

Reconnaissance-Strike Tactics and Maneuver Warfare I

Theory and practice

by Maj B.A. Friedman

“Long range precision strike weapons coupled to systems of sensors and to command and control systems will fairly soon come to dominate much of warfare. The critical operational tasks will be destroying or disabling elements of an opponent’s forces and supporting systems at a distance. Defeat will occur due to disintegration of command and control capacities, rather than due to attrition or annihilation.”¹

—Andrew W. Marshall, 1999

>Maj Friedman, USMCR, is currently the Division Cell OIC at 6th Air Naval Gunfire Liaison Company at Joint Base Lewis-McChord, WA, and works as a strategic Assessment Analyst. He is the author and editor of numerous books and articles on military tactics and strategy and amphibious warfare, including *On Tactics and On Operations* published by the Naval Institute Press and co-editor of *On Contested Shores: The Evolving Role of Amphibious Operations in the History of Warfare from Marine Corps University Press*.

is due, not just because of the current Marine Corps force design and reform effort. *MCDP 1, Warfighting*, the last update to our warfighting philosophy, was published before the current century began and just as the information revolution was about to take off. Now that our philosophy is over a quarter of a century old, and the 21st century has seen more than enough conflict for us to examine as data, it is time for reflection.

Lost in the discussions of the latest version of multi-domain, all-domain, or omni-domain operations and marketing hype about the capabilities of technology is an emerging set of tactics enabled by the information-enabled fusion of highly capable sensors, multi-spectral reconnaissance, and precision-guided munitions. These reconnaissance-strike tactics have been extremely potent when married to organizations capable of exploiting them. But until recently, the Marine Corps has not begun that process. Some of the angst and criticism about Gen Neller and Gen Berger’s efforts to do so are the result, in my opinion, of a lack of understanding of the modern tactical regime, reconnaissance-strike tactics, and how they can fit into a maneuver warfare philosophy.

This article series will attempt to describe them even as the Marine Corps continues to conduct experimentation to make them a reality.

It is important to reexamine maneuver warfare considering these new tactical possibilities. The quote above was clearly more prescient than anyone could know at the time, and it occurred after the publication of *MCDP 1, Warfighting*. The central task facing the Marine Corps today is how to apply maneuver warfare to the reconnaissance-strike tactical regime in an information-pervasive operating environment.

The Marine Corps’ Conception of Maneuver Warfare

First, we should be clear about what we mean by maneuver warfare. We are talking here about the Marine Corps vision of maneuver warfare as captured in *FMFM 1* and *MCDP 1* specifically. Other groups, including military theorists and the Army, use these terms differently and these views do not concern us.

The Marine Corps’ maneuver warfare philosophy is not terribly difficult to sum up. Both documents present an understanding of war from a high

Of late, there has been a healthy and lively debate on maneuver warfare in the pages of this publication and on the internet. Such a reexamination

perspective (“War Defined”) and gradually brings it down to how the Marine Corps specifically should put it into practice (“The Conduct of War”) It views the phenomenon of war through a Clausewitzian lens: war is the extension of politics with the addition of violent means and its expression in practice is complex, uncertain, and unpredictable, affected as much by intangible mental and moral forces as it is by physical force alone (captured in Chapter 1). It stresses that the expression of that phenomenon takes a number of forms and styles such as maneuver warfare, a concept heavily inspired by John Boyd, which is predicated on speed, focus, surprise, boldness, and the exploitation of opportunities to strike enemy critical vulnerabilities as opposed to the simple application of massed combat power against the enemy’s massed combat power (captured in Chapter 2). It delineates how the Marine Corps should be organized, manned, trained, and equipped to provide forces that can execute such a vision of maneuver warfare, one that necessarily places greater reliance on people than platforms (Chapter 3). Lastly, it captures how such forces should execute maneuver warfare and, importantly, how they must employ a decentralized command and control (C2) schema sometimes called mission command (Chapter 4).²

It’s important to focus on this conception of maneuver warfare because it is tailored to the roles, responsibilities, strengths, and weaknesses of the Marine Corps. Applying maneuver warfare theory to a different organization, such as the Army which has different roles and responsibilities and can draw on more mass and firepower would, if done properly, produce a different conception.

