arguments still felt incomplete. The niche mission on NATO’s northern flank was high profile but did little to prepare the Corps for the many other locations where it might fight. Although the LAV was a good piece of gear, the sheer variety of possible missions and terrain in which a MAU might operate meant it would not always be employable. Moreover, while revalidating the amphibious mission provided continuity to the Corps’ golden past, the fact was that Marines were often called on to perform nonamphibious tasks.

As arguments progressed about what vehicle to buy or which NATO mission to adopt, a few Marines looked for a more satisfying and holistic answer to the question: Where does the Marine Corps go from here? They sought a unifying concept compatible with the Corps’ larger tradition of being “first to fight . . . in any clime and place.” Regardless of the particular weapons employed, adversary to be faced, or whether a beachhead was even part of the equation, some thread was needed to tie the Corps’ multifaceted operations together to eliminate any perception that, as an organization, it was disjointed, anachronistic, or redundant. This thread also needed to reilluminate the human elements of conflict. The Combined Action Program’s success had come from its emphasis on understanding the Vietnamese people and what things could separate them from the Communist insurgents. The grand failure of Vietnam derived from the higher leadership’s refusal to substitute such attempts at understanding, more difficult though they might be, for the conventional large-scale operations that were easier for American leaders to wrap their minds around. Yet, search and destroy was of little import to Communist leaders who knew that the decisive battlefield was the mind, and the key to victory lay not in body counts or the seizure of terrain but in swaying the perceptions of both the Vietnamese and American populace.

---

Primacy to the People
While these Marines did not yet know it, their sense that the contemporary institutional debate was incomplete mirrored a personal mantra held by John Boyd and expressed frequently throughout his life. Whether building an organization or fighting a war, Boyd believed the human element always deserved primacy: “People, ideas, hardware—in that order.” 32 Technology and concepts should empower the person, not the other way around. And these Marines felt intuitively that the arguments taking place during the late 1970s inverted such priorities. Things (mechanized and armored vehicles, force structures, missile systems) and ideas (amphibious and other missions, the NATO flank) were getting the most consideration. There was little discussion of the people who would always be present in a way vehicles and terrain might not. Those people were the Marines and their adversary; surely, then, the central discussion should focus on the mental and moral factors that needed to be strengthened for the former and undermined for the latter. From that, missions and hardware could be better tailored for both.

Consequently, the unifying thread these Marines sought had to do many things. Contrary to the conclusion reached by Binkin and Record, it had to be unique. The idea required a distinctiveness that matched the singular history of an American naval infantry organization that had adapted itself, along with its homeland, to the ever-changing requirements of a world power. The idea had to be adaptable, for the Marine Corps was mandated by law to be infinitely flexible as a force in readiness for myriad contingencies. The idea needed a relentless focus on the one constant in a world of infinite threat variables: human beings. It had to be useful. It had to be, as E. W. Girard labeled it, grabby. The nascent concept of maneuver warfare seemed to meet these criteria. As Marines saw that it did, it became the vehicle by which John Boyd infiltrated the Marine Corps and found a home for his ideas on conflict.

32 Coram, Boyd, 354, 382; and variations of this statement are also found in Hammond, The Mind of War, 12, 110, 193.
Maneuver warfare did not enter the postwar debates fully formed or with great fanfare. It came in hints and whispers, often—as seen in several of the articles cited above—as a tangent to some other central point. It gained greater prominence as the debates wore on, because those Marines dissatisfied with the Corps’ performance in Vietnam increasingly found that arguments over equipment and mission sets missed the larger deficiency: understanding one’s enemy. Adding more tanks to a table of organization or claiming custody of a northern flank did nothing to address the intellectual analysis required to figure out why an enemy fought and what would make him quit. The maneuver debate soon brought the cognitive and spiritual elements into focus.

THE FIRST MANEUVERISTS

Stephen Miller’s name has long been associated with the early stages of the maneuver warfare debate. His Gazette articles hinted at its various aspects and later became the first attempts at a detailed description of its many facets. However, little is known of his background or how he came to the ideas later credited with igniting a historic institutional discussion; this deficiency deserves a detailed correction.

Commissioned in 1971, Miller joined the Marine Corps at the tail end of its involvement in Vietnam. Assigned as a tank officer, his high Basic School class ranking allowed him to receive his initial training at the U.S. Army’s tank school at Fort Knox, Kentucky. There, Miller was introduced to some of the raw elements that later coalesced into the maneuver versus attrition arguments that will be examined in chapter 5. Miller became interested in the armored cavalry concepts that the Army experimented with at Fort Knox, which melded light tanks with a combined-arms force using mortars, infantry, and reconnaissance elements. This force enjoyed greater maneuverability and mobility than a heavy tank.

34 Stephen Miller, telephone interview with author, 11 November 2016, hereafter Miller interview.
force, bringing a variety of firepower options to bear against the slower, one-trick tank opponent. Thus, in his earliest periods of training, Miller had been exposed to the basics of a warfare style where the application of arms could be tailored based on analysis of the enemy’s vulnerabilities.

Just as this trial piqued Miller’s interest, he watched the Army abandon it in favor of a traditional heavy tank force designed to slug it out with Soviet armor. Miller recounted that “it was the Fulda Gap in Europe, that was the Army’s focus. How many tanks can we kill before we get overrun? Not really a maneuver concept.”

Maybe the Army could afford to match the Soviets tank for tank; but that was not an option for the smaller, less armored Marine Corps. Along with many other thinkers within the Corps, Miller sought ideas for how Marines could win without being deeply rooted in, and dependent upon, elements in the physical dimension. It is worth noting that Miller’s motives for doing so echoed Boyd’s mantra of “to be or to do.” Miller stated that “nobody comes in the Marine Corps to get good chow, or just stick it for twenty years. They want to do something.”

Taking his observations from Fort Knox to his first tank platoon at Camp Lejeune, North Carolina, Miller looked for that something to do.

At Camp Lejeune, Miller’s tank battalion generally operated by itself, and as a platoon commander he enjoyed a great degree of independence. He decided that the bright yellow lettering on the side of his tanks’ otherwise green paint made little tactical sense and, painting over the yellow, began experimenting with camouflage patterns. From this one relatively small change, Miller made a fascinating discovery. He found that, in addition to the tactical advantage of better camouflage, “the Marines got a morale advantage . . . this was more like [being] a warrior; more like combat, not a parade with dirt on the side. Simply changing the paint scheme gave a morale advantage.”

From the tactical and psychological advantages gained by his own Marines, Miller con-

---

35 Miller interview.
36 Miller interview.
37 Miller interview.
sidered the comparable disadvantages that camouflage and other deception methods might inflict on an adversary. Using his tank training as a building block, Miller combined his inquisitiveness with experimentation to create what Boyd would have recognized as new mental worlds.

At the end of 1975, the young but innovative then-lieutenant Miller published these thoughts in a *Gazette* article that proved a remarkable foreshadowing of the arguments that came years later during the maneuver warfare debate of the 1980s. Miller acknowledged that the Marine Corps faced “overwhelming forces in almost every possible deployment area” but argued that this disadvantage could be offset with “the application of deception at all levels.” Deception caused confusion and hesitation within an enemy, which could buy crucial time for a smaller friendly force. Miller described time itself as a weapon, observing, “Time is the essence. Time to react, to gain surprise, to enhance our own survivability and increase the effectiveness of the combat power presented to the enemy.” His conclusion is worth quoting at length:

> An enemy who does not know the dispositions or intentions of his opponent is greatly disadvantaged. He must spread his efforts or choose one course of action without sufficient supporting intelligence. It is our option to choose where, how, and when we will act. To mass our forces against his weakest point and with speed and surprise smash the force opposing us before they can react. Thus, through camouflage and deception, we can take the advantage. Though disadvantaged in numbers and faced by sophisticated weapons systems it is still possible to negate their effectiveness, minimize our losses, and increase our decisive combat power to win.

Here, Miller applied on a larger scale the lesson he had learned

---

40 Miller, “Camouflage and Deception,” 29.
from repainting his tanks. The physical element—in this case, quantity of tanks—was less vital than how it could be leveraged to exploit mental and moral elements. Deception and ambiguity, based on understanding an adversary’s perceptions and thinking, could undermine the enemy’s ability to effectively use his preponderance of forces while enhancing the power of the friendly side’s limited resources.

The extent to which the elements of the debate and ultimate solution to come were present in Miller’s article is extraordinary. He captured the problem—winning while outnumbered and outgunned—and forecast the kernels that Boyd supplied to undergird maneuver warfare doctrine: time as a weapon; using decision making to deceive, confuse, and slow an enemy’s response; launching unexpected strength against critical weaknesses to make an enemy unravel. These parallels are even more remarkable considering that Miller, by his own admission, was not yet familiar with Boyd, Boyd’s ideas, or any of the other individuals who later played key roles in the maneuver warfare movement. Regardless, Miller exemplified the small but growing group of Marines who wanted the Corps to be useful on future battlefields and who, up to that point, remained dissatisfied with the proposals about how the Corps could be so. Increasingly, Miller and Marines like him proved their readiness to think about a grabby concept because such concepts seemed to work. However, the grabby concept still needed more intellectual heft, which John Boyd would provide.

At least among the postwar generation of Marines, Miller’s article on camouflage and deception first hinted at this type of warfare, where surprise, speed, and mass at a specific weak point could cause a numerically superior enemy to fall apart. Following this article, and with increasing regularity, Marines discussed victory by maneuver while addressing tangential subjects such as tactical mobility. Major James Williams’s article on wheeled combat vehicles provided an example of how these two ideas intertwined. He discussed using off-the-shelf light-armored and wheeled vehi-

---

41 Miller interview.
cles to increase the infantry’s mobility. While doing so, he provided another nascent view of the maneuver warfare concept. He began with the common contemporary view of modern war: “I believe our future battlefield will be marked by a density of weapons, an intensity of firepower and a confusion of maneuver and control never before seen in battle. The Marine Corps . . . must expect to be substantially outnumbered on most battlefields.” He then asked, “How . . . can a force which is outnumbered in men and materiel gain victory over such an enemy, on such a battlefield?” Williams offered: “The only acceptable alternative is to equip and educate ourselves to seek victory by maneuver where combat, fighting and losses will likely be less.” In other words, employing victory by maneuver, Marines could be outmanned and outgunned, but they could offset these disadvantages with an agile mental framework that would still let them win.

