

Damn the Torpedoes

The *Marine Corps Operating Concept* and the failure of decisive maneuver from the sea in the 21st century

by LtCol G. Stephen Lauer, USMC(Ret)

To act decisively as a second land army is inevitable. Demonstrating the powerful and continuing utility of the Marine Corps, it is unthinkable that such battle capability will not be employed outside a naval context. The Marine Corps fights when and where the Nation demands; Marine infantry units are larger than their Army counterparts; and Marine aviation is a powerful force multiplier in the joint force. Together, these capabilities do not exist in any other U.S. Armed Force. It has never been our combat capability that placed the Corps in the budget's crosshairs; it is simply that our cost and our place in the line of battle are stated in law, not enshrined in the Constitution. Since the end of World War I, commandants have continued to face the unrelenting task of ensuring the continuing relevance of the Corps to the Nation.

Commandant John A. Lejeune tied the future of the Marine Corps to the conduct of operations "essential to the successful prosecution of naval campaigns in war, and which are essential to the successful conduct of the foreign policy of the United States."² He initiated the foundational study of amphibious operations to ensure the naval character of the Marine Corps as well as its continuing relevance as a unique combat resource; he sought to achieve a balance between the land warfare of World War I and a uniquely Marine future. The decisive maneuver of Marine landing forces in a naval campaign appeared as an institutional goal. The study and practice of the probable requirements for landing Marine forces on a hostile shore was done at the Marine Corps Schools, with its first product in 1927 and the publication of the 1938

The Marine Corps is part of the Naval Service, and its expeditionary duty with the Fleet in peace and in war is its chief mission.

—John A. Lejeune,
13th Commandant¹

>Dr. Lauer is an Associate Professor, U.S. Army School of Advanced Military Studies. He is a retired Marine Corps Infantry Officer, and he commanded 3d Bn, 7th Marines. He served as the first Chief of Florida Domestic (Homeland) Security from 2001 to 2004. The views expressed in this article are the author's alone and do not reflect the official position of the U.S. Army, Department of Defense, or the U.S. Government.

Fleet Training Publication (F.T.P.) 167, Landing Operations Doctrine, United States Navy. The first joint doctrinal manual became the foundation for Marine Corps and Army landing operations during World War II.³

The purpose of this article is to demonstrate the extraordinary departure of the current *Marine Corps Operating Concept (MOC)* from the traditional assumptions of amphibious operations. Decisive maneuver from the sea is the



There is a need to reinvigorate and restore decisive amphibious maneuver. (Photo by Sgt Andrew Ochoa.)

Corps' essential naval character. The removal of decisiveness from maneuver relegates the Marine Corps to the role of a large, glorified Raider battalion. If, as noted in the Commandant's guidance, the *MOC* will serve as a vehicle for discussion and refinement of doctrine, then a discussion on the nature of that doctrine and its deviations with the foundational assumptions and practice of amphibious warfare is appropriate. This critique flows in three parts: first, an exposition of the changes to doctrinal language from 1938 to today; second, the problems of the current maneuver philosophy for modern amphibious doctrine; and finally, recommendations for reinvigorating the institutional ethos of the Marine Corps and its naval core in the restoration of decisive amphibious maneuver in the 21st century.

Amphibious Warfare: Then and Now

The Marine Corps must intellectually return to our maritime roots with a renewed focus on Naval integration, especially in light of increasing challenges to access and entry in and around the littorals ... as a cohesive Naval force unit when operating in a distributed manner ... by integrating command structures, creating lodgments, and employing Expeditionary Advanced Bases (EABs) to conduct littoral operations in a contested environment.⁴

The *MOC* acknowledges the base assumptions of any amphibious operation, noting the challenges to the conduct of contested entry operations in the littorals. The fundamental divergence from decisiveness lies in the conditional statement of "operating in a distributed manner."

The British, French, Australian, and New Zealand (ANZAC) expeditionary force landed at Gallipoli on 25 April 1915. While the intended result was to sever the Ottoman Empire from its allies in Europe and restore direct access to the Russian Empire, the assault was too weak in land power to succeed. While the Allied naval forces enjoyed supremacy at sea, the landing force lacked the land superiority to win decisively against numerically superior military forces of the Ottoman Empire. The Gallipoli opera-

tion ended in failure with its evacuation on 9 January 1916.⁵ Gallipoli served as the foundation for an understanding of decisive maneuver from the sea.

The fundamental requirement of amphibious operations was to solve the problem of contested access and entry in the littorals to achieve a decisive effect. Historical analysis of the Gallipoli campaign demonstrates how the distributed operations assumptions in the *MOC* are fraught with risk. Both the initial distributed landings and subsequent landing attempts at Gallipoli dispersed the combat power of the ANZAC forces, resulting in an inability to concentrate sufficient superiority in land power anywhere.