The creation and promulgation of this philosophy is portrayed best in Maj Ian Brown’s *A New Conception of War: John Boyd, the U.S. Marines, and Maneuver Warfare*. Importantly, that process was as much a codification of lessons the Marine Corps had learned up until its publication in 1989 as it was a new conception (although it certainly was that as well). As such, seeing as it was created as the sun set

on the industrial age and began to rise on the information age, evaluating the philosophy against its suitability for information-age warfare is called for.

What the philosophy doesn’t address very much is the role of information and information-age technology in warfare. Given the nascent nature of the information revolution in 1989, this can be forgiven. Nor is it necessarily a shortcoming: it would detract from

acquire, analyze, communicate, and exploit information to increase their knowledge/decrease their ignorance has only expanded. Yet, the truth that the mind of the adversary cannot be truly known is no closer to changing. Since the mind of the opponent is the target of maneuver warfare, the means of information exploitation that indirectly affect it are of vast importance.

There is also a long running debate

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the philosophy’s timeless nature if it were rooted too deeply in technology. However, given what we know now in 2022, this subject cannot remain unaddressed. Although a rewrite or revision may not be necessary, the Marine Corps should develop a vision of what maneuver warfare means as the information revolution accelerates.

The Beginnings of 21st Century Maneuver Warfare

This has been done before. In 1998 Robert Leonhard, an Army officer and accomplished writer on maneuver warfare, published *The Principles of War for the Information Age*. In it, he reexamined the principles of war in light of what was then known about information age tactics. He developed a tiered system of laws, the most important of which was that “conflict will always be partially knowledge-based and partially ignorance-based.”³ In reality, this has always been true of all warfare. Plans, tactical employments, future actions, goals, the definition of winning and the decision to withdraw all exist and take place in the minds of the combatants and the mind of the opponent can never be reliably known. There is always a competition to acquire information and decrease uncertainty in warfare.

Since that book was written, the ways and means in which humans can

here in the *Gazette*. Maj Ian Brown’s *Maneuver Warfare 3.0*, published in April 2016, proposed a number of revisions, including some based on the realities of the information age.⁴ The *Gazette* also published a series of articles by the Ellis Group beginning with “21st Century Maneuver Warfare” in November 2016, an attempt to reimagine maneuver warfare given the realities of the 21st century.⁵ The current *Maneuverist Papers* series and its respondents, delving into a number of important maneuver warfare concepts, is exactly the kind of reinvigoration of maneuver warfare called for by MajGen Mullen in the July 2020 issue. Marinus also makes the point that the bulk of maneuver warfare concepts were developed before the advent of the Information Age.⁶ Especially important is the concept of non-linearity, but non-linearity is just one aspect of war’s inherent complexity (in the scientific sense of the term).⁷ This subject could be a series all on its own.

The Marine Corps Operating Concept

The institute-wide reexamination, however, began with the Marine Corps Operating Concept (MOC) in 2016.⁸ The MOC examined five major trends of information-age warfare in general identified in the *Future Operating Environment: 2015–2025* document

(produced by the Marine Corps Intelligence Activity): 1) complex terrain; 2) technology proliferation; 3) information as a weapon; 4) the battle of signatures; 5) an increasingly contested maritime domain.⁹ Two of these, information as a weapon and the battle of signatures, are directly related to information warfare.

The MOC found the Marine Corps wanting: “The Marine Corps is currently not organized, trained, and equipped to meet the demands of a future operating environment characterized by complex terrain, technology proliferation, information warfare, the need to shield and exploit signatures, and an increasingly non-permissive maritime domain.”¹⁰ In order to address the Marine Corps ability to fight in an operating environment characterized by these five trends, the MOC laid out five efforts: integrate the naval force to fight at and from the sea, evolve the MAGTF, operate with resilience in a contested network environment, enhance our ability to maneuver, and exploit the competence of the individual Marine.¹¹

However, finding the Marine Corps wanting is not the same as finding maneuver warfare wanting. In fact, General Neller explicitly reaffirmed the primacy of maneuver warfare as the Marine Corps’ warfighting philosophy. Essentially, the MOC identified that the Marine Corps of 2016 was not manned, trained, and equipped to execute maneuver warfare in the 21st century.