Like Miller, Major Williams captured what would become the standard attrition versus maneuver dichotomy later offered by maneuverist proponents. Several pages later, he argued that armored vehicles permitted “the commander of a numerically inferior force to move his men about the battlefield, concentrating them at a decisive time and place, thus seeking a victory of maneuver, as opposed to a set-place battle of attrition.” As will be seen, this language was strikingly similar to the maneuver tenets that would be debated in the years to come. This suggests that Williams, as with a growing circle of other Marines, had become familiar with Boyd’s theories through Boyd or one of Boyd’s many advocates. It was also possible that the gravitation toward the intangible elements of war was a natural outgrowth from rejecting the Vietnam metric of victory by body count. Either way, the movement toward these ideas and the parallels in language demonstrated that, as the Marine Corps sought new direction after Vietnam, Marines would be receptive to a thinker like John Boyd. Boyd could pull all the bits and pieces together, as he did in “Destruction and Creation” and “Patterns of Conflict.”

44 Williams, “Wheeled Combat Vehicles,” 44.
Maneuver in Practice
Stephen Miller again took center stage in the discussion, as his mind continued to refine these ideas after he left Camp Lejeune. He was ultimately assigned to the Marine Corps Air Ground Combat Center (MCAGCC) Twentynine Palms, California. As the Corps’ premier live-fire, large-scale training facility, the MCAGCC offered Miller a front-row seat for analyzing how various commanders succeeded or failed in the face of live adversaries. He watched as senior Marine leaders actually practiced how they would fight against a larger, heavily armored Soviet force. And he came in contact with two men who, in the following decade, helped drive the Corps to officially adopt maneuver warfare. Miller watched General Gray take the lessons he learned about maneuver from his time in Germany (see chapter 6) and use them to great effect, employing only light vehicles and aircraft in unconventional ways in the California desert. Miller became familiar with Boyd’s works through William S. Lind, who often observed the exercises at Twentynine Palms. The central point here is that Boyd’s ideas were being proliferated, and Marines like Miller found those ideas to be the answer to the deficiency of vision that lay at the heart of the Corps’ institutional troubles.

Observing all this, Miller had his own vision of how the maneuver concept could address the two questions and their ancillary problems—light forces fighting heavy mechanization, the Corps’ amphibious character, the existence of PGMs, and demands on mobility—discussed in the last two chapters. He saw the need to build a concept of employment of how the Marine Corps could operate in a mechanized environment with just a few tanks and light vehicles. You do that with maneuver warfare. This also ties into the amphibious side. The beach is not the objective. In the maneuver warfare concept, the beach is a line of departure, you don’t even need a beach head. [In the MAGTF, you already have] this self-sufficient organization, vehicles that can go 400 miles on one tank of gas, organic fire support . . . infan-

---

15 Miller interview.
try, command and control, this self-contained entity, I don’t need a beachhead any longer, I move to the objective . . . quickly, not waiting on the beach for everybody. Maneuver warfare is now being executed, I can land places where the enemy doesn’t know where I’m landing. That mitigates going against massive armored forces with PGMs.46

Miller laid out this vision in a two-part article that elaborated on victory through maneuver. The first article mirrored Major Williams’s characterization. Miller stated that history’s great commanders regularly won battles while outnumbered and in hostile territory by using maneuver to exploit their adversaries’ weaknesses. Surprise and deception threw their enemies off balance into a state of disorder and uncertainty. Despite all quantifiable factors seemingly arrayed against them, the great commanders used moral ascendancy as a decisive equalizer. Miller then applied these tenets to a meeting engagement between an assaulting amphibious force and defending Soviet regiment. His concluding paragraphs covered many additional rough-hewn tenets of maneuver warfare that would later find more cohesiveness and detail in Boyd’s briefings in the 1980s. First was the use of ambiguity and deception to counterbalance force size and strength: “The goal of the landing force is to sow confusion and disorder. Uncertainty and fear must be fostered among the enemy commanders and troops.” Second, Miller turned the perceived weaknesses of Marine units into a strength by using their mobility, as an adjunct to ambiguity and deception, against forces weighed down by their heavy, mechanized equipment: “Through the high tempo of operations, constant shifting of forces and fluid, flexible action by ground and air elements working in close harmony, the Soviet-styled enemy will rapidly lose control, cohesion and momentum.” Understanding that the Soviet system was inflexible and centralized, a flexible, decentralized, and ambiguous attacker could inflict “disorder and

46 Miller interview.
paralysis,” thus “leading to panic and a collapse of the Soviet opponent’s capacity and will to resist.”

Enter John Boyd
Miller’s second article showed that by now he had come into direct contact with Boyd’s ideas, and they were shaping his own thoughts. Miller concluded the second article with an assertion that brought Boyd’s name out of the shadows and into the light of the Corps’ professional discourse. He observed that “the origin of maneuver doctrine is not recent. It was the basis for the successes of both Alexander [the Great] and Genghis Khan.” While certain modern authors had revisited this type of war, its best contemporary expression was “in the unpublished works of Col John Boyd, USAF (Ret.), father of the energy management approach to air combat tactics.” Only a few months later, William Lind—the vector by which Miller had encountered Boyd’s ideas—reiterated the centrality of Boyd to the maneuver concept. Lind stated that Boyd had “organized and expanded” ideas about maneuver warfare “into an overall theory of conflict.” Lind called it the “Boyd Theory” and unequivocally said that “the Boyd Theory is the theory of maneuver warfare.”

READY FOR BOYD
The 1970s had closed with a discussion about what the Marine Corps was to do. The 1980s opened by adding a new thread to the argument about why the Corps should embrace maneuver warfare. The rationale came from maneuver proponents who noted that the Marine Corps was already tasked as a force in readiness,

49 Miller, “Winning through Maneuver: Conclusion,” 63.

WHERE DOES THE MARINE CORPS GO FROM HERE?
83
and as such had to be flexible and adaptable to any threat. The Corps enjoyed physical flexibility and adaptability in its tailorable MAGTF. Maneuver warfare would give it the mental and moral flexibility to win in the human dimension, just as the MAGTF gave flexibility in the physical realm. And while it might seem strange that a discussion first characterized by arguments about equipment and venues for battle should suddenly shift to one characterized by the mental and moral aspects of war, it does not seem so strange when looked at in the larger context of an institution perennially driven by a desire to be useful. That Marines such as Miller and Williams turned in this direction indicates the seriousness of that desire, heightened by the sense that their institution had missed that mark in Vietnam. And the proffered solutions of tanks and terrain seemed to echo the same mistaken focus from that war. The American military had not lacked for vehicles or troops in Vietnam. It had applied overwhelming numbers of both to rack up body counts and control the ground in South Vietnam, though its efforts proved futile. What was missing in Vietnam, and in the debate that followed, was consideration of the enemy’s human aspects.

If the Marine Corps could focus on those aspects as avenues for success in future wars, then arguments about tanks and terrain became far less relevant. Technology and battlespaces would vary tremendously from war to war, but the presence of a human adversary would not. Maneuver warfare offered a framework for understanding an adversary’s mind and will and how that mind and will could be subdued. Such a framework would prove useful in fights everywhere, because adversaries with minds and wills were everywhere. By 1980, as Miller’s articles showed, Marines thirsted for precisely that kind of concept. Boyd gave it to them. This book now turns to Boyd and the theories that the Marine Corps found so attractive.
CHAPTER FOUR

Unveiling the Character of Conflict

Boyd Builds a Theory

The 1970s ended with many Marines seeking answers to the questions of survival and conflict that confronted them after Vietnam. John Boyd was working out his own approach to these problems at about the same time. He did so by first building a new mental framework for analyzing how perception and decision making contributed to survival on an individual level; this became his essay, “Destruction and Creation.” Boyd then applied this framework to national survival in the face of military conflict in a presentation called “Patterns of Conflict.” As more Marines became familiar with Boyd’s presentation, they found its ideas answered their questions in the cohesive manner that they sought.

“Destruction and Creation” did not enjoy the wide proliferation of “Patterns of Conflict,” but the ideas of the former laid the intellectual foundation of the latter work, and so it still had an influence on the Marine Corps. “Destruction and Creation” spoke to the Corps’ institutional character with its description of adaptation in service to survival when confronted with external change. Marines could appreciate this based on their own history in the face of inter-Service and political challenges to their existence. “Patterns of Conflict” then took that process of internal adaptation, flipped it, and turned it toward wrecking an external adver-
sary’s ability to survive and adapt. Thus, the great gift of “Patterns of Conflict” to the Marine Corps was the conceptual framework of conflict called maneuver warfare. It was rooted in history and emphasized the mental and moral—that is, human—aspects of war that American leaders had, as Boyd and many Marines saw it, ignored in Vietnam.

The historical evidence of Boyd’s ideas showed that maneuver warfare was not merely interesting on an intellectual or theoretical level but also that it was a concrete and lethally effective way for a military force to win. The human emphasis demanded that one understand the adversary’s mental and moral framework. In Vietnam, the American side had—despite notable exceptions like the Combined Action Platoons—largely dismissed this calculus, with its focus on searching physical terrain, destroying physical material, and indifference to whether such physical attrition mattered at all to the Communist side. The historical and human emphases combined to demonstrate that while the physical elements of war, such as terrain and technology, could vary greatly over time, the most successful military commanders won by mentally and morally “ungluing” their opponents. These successes came from common methods that repeatedly worked across the centuries precisely because they did not focus on defeating weapon systems, but instead focused on the one element present in every war in every age: the human will. In a world of opponents ranging from low-tech insurgents to modern morskaya pekhota (Soviet naval infantry), one begins to see why the Marine Corps—tasked by law to potentially face any or all such adversaries—became drawn to a conflict theory rooted in the universal humanity of the operators behind the weapon systems rather than the weapon systems themselves.

**THE GREAT ACCIDENT**

Boyd had not intended to spend his retirement developing theories of warfare; it was, by his own admission, “an accident.” Yet, that is where his restless mind led him. Two key events catalyzed

---

1 Boyd Air Force oral history, 123.
the intellectual journey that ultimately coalesced in “Patterns of Conflict.” The key events were the flight tests of his YF-16 prototype fighter and his work with Pierre Sprey on the Fairchild Republic A-10 Thunderbolt. These events covered the two realms Boyd explored in his presentation—the conceptual and the histor-
ical—and the events themselves were important because their implications sparked his imagination and set him on a path to answer the questions that emerged.