The recognition that landing forces required an absolute superiority in the same manner as air and naval forces was the first manifestation of modern amphibious warfare. Lejeune's vision ensured the focus was not on naval force capability in ships, naval gunfire, air support, or landing craft; rather it was directed toward the requirements for successful prosecution of decisive operations in the future, particularly a war with the Empire of Japan.⁶

The Ellis Group takes the idea of decisiveness and land superiority ever further into a historical absurdity. Its *Gazette* article, "21st Century Maneuver," noted a condition that "all future warfare will take place within a globalized media environment."⁷ They continued through the logical progression in emphasizing this condition, stating in their follow-on article, "21st Century Combined Arms," that the "designation of infantry units as the main effort will no longer be the rule."⁸ The Ellis Group applauds the introduction of niche specialties such as cyber and information warfare that proliferate at the expense of combat formations. It postulates the decisive purpose of a future amphibious operations deploying a MAGTF to conduct an information campaign against the social media accounts of an adversary. Reductions in combat unit manpower appear to be the inevitable result of a turn from decisive maneuver to a multi-domain and philosophical view of warfare that elevates the ephemeral over the tangible, the cognitive over the physical, disruption

over destruction—incidental to victory, never decisive.

In 1941, doctrine noted overall (emphasis added):

Superiority of force essential—Operations involving landings against opposition are among the most difficult of military operations, and superiority of force, particularly at the point of landing, is essential to success.

Requirements for the naval force "[pre-suppose] marked superiority on the sea and in the air within the area of, and during the time required for, the operations," and that this

may involve the loss of a number of ships and aircraft. The initiation of such an operation is not justified unless the naval situation fully warrants the assignment and possible loss of the required vessels and air forces and the expenditure of the necessary ammunition.

The manual continued:

Unless the landing forces are unquestionably superior in infantry, as well as artillery and other supporting arms, to the enemy forces that may be expected to oppose the landings and the subsequent operations on shore required for the accomplishment of the mission, the initiation of such an operation is not justified.

Secondary landings, those that were intended to cause the movement of enemy reserves, required greater proportional force to ensure the enemy would actually move his reserves.⁹

In 1986, the tentative joint publication on amphibious operations *Joint Publication. 3-02* noted:

*In order to achieve success, an amphibious force should be assured of naval supremacy against enemy surface and submarine forces, preponderant air superiority and a substantial superiority over enemy forces ashore in the objective area. In the face of compelling necessity, however, an amphibious operation may be undertaken on the basis of a reasonable total superiority of force.*¹⁰ (emphasis by author.)

The 1989 final *JCS Pub 3-02.1* determined:

Establishment of a lodgment by amphibious assault requires the projection of significant forces against a hostile or potentially hostile shore. Factors such as the need for a *favorable ratio of combat power*, gaining air superiority and naval supremacy, and attaining strategic or tactical surprise will be foremost concerns in developing the plan for tactical operations.¹¹ (emphasis added.)

The current 2014 *Joint Publication 3-02*, in a substantial change, noted:

Amphibious operations use *maneuver principles* to transition ready-to-fight combat forces from the sea to the shore in order to achieve a *position of advantage* over the enemy. During combat operations, maneuver, in conjunction with fires (organic and supporting), is essential to gaining access where the enemy least expects it.

*It provides a position of advantage in order to destroy or seriously disrupt the enemy's cohesion through a variety of rapid, focused, and unexpected actions that create a turbulent and rapidly deteriorating situation with which the enemy cannot cope.*¹² (emphasis added.)

The manual continued with the requirement that

prior to the commencement of the amphibious operation [we must] *establish the level of maritime and air superiority necessary for the amphibious operation to occur*,

and assigned this mission specifically to the Carrier Strike Group, with the requirement for the *"establishment of air and maritime superiority."*¹³ (emphasis added.)

Supporting distributed operations by swarming packets of infantry increases the importance of naval surface fires. The Marine Corps concurred in the Navy's decision to permanently retire as museums the Iowa class battleships in 2006. The premise of this joint decision was the assurance that large numbers of future construction Zumwalt class destroyers would bridge the anticipated ten-year surface firepower gap with the retirement of the battleships. That assurance was built on sand. The Zumwalt class ships will never be built in any

number; the procurement for the supposed wonder weapon, the 155mm naval gun, to close the fires gap will have no ammunition because of its extravagant cost.¹⁴

Prior to 2014, the consistent assumption for the success of amphibious operations was superiority—air, sea, and land. The Marine Corps expunged the requirement for land superiority from doctrine, seeking now to achieve a *position of advantage* to destroy or disrupt an enemy's *cohesion* rather than his *physical* destruction. This unfortunate logic denies the actions that historically preceded an enemy's loss of psychological and unit cohesion—the battle that threatens an adversary's life, wounding, or capture, in actual close combat—the physical destruction needed to produce the assumed cognitive break in cohesive behavior.