The prime reform instituted by Gen Neller to enhance the Marine Corps ability to execute maneuver warfare in the information age was the creation of the MAGTF Information Groups (MIG). Currently, the MIGs are tasked to coordinate, integrate, and employ Information Environment Operations (IE Ops) capabilities to ensure the MAGTF Commander’s ability to facilitate friendly forces maneuver and deny the enemy freedom of action in the information environment as well as provide communications, intelligence, supporting arms liaison, and law enforcement capabilities in support of MAGTF operations. The creation of an information-focused organization like the MIGs was not a priority in 1989, when *FMFM 1* was

written. Now, however, the capabilities of 21st-century weapons such as information warfare, cyber warfare, and electronic warfare, not to mention information-dependent weapons like precision-guided munitions, cannot be ignored. As the capabilities of information technology will only increase, the MIGs will grow in both capability and importance, perhaps becoming an information combat element in their own right. Tying the MIGs to precision fires enables reconnaissance-strike tactics.

Reconnaissance-strike tactics are not new. During World War II, LTG George Patton created not one but two non-doctrinal, information warfare focused units as part of his Third Army: the Army Information Service and the Signal Intelligence Service. These staff sections closely coordinated with the G-2 but were independent of it. These were proto-MIGs: they managed the information-flow that enabled Patton’s maneuver-style of warfare.¹²

Reconnaissance-strike tactics were later conceptualized by the Soviet Army in the form of what they called reconnaissance-strike and reconnaissance-fires complexes. A reconnaissance-strike complex was an organization “designed for the coordinated employment of high-precision weapons linked to real-time intelligence data and precise targeting provided to a fused intelligence and fire direction center.”¹³ A reconnaissance-fire complex was an equivalent organization at a lower level. Put in Marine Corps terms, a reconnaissance-strike complex is a MIG with organic precision fires such as HIMARS and fixed-wing aircraft, plus organic ground reconnaissance elements. The potency of such an arrangement were seen in Russian combat operations in Ukraine after 2014, although at the time of this writing the Ukrainians seem to be turning the tactics against the Russians as well.

Whereas in industrial-age warfare, intelligence, surveillance, and reconnaissance assets were primarily dedicated to identifying objectives and movement corridors for maneuver forces, in the information age intelligence, surveillance, and reconnaissance assets will mostly be dedicated

to finding and locating targets for precision munitions and information-related capabilities (IRCs). Maneuver forces will then exploit the effects of these combined fires and IRCs. The “strike” part of reconnaissance-strike tactics does not necessarily mean a kinetic strike in the form of munitions. Emergent capabilities such as electronic attack and offensive cyber operations can and should be employed as well.

A New Conception of Boyd

At *themaneuverist.org* in an article called “Maneuver Warfare: Epistemological Rocket Fuel,” Maj Matthew Tweedy has proposed that, going forward, the Marine Corps should base its philosophy more on the “Boyd branch” of maneuver warfare and less on the “Lind branch.”¹⁴ It undoubtedly should: Lind’s fetishism for the forces of Nazi Germany is based on beliefs about the German Army that have proven to be myths, namely the concept of “blitzkrieg” and the operational level of war (not to mention his own ideological affinity for Nazi Germany).¹⁵ Another pervasive myth that this school promulgates is the poor performance of the Soviet Army in World War II, as pointed out by Capt Zachary Schwartz in January 2022.¹⁶ Even were this not the case, the “Boyd branch”—based more on the science of cybernetics, thermodynamics, and decision making—is more relevant to the 21st century and reconnaissance-strike tactics that leverage information and rapid decision making.