The fly-off between Boyd’s YF-16 fighter prototype and the YF-17 in early 1975 triggered his conceptual interest in fast transient maneuvers and tempo as factors in survival. The test pilots who participated in the fly-off unanimously declared the YF-16 superior in almost all flight regimes. This contradicted the E-M calculations done on both aircraft prior to the flight tests, which predicted that the YF-17 should have performed better in certain flight envelopes. After talking to the test pilots, Boyd determined that the discrepancy resulted from thrust-to-weight design characteristics in the YF-16 that allowed it to shed and regain energy far more quickly than the YF-17.2 Boyd labeled these traits fast transient maneuvers, and he found that they granted the YF-16 pilots quicker responsiveness and a faster operating tempo, repeatedly generating favorable mismatches against the less responsive YF-17. The notion of mismatches contributing to one’s success and survival—of using agility and tempo to overwhelm an adversary’s perceptions and reactions, thus causing his perceived reality to diverge from actual reality—stuck with Boyd, and he revisited it in a study on air-to-air combat he completed for NASA in 1976.3 Boyd considered an entirely new conceptual framework through which survival might be viewed.

Boyd’s collaboration with associate Pierre Sprey on the development of the A-10 close air support (CAS) aircraft sparked his exploration of history. The project was Sprey’s, with Sprey consulting Boyd on performance analysis, E-M Theory, and views on warfare in general. When designing the A-10, Sprey had to determine what aircraft features provided the firepower and loiter time required by ground forces, while also granting survivability against the enemy ground fire that would inevitably be directed against

it. The German *Wehrmacht* had pioneered both the design and employment of dedicated CAS aircraft in World War II. Thus, Sprey and Boyd interviewed experts on and former members of the *Wehrmacht*, especially Hans Rudel, a Junkers Ju-87 dive bomber, or Stuka, pilot credited with more than 2,500 CAS missions and 500 kills against Soviet tanks.

From this, the inquiring mind that had developed the *Aerial Attack Study* and E-M Theory again went into action. Sprey had focused on the aircraft and tactics that made German CAS missions successful. Building on that, Boyd, in his first year of retirement, broadened the scope to examine German tactics and strategy in World War II, and then worked his way back to the time of Sun Tzu as he studied history’s most successful military commanders.

Initially, Boyd did not relish this journey; after it dawned on him that the results of these various tests and engineering projects might be expanded into the wider realm of military conflict, his first reaction was: “Oh, god [sic], I don’t want to do this. I will have to read history books and everything else.” But his mind refused to leave the scintillating possibilities of this avenue unexplored. If something useful to his emerging concept of survival within conflict existed in the realm of history, then Boyd would study history back through its earliest chroniclers.

**MOVING BEYOND THE PAST**

To derive the most value from the questions raised by his engineering projects and historical research, Boyd knew that he must first flesh out his conceptual framework. He wanted a new framework because he believed that the uncritical adoption of older mental models deliberately deprived one of new data that could be

---

4 When applied to aviation, the term *loiter* refers to a phase of flight in which combat aircraft remain in the vicinity of a specific area or target. Loiter time is generally a function of the aircraft’s fuel capacity and weapons load.


7 Boyd Air Force oral history, 126.
useful to one’s decisions and actions. As he put it in his opening remarks in “Patterns of Conflict”: “For those people [who] use Clausewitz as the lens filter to look at the problem, you’re going to make a horrible mistake. . . . All you’ve told me is your thinking hasn’t proceeded beyond 1832, and a lot of things have happened since 1832.” The same could be said of Antoine-Henri Jomini, Alfred Thayer Mahan, Giulio Douhet, B. H. Liddell Hart, or any number of other military thinkers through the ages. Boyd’s point was not that their ideas lacked merit; Boyd incorporated elements from many of them in his own concepts. But he believed that one must not halt one’s own thinking by deciding that Clausewitz or someone else had gotten military theory the most right, to the point where that thinker’s framework should shape all future theory. Because military history did not end at the time of *On War*’s publication, one’s thinking could not end there either. Clearly, significant changes in the character of armed conflict occurred since Clausewitz’s time. And, as Boyd noted, Clausewitz did not have all of his own ideas straightened out. One’s mental framework needed to account for all this. To this end, Boyd built his own framework, incorporating all of the developments in the military, psychological, and scientific realms up through his own time.

**Destroying and Creating New Foundations**

Boyd’s initial energy went into developing his framework in “Destruction and Creation.” The pages of this short essay underlay all of his future work about the nature of war, and thus—arguably even more so than “Patterns of Conflict”—were where Boyd’s unique contribution to military studies resided.

Underlying Boyd’s discussion in “Destruction and Creation” is the fundamental assumption that all human activity is shaped by the goal of ensuring survival on one’s own terms. Survival demands constant and repeated action. An action that supports the

---

8 Boyd, “Discourse on Winning and Losing,” tape 1, side 1, 3. Note that this source is in fact a recording of Boyd presenting “Patterns of Conflict.”

goal of survival must be influenced by a proper decision. Such decisions are formed by constructing “mental concepts of observed reality,” and changing these concepts when reality is perceived to change. Boyd argued that these mental concepts were derived in two ways: general-to-specific (deductive) and specific-to-general (inductive). The essence of deduction is destructive, as it smashes one or more larger “domains” into smaller constituent elements. Induction is constructive; it finds the commonality among a multitude of free-floating elements and builds them into a new domain or concept. ¹⁰

Using these methods, an observer could thereby change their perception of reality and then verify the internal consistency of this new perception and the degree to which it matched reality. Satisfied that their new concept was internally consistent and corresponded with what they were seeing, the observer would then focus inward to further refine the concept and merge it with reality. Here, Boyd argued, lay the potential for a dangerous divergence. This self-satisfaction tended to block out any “alternative ideas and interactions” that might “expand, complete, or modify the concept.” The mental block created by this inward refinement meant that a “mismatch” was created between “new observations and the anticipated concept description of these observations.”¹¹

Obviously, a discrepancy between actual reality and perceived reality was detrimental to taking actions necessary to ensure one’s own survival.

To prove this decision-making concept, Boyd merged three concepts from the realms of mathematics and physics. The first came from Austrian mathematician Kurt Gödel’s proof that the consistency of a system cannot be proved from within the system; one needed another system beyond it to do so. Boyd adapted the second concept from Werner Heisenberg’s uncertainty principle, which held that the very presence of an observer introduced an element of uncertainty into the system being observed. This, as


Boyd noted, made it difficult to “determine the character or nature (consistency) of a system within itself.” The deeper an observer injected themselves into the observed system, the more erratic the behavior they would see, of which they were, in fact, the cause. The final concept came from the second law of thermodynamics: that all observed processes create entropy, a “low capacity for taking action or a high degree of confusion and disorder.” Entropy increased within closed systems. This made it impossible to determine the system’s consistency from within itself as it was always moving toward a higher state of confusion and disorder.

How did Boyd relate all of this to his decision-making concept? Per Gödel, one cannot determine the true nature of a system from within the system. Heisenberg and the second law of thermodynamics showed that any inward-directed attempt to do so only increased the uncertainty and disorder of that system, pushing it further away from the true nature of the reality observed. Thus, once an individual made a decision and chose an action, clinging to this decision and attempting to refine it without any additional external input would, over time, make that decision less and less suited to reality. That action would not contribute to survival and therefore be potentially self-destructive. The solution to this dilemma went back to Boyd’s initial destructive deduction and creative induction concept. The observer could never be satisfied that their most recent observation of reality was, in fact, final. They had to break it down again and again, using both the broken pieces from within the system and new observations outside of it to build an even newer perception. This never-ending decision-making process was the only way to ensure that an individual made survival choices with the most accurate perception of reality possible.

In “Destruction and Creation,” Boyd finally had the mental framework required to wrestle with the other ideas that had danced about in his mind for years. “Destruction and Creation” gave his ideas a foundation: “All of a sudden everything I had done before

---

jelled into this kind of thing.”14 Boyd turned that “thing” into a presentation covering the history of war and national survival laid out over the framework of “Destruction and Creation,” which he named “Patterns of Conflict.”

Finding Patterns of Conflict

In developing this presentation, Boyd first went back to lessons learned from the YF-16 fly-off; namely, that there was something uniquely advantageous in having “a fighter that could both lose and gain energy more quickly [while out]-turning an adversary.”15 Boyd had termed this rapid energy shift a *fast transient*. The fast transient gave its user an edge in the realm of timing or tempo, suggesting that “to win or gain superiority, we should operate at a faster tempo than our adversaries, or if you want to put it in another way . . . get inside our adversary’s observation-decision-action time scales.”16 Previously, Boyd had looked at this as simply a mechanical phenomenon in an aircraft. “Destruction

---

14 Boyd Air Force oral history, 127.
15 Boyd Air Force oral history, 129.
16 Boyd Air Force oral history, 132.
and Creation” pushed him to view the phenomenon from the other extreme—the purely conceptual. Boyd now looked at a way to apply it at a practical level, between the purely mechanical and conceptual.

With a new mental framework in hand, Boyd saw that the pilot’s exploitation of the mechanical energy shift in a fighter aircraft was simply an example of the perceptual decision-making activity of “Destruction and Creation.” The true advantage lay not in the characteristics of the weapon system, but in understanding the mental framework; understanding that both oneself and one’s adversary used said framework, even unconsciously, to make decisions; and using that knowledge to find ways to degrade the adversary’s framework while enhancing one’s own. This was particularly effective if the adversary already suffered a poor or incomplete comprehension of the framework compared to oneself.

Knowing this, one acted against an opponent to degrade their perception of a conflict scenario, with their subsequent actions and reactions becoming more and more divergent from reality—precisely the dilemma presented in “Destruction and Creation.” Boyd stated the net result: “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. You have unraveled me, and that is what you wanted to do.” Success was measured by a confused and disoriented opponent saying, “What happened?”

Boyd found this to be in line with his conclusions drawn from Gödel, Heisenberg, and the second law of thermodynamics. As an engineer, Boyd knew that proving an idea required running tests and collecting evidence. But his study of history told him “that those tests have been run”; the evidence had already been collected in a millennia’s worth of recorded history. It simply required examination in the context of his new concept.