Eliminating the necessity for absolute land superiority diminishes the justification for amphibious shipping toward that end. Commandant Lejeune and Marine Corps Schools, with the Navy, built a doctrinal approach to justify the shipbuilding programs of the future. The *MOC* moves away from this principle to define only what is possible with the current attenuated and inadequate doctrine and ships available. Why should the Nation fund the Navy to build amphibious ships for the purpose of decisive maneuver ashore if the Marine Corps itself refuses to define the necessity for such land superiority? The Corps' maneuver philosophy relegates the entire amphibious construct to define the Marine Corps as a raider on the littorals, dedicated to distributed operations from the sea, incidental to a decisive combat outcome, never envisioning combat, eschewing battle to maneuver on the edges, forever an adjunct to decisive maneuver, never decisive in itself.

Pity the theory that conflicts with reason!
—Carl von Clausewitz¹⁵

The Marine Corps Philosophy of Warfare and Amphibious Operations

The Marine Corps fails to reconcile what it expects from the infantry squad and its stated philosophy of warfare. What Marine infantry squads have done and continue to do is kill. They win battles through the destruction of their enemies regardless of when or how those enemies present themselves for annihilation. The disconnect between philosophy and action is stark.

What the infantry does is contrary to which destruction appears as a failure to adhere to maneuver principles. The incongruence between what the infantry does and what the Corps claims to do is the essence of what Clausewitz said we should pity, and this is particularly applicable in the changes to our understanding of decisive amphibious operations.

The superiority of naval, air, and land forces in amphibious operations were the fundamental assumptions. The idea that success is possible through distributed operations, swarming of multiple small packets of Marines scattered across the littorals, and without the superiority assumed for the decisiveness of such operations borders on fantasy, while the maneuver, fire, and logistics support of such scattered packets of minimal land combat power *cannot be justified*.

What are the assumptions?

- That demand disaggregation into the "string of pearls" local inferiority such a deployment implies?
- Do we assume that an adversary will be confused rather than delighted to take on a string of unsupportable and disaggregated penny packets of units lacking air, naval, and land superiority?
- Do we anticipate that re-aggregating of the "string of pearls" in the face of a denial of air, naval, and land superiority may occur?

The naval operations focus of the Marine Corps must be the successful lodgment of infantry ashore in a decisive force as either a division or larger maneuver element. The provision of sufficient infantry superiority must be the guiding ethos of Marine Corps personnel, equipment, and training. Insufficient land superiority jeopardizes the

success of any amphibious assault and *is not justified*.

The foundation for the maneuver philosophy stated as the doctrine in the 2014 *Joint Publication 3-02* came from the profound misunderstandings of Soviet and German maneuver intent and practice during World War II. John Boyd, Bill Lind, and Shimon Naveh all disregarded the available evidence of the intent of physical destruction—indeed annihilation—as the price to achieve any cognitive disruption or dislocation of an enemy readily apparent in Soviet and German literature.

In *The Evolution of Operational Art*, G.S. Isserson noted a litany of German authors whose works inspired, informed, and validated the experience of their civil war and defeat by the Polish Army in 1921. Isserson summarized the development of Soviet theory for future war from authors such as Frunze, Tukhashevskii, Svechin, and Triandifillov. He wrote in clear language of the maneuver principles underlying Soviet operations as

breaching a front, waging a deep offensive to pierce a firepower-intensive front throughout its entire operational depth, and finally, inflicting lethal, crushing blows aimed at the complete destruction of the enemy. Under these conditions the basic mission of our operational art is *substantiation and elaboration of the theory of a deep operation for annihilation*.

Additionally, “our future war can be grounded only on the principles of *an offensive strategy of annihilation*.”¹⁶ (Emphasis in the original.) Naveh quoted Tukhashevskii, concluding that a Soviet theory of deep battle that sought systemic cognitive disruption had replaced the goal of destruction, despite Tukhashevskii’s requirement for “an annihilating blow” following a series of battles in depth and along the front.¹⁷ Naveh ignored the stated intent of Soviet operational art and maneuver in destruction and annihilation in the same manner both Bill Lind and John Boyd did.

Together, Lind and Boyd had the opportunity to question a German general officer, von Mellenthin, in 1979, and directly ask about the intent of German maneuver. It was destruction.¹⁸



First we have to get the Marines to the battlefield, and then we must be able to support smaller units dispersed throughout the battlespace. (Photo by Sgt Andrew Ochoa.)