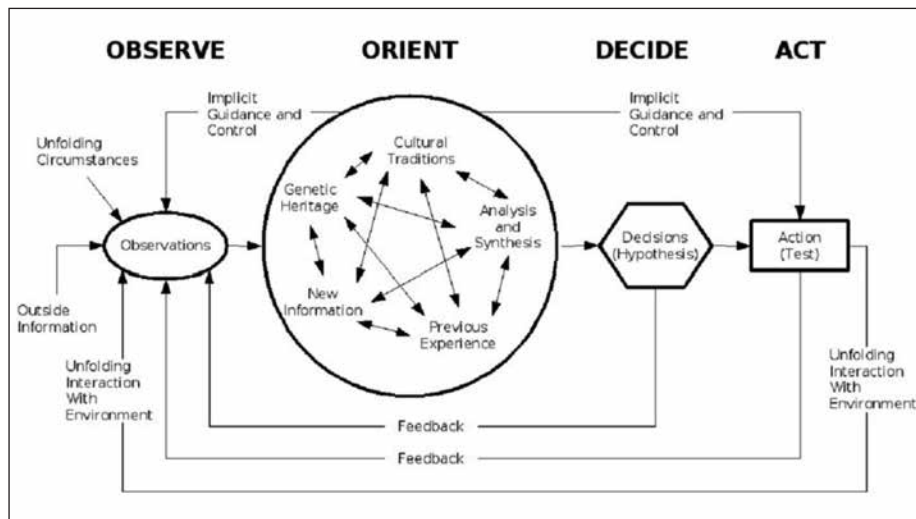
Epistemological rocket fuel is an apt phrase: maneuver warfare depends on attacking an opponent where and how they are weak rather than strong. That is impossible unless one knows where and how the enemy is strong and how they are weak. Epistemology, the study of knowledge, is therefore central to maneuverist thinking. Additionally, in the 21st century, strategic actors have ever increasing ways of knowing what the opponent is doing and how the opponent operates. If 21st-century warfare is characterized by pervasive information warfare, complexity, chaos, and higher operational tempos driven by reconnaissance-strike tactics, then we need a modern model for how in-

formation interacts with warfighting organizations to drive tactical action. Fortunately, we already have one—right under our noses.

Although rarely presented as such, Boyd’s OODA Loop is a cybernetic model of how an organization acquires information (Observe), analyzes information (Orient), exploits information (Decides), and acts on information (Act). The action changes the environment, for good or ill, thus requiring more information which is fed back as new observations. The OODA Loop is fundamentally a model of how information is acquired, analyzed, and exploited in warfare.

While most applications of the OODA Loop focus on the creation of a C2 system that can outpace the opponent’s OODA Loop, the information age offers new opportunities to do more than just that. Information-related capabilities (not to mention traditional kinetic weapons) can be used to corrupt, disrupt, and deceive the opponent’s OODA loop and must simultaneously be used to protect and preserve the friendly OODA loop. The central problem facing the Marine Corps is how to execute maneuver warfare in an operating environment where information drives operations, where all decisions are made through a lens of how the adversary will perceive and react to them—rather than solely whether the friendly force achieves its objective—and in an operating environment where almost everything except the mind of the opponent itself can be surveilled and detected.

Thus, information is at the heart of Boyd’s concept of maneuver warfare. Frans P.B. Osinga, who has extensively studied Boyd’s work, has written that the point of maneuver warfare is to, “create and exploit an information differential.”¹⁷ The point of the OODA Loop is not just about faster decision making, but about better decision making. There is no benefit to making poor decisions faster. The primary goal is to protect the orientation step—the analysis of information—and corrupt the orientation of the opponent. That can be accomplished through targeted information acquisition, information



A complete rendition of the “OODA Loop.” (Figure provided by author.)

analysis, and information dissemination, and by deceiving, disrupting, and polluting the opponent’s perceptions. The creation of the MIGs to manage this fight is thus a vital element for Marine Corps maneuver warfare.