---

17 Boyd Air Force oral history, 134–35.
18 Boyd Air Force oral history, 139.
19 Boyd Air Force oral history, 139.
Past Proof

Boyd reviewed the historical evidence and found the results startling. His work with the A-10 had familiarized him with the German blitzkrieg; he now returned to it through the lens of his concept. In “the very first history book I picked up,” which concerned the French experience in 1940, Boyd read that the French Army facing the blitzkrieg became “uncertain, confused, disordered—almost like I had said it, I felt like I had written the goddamn passage.” Unfortunately, Boyd did not give the title or author of this “very first history book” on the German conquest of France in World War II. At the time of Boyd’s oral history interview, however, an extensive historiography existed on the subject. John Cairns provided a detailed survey of the works extant only a few years prior to Boyd’s interview, and it is possible the book Boyd read is somewhere on Cairns’s list.

The most recent detailed analysis of the French reaction to German tactics is by historian Julian Jackson. In his book, The Fall of France: The Nazi Invasion of 1940, Jackson both explained the weaknesses in the historiography available to military historians in Boyd’s time and supported Boyd’s interpretations. Jackson described the mental shock inflicted on the French that so impressed Boyd and that has been a standard explanation for the rapid collapse of the French Army in 1940. Jackson quoted French soldiers who acknowledged that they “had lost the operational initiative”; they never recovered it, and so they felt like they were “moving in a kind of fog.” French surprise at the unexpected locations of the Wehrmacht’s thrusts—bypassing French fortifications along the Maginot Line and sending armor through the supposedly impassable Ardennes forest—was compounded by mental unpreparedness for the style of war the Germans used.

In the interwar years, the Germans experimented with new

---

20 Boyd Air Force oral history, 140.
ways to fight the next war; the French, on the other hand, tried to perfect the tactics of static lines from the previous war. One sees the parallel between the two mental systems Boyd described in “Destruction and Creation”: the closed system, with the self-satisfaction that it was good enough and so only looked at how to further refine it; and the open system, receptive to new information that could improve its survivability. French doctrine focused on methodical warfare, using a highly centralized command structure to maintain sufficient control over what had become, by 1940, an amateur army of conscripts and reservists leavened only by a small cadre of professional soldiers. This meant that the officers charged with making key decisions were behind the front in static command posts, awaiting enough information about the big picture to properly maneuver their inexperienced troops. This situation stood in stark contrast to German doctrine, whereby senior leaders were regularly at the front, empowered to take the initiative and make key decisions on their own without seeking permission from higher up the chain of command. French leaders also had not absorbed the implications of improved mobility since World War I; they believed that the initial German advances, rapid though they were, would soon bog down due to fatigue and logistical problems, affording the French enough time to react. Overall, this methodical mind-set was badly shaken when the invading Wehrmacht refused to act with equal deliberateness, and as the Germans kept the pressure on, the French never recovered. This was summed up in the description of one French general’s reaction: “He gave . . . the impression of a man whose brain had ceased to function . . . the blows that had fallen on us in quick succession had left him ‘punch drunk’ and unable to register events.” The Germans, however, operated smoothly and rhythmically, pushing the French where the pressure would most likely cause them to collapse. The Germans understood the framework; the French did not.

Next, Boyd looked to his own experience as an F-86 pilot and aircraft designer. The F-86 had regularly outperformed its MiG-

---

15 counterpart; now, Boyd better understood why. The F-86 had a bubble canopy and superior window heating system, which granted its pilot a greater ability to observe external conditions. It also had a hydraulically powered flight control system, which allowed the pilot to transition more quickly from one maneuver to another. Boyd noted that this transition and his fast transients were clearly related.\textsuperscript{24} Finally, Boyd examined the 1976 Israeli hostage rescue at Entebbe airport in Uganda, Africa. The Israeli operation was conducted so rapidly from start to finish—“they were in, they were out”—that the only response then-President Idi Amin and his soldiers could muster was to wonder, “What happened?”\textsuperscript{25}

The further back Boyd traveled through history, the more he found “a whole body of evidence that supports this idea that I am talking about, of getting inside the other guy’s observation-decision-action time scales.”\textsuperscript{26} But nobody had examined this evidence the way Boyd did; that is, in the context of the lessons gleaned from “Destruction and Creation.” Boyd applied these lessons and concluded that “knowing and having this information plus . . . the idea of fast transients or faster tempo, together with the synthesis here, associated with Gödel, Heisenberg, the Second Law . . . suggest[s] a new conception . . . for waging war.”\textsuperscript{27} Here was the core of Boyd’s new conception:

Generate a rapidly changing environment, quick clear observations, fast tempo, fast transient, quick kill; or you can turn it around the other way, to inhibit an adversary’s capacity to adapt to such environment \textsuperscript{[sic]} . . . suppress or distort his observation by suppressing or distorting your signatures . . . . Always try to remain somewhat inconspicuous, at least more inconspicuous than he is . . . unstructure \textsuperscript{[sic]} your adversary’s system into a hodge-podge of

\textsuperscript{24} Boyd Air Force oral history, 142; and Spinney, “Genghish John,” 46.
\textsuperscript{26} Boyd Air Force oral history, 144.
\textsuperscript{27} Boyd Air Force oral history, 145–46.

\textbf{UNVEILING THE CHARACTER OF CONFLICT}
confusion and disorder [thus] causing him to . . . under- or overreact to your activity, which appears uncertain, ambiguous, and chaotic to him.28

With his mental framework and historical study, Boyd now had a how for thinking about war. But “Destruction and Creation” demanded that Boyd ask himself a fundamental question that necessarily preceded the how; that is, “Why do you even have a war?”29 To properly construct the answer to how, he needed to deconstruct the complexity behind why.

In “Destruction and Creation,” Boyd had already introduced the assumption that human activity was shaped by the goal of ensuring survival on one’s own terms and had examined this on an individual level. But, of course, there were many other individuals in the world with this same goal, and therein lay the potential for conflict, or to use another word, war. As he explained it in his oral history, “It is this drive for survival on our own terms—to improve our capacity for independent action with limited resources; and when you improve your capacity for independent action and deny somebody else’s, there are arguments. If the arguments get violent enough, there is clubbed warfare.” This was an old story, reaching back through two world wars, centuries of European conflict, the Mongol conquests, and past the eras of the ancient Romans and Greeks to the time of Sun Tzu. Boyd took the old tale and retold it through the lens of his new mental framework to derive the most useful common lessons. And that was the purpose of his presentation, “Patterns of Conflict.” The need to survive as a nation when in competition with other nations raised questions that he wanted to ask and answer: “How do we realize such a goal by waging war?” and “Does history give any insight or suggest any useful patterns?”30

29 Boyd Air Force oral history, 149.
30 Boyd Air Force oral history, 149–50.
Presenting “Patterns of Conflict”

Understanding both the how and the why, Boyd now laid out his synthesis of the conceptual and the historical in a slide-based lecture. The first few iterations—or warps, as Boyd termed each revision in deference to his children’s love of Star Trek—he kept to himself and a few friends at the Pentagon. In 1976, Boyd presented his first public version of “Patterns of Conflict,” nicknamed “WARP-4,” at the United States Air Force Academy, and still was “not even too happy with it.” But he continued to refine it, and these later warps were the ones that spread his influence throughout the Marine Corps. From 1976 onward, he delivered this lecture hundreds of times to a wide variety of audiences and repeatedly revised it until just before his death. This is no exaggeration. His monthly planners dated 1980–84 tell the story: he delivered “Patterns of Conflict” 37 times in 1980 and 54 times in 1981. After 1982, he shifted to briefing “Organic Design for Command and Control” more often, or combined it with “Patterns of Conflict.” He presented one or both 62 times in 1982, 54 times in 1983, and 25 times in 1984. This was in addition to a very robust speaking and meeting schedule each year.

Life before PowerPoint

Before examining the content of “Patterns of Conflict,” the experience of being briefed by Boyd deserves comment. In a modern era when the military briefing has become synonymous with a PowerPoint presentation (a.k.a. “death by PowerPoint” when in the hands of a less-skilled presenter), it becomes difficult to envision an hours-long presentation lacking a computer screen. Yet, this is precisely

32 Damian, “The Road to FMFM 1,” 35. As discussed in chapter 3, proponents of an amorphous maneuver concept existed before Boyd’s ideas were promulgated. As Damian points out here, and as is discussed later, when maneuverists sought details to flesh out their concept, they went to Boyd and “Patterns of Conflict.”
33 Coram, Boyd, 384, 431. Boyd’s monthly planners also show when many of the key figures who will be discussed in later chapters received his brief of “Patterns of Conflict.” See box 22, Col John R. Boyd Papers, Personal Papers Collection, Archives Branch, Marine Corps History Division, Quantico, VA.
Did Boyd Influence the Army?

Beyond demonstrating the time Boyd spent with his Marine and civilian audiences, Boyd’s calendars also show that he met with several of the U.S. Army officers who sought to reform their own Service. For instance, he briefed General Donn A. Starry, then head of the Army’s Training and Doctrine Command, in February 1981. Lieutenant Colonel Huba Wass de Czege, selected by Starry to revise the Army’s own capstone doctrine, got a brief from Boyd in November 1982. Additionally, Boyd’s calendars show that from 1980 to 1983, he presented his lectures to the Army War College, Army Command and General Staff College, and U.S. Military Academy at West Point. However, there exists a separate debate about to what degree, if any, Boyd’s ideas influenced the Army’s development of AirLand Battle doctrine, which has been held up as another version of maneuver warfare. Long-time Boyd devotee James Burton accused the Army of directly copying Boyd’s work without attribution. While it is demonstrably true that some Army reformers heard Boyd’s presentation, and that Boyd briefed at Army schools as part of his yearly speaking schedule, the links between Boyd and the AirLand Battle doctrine are far murkier. Air Force major Todd Larsen analyzed the literature on the subject and concluded that Boyd’s presentations to Army officers were under the rubric of a larger reform dialogue already underway within that Service. While other historiography offers tantalizing potential evidence of Boyd’s influence—such as the sudden introduction of German concepts like schwerpunkt (main effort) into AirLand Battle’s language, or an evolutionary sketch of maneuver warfare that virtually mirrors the historical synthesis in the first part of “Patterns of Conflict”—Boyd was certainly not involved in the development of AirLand Battle to the same extent he influenced Warfighting. Moreover, there were far fewer Army officers who acknowledged Boyd as an influence, and the institutional Army never made a public claim on Boyd’s contribution, as the Marine Corps did after Boyd’s death. Nonetheless, Boyd’s engagement of officers across the Services was a further example of his own desire to flesh out his ideas by sharpening them against the minds of as many people as possible, and his free willingness to share his thoughts with any interested stakeholders.


how Boyd delivered his lecture. Indeed, perhaps performed is a better description, as Boyd fired out his material with all the movement and energy of an actor on stage. He anchored “Patterns of Conflict” on a stack of 200 slides, each of which was typed onto a plastic
transparency sheet. A transparency projector displayed the material on a screen behind him; part of the brief’s frenetic nature came from Boyd’s constant movement to and from the projector, shuffling and changing transparencies, frequently with barely enough time for the audience to read one slide before he replaced it with the next. Boyd had no interest in simply letting his audience read the slides or showing a slide and then reading its contents verbatim back to the audience in the death-by-PowerPoint style of modern briefings. As often as not, the slides were a point of departure for discussion. Sometimes the discussion focused on the slide, but it frequently sidetracked on tangents that Boyd allowed if his audience seemed interested or that he generated himself.

The slides also were only part of the content Boyd delivered; most of “Patterns of Conflict” came from talking points that Boyd carried in his head and never wrote down. This likely proved problematic for diligent notetakers in his audience, as Boyd talked through his material very rapidly, often interrupting himself many times in the same thought to explore new ideas as they came to him or to answer audience questions. “Patterns of Conflict” was no university hall lecture, with quiet students packed into a room to be placidly fed by a professor behind a podium; Boyd expected and encouraged continuous audience engagement. Some slides consisted of one or two questions that Boyd forced the audience to openly answer and discuss before moving on to the next. He would also immediately pause in his prepared delivery to answer audience questions, which he did thoroughly and with complete disregard for

---

**Boyd’s Brief on YouTube**

While Boyd presented his briefs in the predigital age, there are still resources available for those seeking a taste of what it was like to be there. Former Marine tank officer Captain Daniel R. Grazier has done a great service by posting a series of video clips on YouTube from an undated presentation of “Patterns of Conflict” to an apparently civilian audience. Grazier has integrated digital versions of Boyd’s slides with the video clips, as the actual slides are not readable due to poor video quality.

the overall timing of his presentation. This partly explains why his briefs sometimes took more than 10 hours, across multiple days, to deliver in full; certainly a stark contrast to modern military education programs experienced by Marines today. Boyd also briefed the same way that he argued with coworkers at the Pentagon or talked on the phone—loudly, gesticulating energetically with his hands and arms, and interjecting a hefty dose of profanity as his oral history has already illustrated. All told, Boyd’s delivery and audience interactions, as much as his slides, were what left their impression on those who experienced “Patterns of Conflict” in person. And this may explain the difficulty for people today, having only Boyd’s essay and slides to examine, in understanding Boyd’s outsized influence on the Marine Corps at the time.34

EXPLAINING THE NEW CONCEPTION
The period immediately following the writing of “Destruction and Creation” was Boyd’s most dynamic in his exploration of conflict. From the slides and audiotapes, one sees the output of this dynamism captured under the umbrella of “Patterns of Conflict.” Here, Boyd viewed warfare as a struggle for survival writ large. “Patterns of Conflict” surveyed concrete historical examples wherein the concept of “Destruction and Creation” was successfully used. From these examples, one could “make manifest the nature of the Moral-Mental-Physical Conflict; . . . discern a Pattern for Successful Operations; . . . help generalize Tactics and Strategy; . . . find a basis for Grand Strategy” and ultimately “unveil the character of conflict, survival, and conquest.”35 Though “Destruction and Creation” is not explicitly cited in the presentation, its influence is clear from Boyd’s opening comment that the goal of humans is

---

34 “The Archives Branch of Marine Corps History Division holds a complete audio recording of a brief presented to a primarily Marine Corps audience in 1989, as mentioned in chapter 1. This author completed a written transcript of the 1989 audio recording with slide annotations to partially remedy the complaint that Boyd never wrote anything down and aid in following the audio, which is of generally poor quality. This transcript is also available from the Archives Branch and Marine Corps Heritage Foundation.

35 Boyd, “Patterns of Conflict,” 2, emphasis in original.
to “survive, survive on [our] own terms, or improve our capacity for independent action.”36 Because war was the greatest survival struggle of all, it required decisions and actions from both the individual and the group. As stated above, Boyd saw history as the laboratory for his ideas, and wars and battles as his test data. In this way, he took his audience through many historical examples of war and different methods for making decisions and taking action. Beginning with Sun Tzu, he surveyed ancient times through Greek and Roman conflicts; the Mongol invasion and pre-Napoleonic European battles; Napoleon and his two most famous interpreters, Carl von Clausewitz and Antoine-Henri Jomini; and detoured briefly into the clash between nineteenth-century economic systems. Eventually returning to conventional warfare in World Wars I and II, he ended the survey with contemporary guerrilla conflicts before extrapolating the elements of success common to each of these eras.37

Unconventional Lessons

Noting that the blitz/guerrilla style of war appeared to garner the greatest success throughout history, he outlined some common characteristics.38 These characteristics aligned with Boyd’s new conception derived from “Destruction and Creation” in attacking what he saw as the key to survival—the mental framework for perception and decision making—and not unnecessarily wasting energy, lives, and materiel attacking the opponent physically, in the blind pursuit of conventional battle. The blitz/guerrilla style avoided pitched battle, striking instead at those things that gave an enemy cohesion. The friendly force repeatedly used ambiguity, mobility, and violence to generate surprise and shock. Finally, it mopped up the enemy fragments isolated by shock and lack of cohesion. By the end, an adversary would be paralyzed and collapse.

36 Boyd, “Patterns of Conflict,” 10. In the audio recording, Boyd very briefly mentions the influence of Gödel, Heisenberg, and the second law of thermodynamics on his thinking, but “Destruction and Creation” is not referred to by name; see Boyd, “Discourse on Winning and Losing,” tape 1, side 2, 18.
38 Boyd, “Patterns of Conflict,” 98.
Boyd used these lessons as building blocks for the next segment of the presentation, which elaborated on this style of war and gave it a name (see appendix A).39

Successful blitzers and guerrillas practiced what Boyd characterized as maneuver conflict, and a comparison showed the similarities between the two. In maneuver conflict, one generated and used ambiguity, deception, novelty, fast transient maneuvers, and focused thrusts to severely degrade an adversary’s ability to act coherently. Boyd explained further that the aim of maneuver conflict was to “generate many non-cooperative centers of gravity, as well as disorient, disrupt, or overload those that the adversary depends upon, in order to magnify friction, shatter cohesion, produce paralysis, and bring about his collapse; or equivalently, uncover, create, and exploit many vulnerabilities and weaknesses, hence many opportunities, to pull [the] adversary apart and isolate remnants for mop-up or absorption.”40 The efficacy of maneuver conflict was borne out in the laboratory of history, tied as it was to long strings of both blitzkrieg and guerrilla victories.41

**Fingerspitzengefühl and the Glue**

At first glance, these ideas apparently required an unnatural degree of prescience and internal cohesion on the friendly side. To operate in this amorphous manner, one’s own force had to quickly identify key enemy vulnerabilities, rapidly exploit them, and break apart enemy cohesion without discombobulating its own soldiers in the process. German military tradition had a label for the key enabler of this style of war: fingerspitzengefühl, which literally meant “finger-tip feeling.”42 This was an intuitive ability to look at a given situation, immediately grasp the essentials, and rapidly act. A few

---

40 Boyd, “Patterns of Conflict,” 117.
41 Boyd, “Patterns of Conflict,” 89, 97. While some critics would later argue that Boyd’s lists were highly selective in their twentieth-century focus, Boyd also showed that blitzkrieg was really the conceptual culmination of trends going back millennia, which he had already covered in the first half of his presentation. See Boyd, “Patterns of Conflict,” 84.
42 Boyd, “Discourse on Winning and Losing,” tape 1, side 1, 15.
rare individuals enjoyed fingerspitzengefühl as a natural gift, yet it could be developed in most people by giving them constant and repeated hands-on experience under a variety of conditions to build a repertoire of responses and, just as importantly, inculcate decision making and action as a habit. Boyd appreciated this German concept because, as chapter 1 showed, he had already spent most of his life living it. From flight school to the Aerial Attack Study, from the YF-16 fly-off to his time in Nakhon Phanom, he had cultivated in himself a predilection for variety and bias for action. Fingerspitzengefühl simply gave his habit a name. Throughout “Patterns of Conflict,” Boyd hammered on the need for warriors to use fingerspitzengefühl to be “adaptable and unpredictable . . . because the moment you start becoming rigid or non-adaptable and predictable, you know the game’s over.”

The friendly force required a glue to maintain its own cohesi- sion while simultaneously disorienting its enemy. This glue was a deceptively simple but essential element: trust. Trust, between both superior and subordinate and laterally between different units, derived naturally from the process of building fingerspitzengefühl in the first place. Both individuals and units developed this sense by being exposed to a repertoire of experiences in training. In due course, leaders could observe the strengths and weaknesses of individual and unit fingerspitzengefühl and use that knowledge to build and direct their teams in a way that made individual and collective abilities complement one another. The result of this process was an organization trained to achieve the objectives given to them by their leaders, but free to do so using the experience of individual and unit fingerspitzengefühl to decide the best means of going about it based on the circumstances. Consequently, those fighting did so with the knowledge that their leaders, having observed them individually and collectively, would not entrust them with a task beyond their own capabilities. As Boyd said, “you not

---

Boyd, “Discourse on Winning and Losing,” tape 1, side 1, 15; tape 2, side 1, 47; tape 2, side 2, 54–58, 60; tape 3, side 2, 94–95, 106, 110; tape 4, side 2, 130, 140; and tape 5, side 2, 168–71.


Boyd, “Discourse on Winning and Losing,” tape 1, side 1, 15.
only want to have individual fingerspitzengefühl, in a sense you want to have organizational fingerspitzengefühl.”46 Done properly, one’s organization thus developed a “whole organic philosophy, so you can operate as a family . . . you really want to operate like a family, and you’re a very large family . . . the whole family’s got the fingerspitzengefühl.”47 As members of a family can predict or sense how other family members will react in various situations, fingerspitzengefühl and trust allowed implicit communication and understanding in the absence of written or verbal orders. When these practices were employed by a friendly force, they disrupted an adversary’s responsiveness as they attempted to process apparently concurrent yet disjointed threats. But thanks to the peacetime development of fingerspitzengefühl and trust between leader and subordinate on the friendly side, the disjointed actions all aimed toward the common end state desired by the overall commander.