Since information warfare takes as its primary target the adversary’s information-processing system (C2) and maneuver warfare seeks asymmetric, opportunistic ways of attacking critical vulnerabilities and weaknesses, the marriage of the two has the potential to be a potent form of warfighting. Where traditional maneuver warfare might seek positions of weaknesses in the adversary’s physical array, information-age maneuver warfare would similarly take the C2 system of the adversary as its target, employ indirect and advantageous ways to disrupt, corrupt, and deceive it through communicative and cognitive weaknesses as well as physical weaknesses through both kinetic and non-kinetic means. Once accomplished, the resulting paralysis would need to be exploited, but the adversary’s system—like an Industrial-Age army in headlong retreat—would be unable to resist that exploitation. In such an operating environment, advantages in information-focused warfighting functions of information (in the form of surveillance, reconnaissance, and counter-reconnaissance), intelligence (the analysis of information from multiple sources), and C2 (the dissemination of information and the decisions made

because of it) will be more important than advantages in mass, maneuver, or firepower.

Lastly, these ideas fit well with Dr. Frank Hoffman’s description of defeat mechanisms in the February 2022 issue of the *Marine Corps Gazette*. Maneuver warfare and reconnaissance-strike tactics would enable the Marine Corps to employ combinations of degradation, dislocation, and disorientation defeat mechanisms while avoiding the trap of focusing too much on the ability to employ a destroy mechanism (which requires a level of mass and resources beyond the reach of an organization the size of the Marine Corps).

What might a maneuver warfare campaign employing reconnaissance-strike tactics look like? We have an unfortunate example: it would look like the Taliban’s summer campaign in 2021 that resulted in their complete and rapid takeover of the entire country. During the Taliban’s summer offensive in Afghanistan in 2021, the Taliban sent intermediaries ahead of their fighters to convince key Afghan government and military personnel not to resist Taliban offensives using threats and bribes.¹⁸ This served the dual purpose of identifying strong points and weak points as well as shaping objectives for follow-on forces. As a result, those Afghan Security Forces that did resist were swiftly overwhelmed as their allies and leaders abandoned the fight. The Taliban, of course, had no reason to commit

maneuver forces to key points where surrender had already been agreed, allowing them to mass against other points. The Taliban certainly employed reconnaissance to ascertain advantageous maneuver corridors, but they also used information to create them. The flow of the Taliban's offensive was not primarily driven by preplanned objectives but rather by perception and reaction of the opponent followed by exploitation of the opportunities that perception created. This information preparation for maneuver forces is a key component of 21st-century warfare and can be seen in a combined-arms context. Just as supporting arms can disrupt and suppress enemy forces at key objectives, so too can the right information. Nor does it require an undue reliance on advanced technology, as the Taliban unfortunately proved. The Taliban reconnaissance-strike tactics consisted of human intelligence and "fires" in the form of targeted threats and bribes, which were then exploited by maneuver forces.

stroying, disrupting, manipulating, or corrupting the information processing and gathering of the opponent. This full range of activities which may become an integrated area of military strategy and operations could be called information warfare."¹⁹ This is a lengthy definition, but its prescience now is almost beyond debate. Importantly, this vision of information age warfare, which is simply another aspect of warfare which maneuver warfare principles can be applied to, is not limited to non-kinetic or technological means. The fight for information will be just as bloody and destructive as any other.

Fortunately, the Marine Corps' philosophy of maneuver warfare is well-suited for this operating environment. Its focus on the recognition or creation and exploitation of opportunities in any domain, the ability to maneuver in and through any domain, and the mission command ethos means that the Marine Corps is well-postured to execute information-driven reconnaissance-strike tactics. Additionally, the

fundamentally unsuited for the future. Marine Corps maneuver warfare, with its focus on creating advantages and opportunities wherever and however that may be accomplished regardless of domain, is better suited to the future. Lastly, one could argue that maneuver warfare has always been information-driven, given its focus on the mind of the opponent and the use of deception and asymmetry. This may be true, but do Marines understand it as such? If not, a revision of *MCDP 1* may indeed be needed.

The principles of maneuver warfare therefore are sound but must be practiced in different ways to address the pervasive information warfare and reconnaissance-strike tactics that will characterize the future. Perhaps the future holds a synthesis of the two. This will necessarily cause a reorganization of Marine Corps forces to optimize the application of emergent applications. Part II of this series will look at historical examples of these as well as the ongoing force design effort.