It is worth noting here the extent to which Boyd discussed guerrilla conflict. Later critics often argued that Boyd’s theories were not applicable beyond the realm of air-to-air or conventional ground combat. Anyone who sat through the brief or examined the slides could see this was flatly untrue. In fact, Boyd argued that guerrilla war, with its focus on the populace upon whose support both the military and government depended, was a more total form of warfare than the blitzkrieg that became synonymous with

---

46 Boyd, “Discourse on Winning and Losing,” tape 3, side 2, 94.

CHAPTER FOUR
106
“total war” in the twentieth century. Boyd analyzed several insurgencies to demonstrate that his conflict theories applied to all types of war. This was one more reason why Boyd appealed to the maneuver warfare movement.

THE ENDGAME
Boyd’s wrap-up tied the threads of “Destruction and Creation” and “Patterns of Conflict” together. In war, the game was to generate multiple thrusts and mismatches—some real, some false—directed against the moral and mental bonds that allowed the enemy to act as a cohesive whole. Severing, or at least degrading, those bonds would reduce an enemy to discordant, uncooperative elements, induce paralysis, and “collapse his will to resist.” One accomplished this by getting “inside [the] adversary observation-orientation-decision-action loops (at all levels) by being subtler, more indistinct, more irregular, and quicker—yet appear to be otherwise” (see slide 175 in appendix A). Here again was the new conception, the culmination of the threads of Boyd’s theories. In “Destruction and Creation,” Boyd warned of the danger inherent in a mismatch between perception and reality. In war, the goal was to create precisely such a mismatch for the enemy. One had to prevent the enemy from gleaning the benefit of the continuous destructive/creative decision-making cycle. The adversary’s focus had to be kept inward on a deteriorating observed system that was increasingly disconnected from actual reality. Their decisions and actions would be less and less useful to their own survival, until the entire system finally collapsed and they were rendered incapable of any decision or activity. War should target an enemy’s decision-making system; maneuver conflict provided the mental framework for analyzing how best to attack that system.

Maneuver conflict did not require a specific technology, timeframe, or battlespace, but rather a relentless focus on tearing apart

---

48 Boyd, “Discourse on Winning and Losing,” tape 3, side 1, 86; and tape 4, side 1, 127.
50 Boyd, “Patterns of Conflict,” 175.
51 Boyd, “Patterns of Conflict,” 141.
an adversary’s ability to do those things necessary for their own cohesion and survival. That Boyd considered things like terrain and technology almost irrelevant when compared with the mental-moral focus on the adversary cannot be overemphasized; indeed, he hit that point at the very beginning of his presentation and repeated it throughout: “Terrain does not fight wars. Machines don’t fight wars. People do it and they use their minds. So you better understand the people, because if you don’t understand them, you ain’t gonna make it, period.” Concerning war’s physical elements, Boyd added that “terrain is just the means through which you operate. The machines are just tools that you use.”

One example Boyd provided of using terrain as a medium for mentally unhinging an enemy, and not simply as a military objective in itself, came from Field Marshal Erich von Manstein’s “Donetz counterstroke” against the Soviet Red Army in World War II. Manstein deliberately took a “long step backward,” giving up large swathes of territory to make the Soviets overconfident and overextended. When Manstein finally counterattacked, the surprise caused complete mental and moral disorientation on the part of the Russians, netting Manstein all the territory he had voluntarily surrendered and, more important, large numbers of Russian prisoners. For a Marine Corps that would rarely enjoy a preponderance of forces and thus the ability to control wide swathes of terrain, this mentally focused perspective showed that a smaller force, properly oriented, could still be highly lethal and victorious.

Boyd demonstrated throughout “Patterns of Conflict” that this mental attitude—and not bigger cannons, faster jets, or hordes of soldiers—had enabled the successes of history’s greatest commanders, often when those commanders faced adversaries

---

52 Boyd, “Discourse on Winning and Losing,” tape 1, side 1, 3. Boyd repeats this point at tape 1, side 1, 16–17; tape 3, side 1, 82; tape 4, side 2, 134; and tape 5, side 1, 151.
who enjoyed significant physical and materiel advantages. The test data from millennia of human conflict, tried in history’s laboratory, bore Boyd out. This same focus made his ideas attractive to a Marine Corps that would rarely enjoy purely physical dominance, and thus needed something more than a magic bullet with which to win on the future battlefield.

FRICITION POINTS
Before assessing the impact of Boyd’s works on the Corps, there are two areas that deserve further commentary, as they became friction points for the maneuver warfare movement later on. Boyd had a complex interpretation of conflict, and his nuances were not always appreciated by his proponents, let alone his critics. The friction was not just because Boyd and his critics disagreed but because his ideas were often interpreted by friends who missed his deeper points or simplified them too much, especially as they concerned attrition and the OODA loop.

The American Way of War
The first friction point centered on a general misunderstanding of the relationship of an even higher level of warfare—which Boyd called moral conflict—to the overall argument presented in “Patterns of Conflict.” It is important to note here that Boyd did not define moral in the strictly ethical sense of right and wrong. By his own admission, he did not actually define it at all in “Patterns of Conflict,” but did in one of his shorter presentations called “The Strategic Game of ? and ?.” In “The Strategic Game,” Boyd defined the moral realm as “the cultural codes of conduct or standards of behavior that constrain, as well as sustain and focus, our emotional/intellectual responses.” However, despite the absence of a working definition in “Patterns of Conflict,” Boyd offered many different examples of the moral realm’s characteristics in the presentation. Moral strength was the “mental capacity

---

to overcome menace, uncertainty, and mistrust.”

He saw moral victory as “the triumph of courage, confidence, and esprit over fear, anxiety, and alienation, when confronted by menace, uncertainty, and mistrust.” Moral elements were those things that permitted individuals to operate harmoniously as groups, organizations, or societies. Consequently, Boyd characterized moral conflict as a style of warfare that sought to deliberately fray or sever those bonds in a way that reduced an opponent to a chaotic assortment of frightened, mistrustful, and isolated individuals.

As chapter 5 will show, the maneuver warfare debate was often reduced to a binary choice between attrition and maneuver. Maneuver proponents argued that, up through Vietnam, an attritionist philosophy characterized the American “way of war”: the United States preferred to build up massive military strength to throw against an opponent, with the goal of causing more materiel damage to them than to American forces. Maneuver warfare mitigated the cost of this exchange in blood and treasure, especially as materiel advantage was no longer a given. While Boyd never explicitly claimed that American warfare was attritionist—indeed, he gave several examples of American commanders skilled in maneuver conflict—he did believe that the United States generally measured victory in physical terms, such as quantities of materiel produced or number of battles won.

While the Marine Corps had its own practical reasons for seeking a nontechnological advantage, Boyd determined that, on the whole, technology had replaced thinking in the American way of war. From his research, he identified unique trends in the military focus of various nations. Boyd found that historically, the British excelled at the strategic level of winning wars; the Germans were superior at the operational and tactical level of winning battles; and the Russians’ only real strength in war came from a large population that was used as cannon fodder. For Boyd, America’s

---

59 Boyd, “Patterns of Conflict,” 111.
great contribution through much of modern history was providing “widgets, gadgets,” but after World War II this materiel emphasis no longer guaranteed dominance.\textsuperscript{60}

The situation had changed after the Second World War. In Vietnam, Boyd believed that American leadership’s myopic materiel fixation blinded its understanding of what was needed to win that war. The American focus was entirely physical, searching for and physically destroying Communist forces with physical firepower on solid ground. America’s obsession with conventional means in an unconventional war ignored the fact that North Vietnamese leaders also fought, and ultimately won, a battle of ideals and public opinion. This was an asymmetric battle on a mental-moral plane that the United States entirely conceded to the Communists. As a result, while some Americans could claim that the United States won all the physical battles, it lost the moral battle on the home front; and that was the only battle that mattered.\textsuperscript{61}

Interestingly, Boyd left no evidence that he was familiar with the chief work that posited a uniquely American way of war, written by Russell Weigley. Weigley’s \textit{American Way of War} does not appear in the source list at the end of “Patterns of Conflict” or in the appendix of Burton’s \textit{The Pentagon Wars}, which details the reading list of Boyd’s acolytes. Boyd’s personal paper collection at the Marine Corps History Division’s Archives Branch contains hundreds of books that he studied and annotated; Weigley’s is not among them. But it seems likely that Boyd would not have disputed its thesis, which was that the history of American combat arms began with a strategy of attrition. It is important to note that Weigley’s definition of \textit{attrition} was not that of the later attrition versus maneuver debate, which defined it as the application of strength against strength with the goal of inflicting high materiel damage on an enemy. Rather, Weigley’s attrition was the strategy of the weak or the guerrilla, which characterized the American

\textsuperscript{60} Boyd Air Force oral history, 234–36.
\textsuperscript{61} Boyd, “Discourse on Winning and Losing,” tape 2, side 1, 43; tape 3, side 1, 88; and tape 4, side 1, 115.
military effort during the War of Independence against Britain. For Weigley, attrition meant “exhaustion, or erosion . . . employed by a strategist whose means are not great enough to permit pursuit of the direct overthrow of the enemy.” About the time of the Civil War, when the United States had increased its industrial might, American strategists adopted the goal of annihilation, seeking the utter destruction of an adversary’s military forces and the complete overthrow of the adversary. Weigley argued that this strategy sought to fulfill Clausewitz’s admonition that the annihilation of an enemy’s force “is the leading principle of War.” While technological advancements and industrial might grew over time, he found that the cost of a strategy of annihilation reaped diminishing returns. Eventually, America’s adversaries benefited from those same advancements as well.

Weigley’s thesis dovetailed with the criticisms made by Boyd. Moreover, from the beginning the maneuverist school had savagely attacked the wastefulness of throwing one’s strength against an opponent’s strength. Weigley’s definition of annihilation closely matched the one of attrition that was used in the later debate about maneuver warfare. In all likelihood, Boyd would have agreed with Weigley’s conclusions and maintained his own position that such a national strategy deserved to be abandoned as quickly as possible.

MORAL CONFLICT
Part of the problem in the maneuver debate came from misinterpreting Boyd’s position on maneuver and attrition. Boyd never presented the two styles as a binary choice. Moreover, a close reading of the “Patterns of Conflict” slides and transcript reveals that maneuver warfare only captured two-thirds of Boyd’s full concept of conflict. Maneuver conflict, while operating at a higher mental level than attrition warfare, still aimed its effects primarily at an adversary’s military and the political leaders directing the military.