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Conclusion

Andrew Marshall defined information warfare as, "The information dimension or aspect of warfare may become increasingly central to the outcome of battles and engagements, and therefore the strategy and tactics of establishing information superiority over one's adversary will become a major focus of operational art. Clearly one might wish to be more effective, more skillful in the acquisition and communication of information with respect to targets or with respect to the intentions and moves of an opponent. Indeed, in the early stages of an engagement, one would take measures to widen this advantage through the protection of one's own information systems while partially de-

principles of decentralized C2 are now a prerequisite to survival as the use of communications systems will have to be minimized for signature management and will inevitably be disrupted by the opponent. Lastly, information warfare is not a domain or an environment of its own. It is the environment. Even the application of camouflage paint to a Marine's skin, by denying information to the opponent, can be considered an application of information warfare.

Alternative conceptions of future warfare, usually prefaced with "all-domain" or "multi-domain," remain wedded to a traditional view of warfare that occurs in discrete domains. This has not been true for quite some time, and the cognitive stovepiping that will follow is

Notes

1. Zalmay M Khalilzad and John P. White, eds, *The Changing Role of Information in Warfare*, (Santa Monica, CA: RAND, 1999).
2. To be clear, the concept of mission command captured in *FMFM 1* and *MCDP 1* is vastly different from the more recent conception currently in vogue in other services. These two ideas share little more than a name.
3. Robert R. Leonhard, *The Principles of War for the Information Age*, (New York: Ballantine Books, 1998).
4. Ian Brown, "Maneuver Warfare 3.0," *Marine Corps Gazette*, (Quantico, VA: April 2016).
5. The author was on the writing team for these articles in a previous assignment. See "21st Century Maneuver Warfare," November 2016, "21st Century Reconnaissance," January 2017, "21st Century Maneuver," February, 2017, and "21st Century Fires," April 2017.
6. Marinus, "Maneuver Warfare in Cyberspace," *Marine Corps Gazette*, (Quantico, VA: June 2021).

7. For more on war and complexity science, see B.A. Friedman, "War Is The Storm," Forthcoming Summer 2022 in the *U.S. Naval War College Review*.
8. The author was also on the writing team for the MOC.
9. Robert B. Neller, *Marine Corps Operating Concept: How an Expeditionary Force Operates in the 21st Century*, (Washington, DC: 2016).
10. Ibid.
11. Ibid.
12. Spencer L. French, "Information Forces and Competitive Approach to Information Enabled Operational-Level Success in August 1944," *Military Review*, (Fort Leavenworth, KS: Army University Press, March-April 2022).
13. Lester W. Grau and Charles K. Bartles, "The Russian Reconnaissance Fire Complex Comes of Age," CCW, (May 2018), available at <http://www.cw.ox.ac.uk>.
14. Matthew Tweedy, "Maneuver Warfare: Epistemological Rocket Fuel," [themaneuverist.org](https://www.themaneuverist.org), (January 2020), available at <https://www.themaneuverist.org>.
15. For more myth-busting about German military history, see Gerhard P. Gross, *The Myth and Reality of German Warfare: Operational Thinking from Moltke the Elder to Heusinger*, (Lexington, KY: University Press of Kentucky, 2016); and B.A. Friedman, *On Operations: Operational Art and Military Disciplines*, (Annapolis, MD: Naval Institute Press, 2021).
16. Zachary Schwartz, "Thinking Beyond Dead Germans," *Marine Corps Gazette*, (Quantico, VA: January 2022).
17. Frans P.B. Osinga, "The Enemy as a Complex Adaptive System: John Boyd and Airpower in the Postmodern Era," in John Andreas Olsen, ed, *Airpower Reborn: The Strategic Concepts of John Warden and John Boyd*, (Annapolis, MD: Naval Institute Press, 2015).
18. Bill Roggio, "Taliban Doubles Number of Controlled Afghan Districts since May 1," *Long War Journal*, (June 2021), available at <https://www.longwarjournal.org>.
19. Andrew W. Marshall, *Office of Net Assessment Memorandum: Some Thoughts on Military Revolutions- Second Version*, (Washington, DC: Department of Defense, 1993).