---

This ignored the crucial support base for both the military and government: the people. A holistic theory of conflict needed to target the people as well; indeed, perhaps even more so than the military or government, because absent the people’s support, both the military and government became “useless overhead . . . they have nothing to run. [They] wither away.”64 This is why Boyd argued that guerrilla warfare was more total, because it deliberately targeted the population base.

Boyd recognized the fundamentally destructive nature of maneuver conflict, and he understood the futility of trying to win over a population by smashing everything around it.65 One could not secure the support of one’s own people or win over adversaries exclusively through devastation and ruin. There had to be something more on the table, something positive and constructive to “pump up” friendly resolve, drain the adversary’s resolve, and attract the uncommitted to one’s cause.66 This integrated concept of war required that one “know your enemy, you know yourself, and also, those third parties out there. It’s not just a two-cornered stool, it’s a three-cornered stool.”67 Moral conflict reflected this totality. It employed the destructive aspects of maneuver warfare at the lower levels of tactics and strategy, focusing on the adversary’s military and political leadership; at the higher level of a nation’s willpower and moral resolve—provided by the people—it offered a “grand ideal,” a unifying vision of existence “so noble, so attractive that it not only attracts the uncommitted and magnifies the spirit and strength of its adherents, but also undermines the dedication and determination of any competitors or adversaries.”68

The most effective way to exploit the moral power of the grand ideal was to place it in the context of trust that Boyd had

---

64 Boyd, “Discourse on Winning and Losing,” tape 4, side 1, 126.
66 Boyd, “Patterns of Conflict,” 139; and Boyd, “Discourse on Winning and Losing,” tape 5, side 1, 153.
68 Boyd, “Patterns of Conflict,” 143–44.
already discussed in maneuver conflict. If trust was the glue that held an adversary’s organization—or a people—together, then one should seek to dissolve that glue by spreading mistrust. And the simplest way to generate mistrust was by highlighting the hypocrisy of those in positions of authority; by calling out, in Boyd’s characteristic phrasing, “those dirty bastards, they say one thing and they do another.”

Guerrillas were particularly adept at analyzing and exploiting such discrepancies. Boyd noted, “If you want to subvert or pull apart a guy’s center of gravity . . . you want to find out what are those bonds, those connections that permit that organic whole to exist.” Boyd believed that in larger social organizations, such as a government or military, “people aren’t glued together” by the same kind of direct blood bond found in a family or tribe. Rather, they are held together artificially with “certain bonds or connections of rules of conduct, codes of conduct, standards of behavior.” Successful guerrillas were the ones who could identify the artificial bonds holding an organization together, and then publicly highlight how the organization’s leaders were failing to adhere to or uphold those standards. For Boyd, this was a way to weaponize ethics. The guerrilla could prove to the target population that they were “goddamned getting screwed,” which in turn built up “mistrust and discord” between the populace and its leaders. Driving this wedge between the leaders and the led was how the guerrilla turned a cohesive society into “many non-cooperative centers of gravity,” thus ungluing the artificial bonds that held it together.

Violence, strategically applied, helped accelerate this ungluing, but if moral conflict were executed properly, then the grand ideal’s potency would have already undermined an adversary’s cohesion, leaving military violence as a last hammer tap to shatter the whole. And while guerrillas were good at this, it could be used in conventional conflicts too. Boyd observed that, prior to World War II, Adolf Hitler understood this, mixing threats and promises to isolate individual countries, paralyze the international commu-

---

nity, and expand the Third Reich’s territory well before his armies invaded Poland.\textsuperscript{71}

Failing to understand moral conflict had caused some of the twentieth century’s greatest military disasters. Hitler’s initial insight inverted itself as World War II went on. Rather than fomenting distrust among his adversaries, he poisoned the internal trust between him and his generals.\textsuperscript{72} Hitler assumed more and more direct authority for military decisions, and he denied it to his commanders. This disrupted the \textit{Wehrmacht’s} entire decision-making process, corroding its flexibility and adaptability so that it became less able to achieve national goals despite its consistent successes at the operational and tactical levels. A greater flaw, more so even than his micromanagement of combat operations near the end of World War II, was Hitler’s unwavering commitment to Nazi ideology. Nazi racial theory, in its implications and implementation, was so utterly repellent that it became an antigrand ideal, driving support away from him and into the hands of the Allies. Critics of maneuver warfare would often attribute Germany’s ultimate defeat to a fatal flaw in the \textit{Wehrmacht} model, but Boyd understood where the true flaw lay and addressed it in his briefs. A nation could absorb and recover from battlefield mistakes, but no amount of military acumen could offset a broken national strategy.\textsuperscript{73} This critique will be examined further in chapter 5.

Similar flaws underlay America’s problems in Vietnam. American leaders appeared increasingly untrustworthy with their claims that victory hovered just around the corner. It was not difficult for the North Vietnamese to counter that narrative with well-timed offensives and a steady stream of American body bags coming


\textsuperscript{72} Boyd, “Discourse on Winning and Losing,” tape 4, side 1, 117.

\textsuperscript{73} Boyd, “Discourse on Winning and Losing,” tape 4, side 2, 141–42; tape 5, side 1, 153–56; and tape 5, side 2, 167.
Furthermore, for all its firepower, the United States could not articulate the grand ideal for which it was supposedly striving, beyond countering Russian influence in the Cold War. And even this ideal was being accomplished in other parts of the world without hundreds of thousands of boots on the ground and massive bombing campaigns. Boyd used this as a prime example of the disparity between word and action. The North Vietnamese, however, could offer a grand ideal in their supposed desire for national independence and self-determination. Their disingenuousness on the subject was beside the point; their grand ideal was easily understood, marketable, and sympathetic in the face of a superpower’s might. Here again, the influence of “Destruction and Creation” could be seen in Boyd’s lecture; whether in the realm of individual or national survival, one could not destroy a worldview without building a new one to replace it. Listening to the audio of “Patterns of Conflict,” it is clear that Boyd’s audiences were engaged and enthusiastically absorbed his material. But not all of that material was effectively transmitted beyond the classroom; such became the case with Boyd’s discussion on moral conflict.

**A Broken Loop**

The OODA loop was another friction point between maneuverists and their critics. The loop remains the most well known of Boyd’s ideas, yet even Boyd’s acolytes tended to gloss over its nuances as they strove to share it with a larger community of warfighters. From its perceived origin to its application, the OODA loop was often misrepresented. Boyd was clear that the loop’s genesis “came from work and anomalies associated with [the] evolution

---

74 Boyd, “Discourse on Winning and Losing,” tape 2, side 2, 71; and tape 3 side 1, 87–88. A lack of military progress, increasing casualties, contradictory messaging, and weak leadership from President Lyndon B. Johnson have long been identified as contributing factors to a credibility gap that undermined American support for the war. See Davidson, *Vietnam at War*, 450–54; Herring, *America’s Longest War*, 248–52; Gaddis, *The Cold War*, 169–70; and Gaddis, *Strategies of Containment*, 268–70.

75 Boyd, “Discourse on Winning and Losing,” tape 1, side 2, 20; tape 2, side 2, 67, 71; and tape 5, side 1, 153.
and flight tests of [the] YF 16/17.” These flight tests have already been discussed earlier in this chapter, and the kernel of the OODA loop was part of the fruit they bore. The tests drove Boyd to explore the concept of mismatches contributing to one’s success and survival, as well as the relationship between agility, tempo, and how one could exploit them to make an adversary’s perceived reality diverge from actual reality. To better explain these mismatches, the influence of tempo, and their cumulative effect on perceptions, Boyd broke the process down into the loop that he regularly referenced (though did not visually depict) in his briefings. The OODA loop is commonly depicted as seen in figure 4.1.

The simple four-step decision-making process begins with ob-

---

76 Roger Spiller, “Critique of John Boyd’s ‘Patterns of Conflict,’” undated, folder 9, box 5, Col John R. Boyd Papers, see appendix C for excerpts.
77 Osinga, Science, Strategy and War, 2.
servation: sensing oneself and the world around one. Orientation follows and is the application of many filters, such as culture, knowledge, and personal experience, to the initial observation. Next, potential actions are considered and the observer chooses one. Finally, there is action, or the application of that decision. Seeing the results of that action, the observer then begins the whole process over again.

The Real Loop

The problem with this depiction is that it actually shows precisely the type of closed system Boyd warned against in “Destruction and Creation.” Both Boyd’s critics and proponents, however, mistook this oversimplification for the full nature of the “Boyd cycle.” An example comes from the many written works by William Lind—who helped bring Boyd’s work to the attention of the Marine Corps—which rarely tried to go beyond this basic level of understanding. Lind argued that the key to maneuver warfare was going through this decision-making process at a faster absolute speed than one’s opponent. Many critics argued that the OODA loop was simplistic and flawed, as the next chapter will discuss. Those critics might have been right, had that been all there was to the loop. That was not the case. Though he often spoke about it, Boyd did not offer a graphical depiction of the OODA loop until two years prior to his death. When he finally did, it was a far richer concept than its four steps implied (figure 4.2).

Here, the loop is not a closed, one-way cycle of seeing, de-

---

80 Lind, *Maneuver Warfare Handbook*, 6. Though more detailed than his *Marine Corps Gazette* articles, the *Maneuver Warfare Handbook* still emphasized Boyd’s OODA loop almost to the exclusion of everything else. Lind seemed somewhat aware of this, admitting in the first chapter that his summation of Boyd “[misses] some of the subtleties and the supporting historical evidence in [Boyd’s] briefing.” A comparison between the *Maneuver Warfare Handbook* and Osinga’s far more detailed examination shows that, in many respects, Lind missed or omitted Boyd’s main points entirely. Regardless, Lind’s influence on the maneuver warfare debate cannot be understated.
ciding, and doing. It is “an ongoing many-sided implicit cross-referencing process of projection, correlation, and rejection.” While observation is the first step, orientation is the most important; it “shapes observation, shapes decision, shapes action, and in turn is shaped by the feedback and other phenomena coming into our sensing or observing window.” Orientation was where the exhaustive process of cultivating fingerspitzengefühl, trust, adaptability, flexibility, initiative, and cohesion on the friendly side, and analyzing those factors on the adversary’s side, paid its real dividends.

CONCLUSION
“Patterns of Conflict” was a monumental work. It synthesized years of personal observation with almost two millennia’s worth of historical lessons, all laid over the mental framework described in the equally groundbreaking “Destruction and Creation.”

---

82 Osinga, Science, Strategy and War, 232.
83 Osinga, Science, Strategy and War, 230.
hundreds of slides and days of lecture and discussion, Boyd introduced a concept of conflict that grounded national survival not in materiel strength but in the ability of a nation’s people to perceive, think, and adapt. He supported this concept with evidence dating back to the earliest written records of warfare that was tried and tested in the laboratory of history. And he concluded that success came not through overwhelming numbers or advanced weaponry, but through a deep understanding of the human element.

The Marine Corps, bereft of numbers and weapons and struggling with the consequences of misunderstanding its adversary in Vietnam, found itself drawn to Boyd’s ideas. In them, Marines saw answers to the problem of what the Marine Corps was to do with itself and how it was to do it. Boyd’s audiences started small, but those people listened to Boyd and then spread his message with prophetic zeal. They took and injected Boyd’s ideas—or what they understood to be his ideas—into the larger debate of how maneuver theory might serve the future Corps better than simply buying a new tank or adopting a different NATO mission. This book now returns to that debate.
By 1980, John Boyd had presented “Patterns of Conflict” enough times that his ideas on maneuver warfare were discussed both within the Marine Corps and without, among ranks high and low. Within the Fleet Marine Force, company- and field-grade officers made extensive use of the Marine Corps Gazette to debate the merits of maneuver warfare and refine and integrate its concepts operationally. Moreover, a handful of officers began mixing maneuver warfare into formal training and education curricula at Marine Corps schools. In the meantime, Boyd and his civilian fellow travelers, especially William Lind, continued their enthusiastic campaign for an institutional adoption of maneuver warfare.

As maneuver warfare discussions proliferated, the concept drew its fair share of criticism, and it still does to some degree today. Such critiques came from (1) a failure to understand Boyd’s ideas holistically—sometimes due to intellectual laziness on the part of the critic, but other times because the critic did not have access to Boyd’s ideas directly or accessed them through the imperfect interpretation of maneuver proponents; (2) a natural resistance to radical change; and, (3) it must be said, by personality conflicts, often generated by the well-meaning but acerbic admonitions of William Lind. Nevertheless, in the 1980s, the profession-
al discourse of the Marine Corps was increasingly characterized by the argument that a doctrine of maneuver warfare would answer the question of institutional philosophy. Numerous articles in the *Gazette*, other military journals, and public newspapers demonstrated the level to 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.

**BOYD’S PRESENT AND THE CORPS’ FUTURE**

The central debate about adopting maneuver warfare represented a convergence of the two threads examined thus far: John Boyd’s personal determination to do rather than to be, which led him to continually generate concrete, useful products; and a similar institutional attitude on the part of the Marine Corps, which felt compelled to offer a useful capability for American defense in a world very different from that which preceded the Vietnam War. The attitude of being useful, of retaining utility, meant adapting to new circumstances as they arose so that one could thrive. This required a mind-set that could recognize when circumstances changed, process that information, and make decisions and take actions to adapt and succeed. This is what Boyd made manifest to the Marine Corps in “Patterns of Conflict” and its concept of maneuver warfare. The Marine Corps had arguably executed this process for decades as it fought for its place in the national defense framework, from acting as the Navy’s police and landing force before World War I, to seizing advanced bases and conducting amphibious operations in World War II, to serving as a force in readiness at the dawn of the Cold War, to whatever its new role would be after Vietnam. But the Marine Corps did this subconsciously, on an ad hoc basis, without recognizing the underlying mechanics.

**From the Horse’s Mouth**

Boyd’s briefings made manifest the mechanics of maneuver warfare, and he gave the Corps a framework for thinking about its future role. He analyzed and synthesized a “theme for vitality and
growth,” showing how it could be used not only in a constructive sense for self-survival, but turned destructively against external threats to survival; a useful turn, as destruction was already the object of a military force. Moreover, Boyd gave the Marines—quantitatively a small force—a potential advantage over a larger one by offering a path to victory that did not depend on the materiel currency of overly physical warfare. Boyd made evident something that the institution already knew and practiced on an instinctual level. His concepts, backed with historical evidence, were the way ahead for an organization seeking a way to win in an unfamiliar world.

The job then, for those Marines and civilians who gravitated to Boyd’s insights, was explaining and proving the value of those insights to the institution as a whole. Another challenge was countering the emergent critiques of maneuver warfare that arose as the concept became more widely known. Most critiques came from a poor understanding of Boyd’s ideas, caused either by degrees of removal from Boyd or transmission problems from maneuverists. Throughout the 1980s, maneuver proponents had to find a balance between the less-familiar mental and moral aspects of maneuver warfare and the Marine Corps tradition of locating, closing with, and destroying the enemy. As one observer noted, to the Marines, war was not a chess game but a killing game. As a consequence, part of the maneuver warfare debate meant changing the very lexicon of the game; really, war was a victory game that could be fought at many levels, with the physical level and its metric of stacked bodies being less decisive than the mental and moral levels presented by Boyd. This debate now took center stage.

Before Boyd’s ideas had spread widely, Marine Corps officers and others outlined a handful of tenets, roughhewn though they were, in attempting to describe maneuver warfare. Once Boyd regularly presented “Patterns of Conflict” in the early 1980s, maneuver proponents suddenly had a very detailed conceptual framework from which to draw. And while Boyd repacked his ideas in

---

1 Boyd, “Patterns of Conflict,” 144.
different ways throughout the brief, his wrap-up provided a useful summary maneuverists could use to shape public discussion:

**Game**

Create tangles of threatening and/or nonthreatening events/efforts as well as repeatedly generate mismatches between those events/efforts adversary observes or imagines . . . and those he must react to . . . as [a] basis to

Penetrate adversary organism to sever his moral bonds, disorient his mental images, disrupt his operations, and overload his system, as well as subvert or seize those moral-mental-physical bastions, connections, or activities that he depends upon, thereby

Pull adversary apart, produce paralysis, and collapse his will to resist.

**How**

Get inside adversary observation-orientation-decision-action loops (at all levels) by being more subtle, more indistinct, more irregular, and quicker—yet appear to be otherwise.²

This summation did not capture all the nuances of a 200-slide, hours-long presentation, but at least it gave those who wanted to spread the gospel of maneuver warfare something to work with. They needed a way to quickly convey Boyd’s ideas, because those outside the Washington, DC, area rarely had the chance to hear Boyd in person. This distillation proved problematic as the maneuver debate continued; but the urge to spread maneuver warfare drove its proponents to get at least some of the ideas out in the public realm to be refined later.

**Boyd’s Loudest Promoter**

One such proponent was William Lind, whose already-cited March 1980 *Marine Corps Gazette* article helped frame the debate that fol-

---

² Boyd, “Patterns of Conflict,” 175.
allowed. In one of the first attempts at a precise definition, Lind equated the Boyd Theory, as he called his understanding of “Patterns of Conflict,” with maneuver theory. According to Lind, Boyd “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).” Lind portrayed the loser as the one with the longer cycle, who then found “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.”

Lind held that the real goal of maneuver warfare was not physical destruction but the “nervous/mental/systemic breakdown caused when [the enemy] becomes aware the situation is beyond his control.” Attacking the opponent’s mental capabilities worked for the Marine Corps because “in many scenarios Marines are likely to be outnumbered in men and materiel. An attrition contest is not promising for the outnumbered force, while maneuver makes quantitative factors less important by striking at the enemy’s mind.” Lind believed the Corps’ likely future opponents were Third World militaries modeled on their Soviet benefactor; that is, militaries numerically large and well-equipped but “tactically and operationally inflexible.” Marines could exploit this inflexibility with a more rapid decision-making cycle, placing initiative and independence of action at the lowest leadership levels. Lind and other maneuverists regularly emphasized the need for such initiative and independence, along with the imperative

3 Lind, “Defining Maneuver Warfare for the Marine Corps,” 56. It is worth noting that here, in Lind’s first attempt to define Boyd’s concepts, he omits the orientation step, which Boyd considered by far the most important.
to actually train officers and men to act in accordance with that need.  

DEFINING AND REFINING THE DEBATE

Maneuver warfare did not require excessive mechanization, as mobile infantry operating in rugged terrain were as well suited to maneuver as were tanks operating in the open.  

This was not to say that further mechanization could not support maneuver warfare. Captain R. A. Stewart, an evaluator at MCAGCC Twentynine Palms, and the aforementioned Captain Miller, showed several linkages between increased use of wheeled, armored fighting vehicles and exploiting the tenets of maneuver conflict.  

Such vehicles could wreak havoc in the enemy’s rear, keeping them off-balance; their speed allowed the landing force to assault the enemy’s weakest points and still maneuver to an objective; they could replace tanks as a mobile reserve force for challenging a counterattack; and they could deceive the enemy as decoys while a commander concentrated their force for decisive action elsewhere.  

In any case, the specific level of mechanization was less important than the mental framework used to employ it; that is, using initiative and independent action to build a rapid decision-making cycle coupled with sudden and unexpected actions to force the enemy’s mental and moral collapse. With some amplification, this summary of maneuver warfare was the one carried forward in the debate.

---


11 Capt G. I. Wilson reiterates the Lind article with little modification in his own subsequent commentary; see Capt G. I. Wilson et al., “The ‘Maneuver Warfare’ Concept,” Marine Corps Gazette 65, no. 4 (April 1981): 49–52. See also Lind, Ma-
To Maneuver and Attrite

These amplifications often focused on refining the definition of _maneuver_ and quantifying the level of actual physical destruction required during a conflict. In 1980, Major General Bernard E. Trainor, then education director for the Marine Corps Development and Education Command, addressed the topic early. He expanded on the meaning of maneuver by noting that it did not necessarily equate to movement. Trainor stated that maneuver instead meant “physically disposing the enemy at a disadvantage to himself and an advantage to us,” and thus “the key to maneuver is not our disposition, but his.” This echoed Boyd’s admonitions to focus on the enemy rather than on one’s own formations or a piece of terrain. In time, maneuver would come to mean any advantageous disposition—be it troop disposition, tempo or timing, or geography—but always in relation to the enemy.

Destruction versus Attrition

There also was considerable debate about the destruction of enemy forces—or rather, what and where things and people should be destroyed. Some maneuver proponents stressed that no matter how brilliant one’s maneuvering, parts of the enemy force still had to be destroyed. Trainor stated that “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.” Physical punishment was the only way to finally break an enemy’s will. He reemphasized this point elsewhere: “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 in-