The German authors noted by Isserson included Clausewitz, Erfurt, Schlichting, and Beck in defining a similar theoretical foundation in the German war of movement (*Bewegungskrieg*), based upon an operational and tactical principle of destruction, *Vernichtungsprinzip*. This correlation of German and Soviet theory was not surprising, as the German and Soviet armies collaborated in the interwar years to refine the philosophical basis for annihilation. From 1927 to 1932, German instructors taught Soviet and German officers the essence of mechanized, combined arms battle at the tank school at Kazan in the Soviet Union.¹⁹

Boyd, Lind, and Naveh misinterpreted the original intent of German and Soviet maneuver theory and practice. Each created an interpretation, misstating the evidence—that destruction and annihilation in battle were not the point of Soviet or German maneuver.²⁰ This is the legacy of the 2014 *Joint Publication 3-02* doctrine on amphibious operations. In contrast, Lawrence Freedman wrote:

It was one thing to argue that because minds controlled bodies, disrupting the workings of minds was preferable to eliminating their bodies, but quite another to assume that just as physical blows could shatter bodies, so mental

blows could shatter minds. It was one thing to recognize the importance of the cognitive domain, but quite another to assume it was susceptible to straightforward manipulation. Human minds could be capable of remarkable feats of denial, resistance, recovery, and adaptation, even under extreme stress. Opponents would be defeated by means of confusion and disorientation rather than slaughter because they could never get out of their OODA [orient, observe, decide, act] loop. If this trend could be pushed far enough, it was possible at some point to envisage a war without tears, conducted at long distances with great precision and as few as possible—preferably none at all—at risk. The objective was to reduce the role of warfighting, of anything recognizably approaching battle ... There was an unreal quality to this view of future warfare. It was for political entities that were not fearful, desperate, vengeful, or angry; that could maintain a sense of proportion over the interests at stake and the humanity of the opponent. It was a view that betrayed a detached attitude to the well-springs of conflict and violence, the outlook of a concerned observer rather than a committed participant. It ignored the physicality of war and war’s tendencies to violence and destruction.²¹



The MOC deviates from traditional assumptions of amphibious warfare. (Photo by Sgt Aaron Paterson.)

Carl von Clausewitz wrote:

How are we to prove that usually, and in all the most important cases, the destruction of the enemy's forces must be the main objective? How are we to counter the highly sophisticated theory that supposes it is possible for a particularly ingenious method of inflicting minor direct damage on the enemy's forces to lead to major indirect destruction; or that claims to produce, by means of limited but skillfully applied blows, such paralysis of the enemy's forces and control of his willpower as to constitute a significant shortcut to victory?

Battle is the bloodiest solution. While it should not simply be considered as mutual murder—its effect ... is rather a killing of the enemy's spirit than of his men—it is always true that the character of battle, like its name, is slaughter [*Schlacht*], and its price is blood. As a human being the commander will recoil from it.

That is why governments and commanders have always tried to find ways of avoiding a decisive battle and of reaching their goal by other means or of quietly abandoning it. Historians and theorists have taken great pains, when describing such campaigns and conflicts, to point out that other means not only served the purpose as well

as a battle that was never fought, but were indeed evidence of higher skill. This line of thought had brought us almost to the point of regarding, in the economy of war, battle as a kind of evil brought about by mistake—a morbid fascination to which an orthodox, correctly managed war should never have to resort. Laurels were reserved for those generals who knew how to conduct a war without bloodshed; and it was to be the specific purpose of the theory of war to teach this kind of warfare.

The fact that slaughter is a horrifying spectacle must make us take war more seriously, but not provide an excuse for gradually blunting our swords in the name of humanity. Sooner or later someone will come along with a sharp sword and hack off our arms.²²

Where Do We Begin to Change These Shortfalls in Both Doctrine and Capability?

First, the infantry *is* the Marine Corps. Build the *primary* combined arms combat capability of the Marine Corps in the Marine divisions, not niche organizations or special operations. As the Israeli Defense Force has acknowledged and trained for since 2006, it is the primacy of combined arms train-

ing that ensures success of the infantry against conventional forces and hybrid enemies.²³

- Build the infantry regimental headquarters as a fighting organization. Create a regimental weapons company that allows the Marine regiment a main effort for its organic maneuver with anti-tank (TOW), direct fire (Mark 19), and indirect fire (120mm mortar) in emulation of the Marine regiment of World War II.²⁴

Second, *stop messing with the rifle squad!* There are 648 squads, the 27 rifle squad leaders of the 24 infantry battalions, with 8,424 riflemen in the rifle squads from the Marine Corps' strength of 185,000. *It is these rifle squad leaders and their squads upon whom the battle success and reputation of the Marine Corps resides.* Focus on making these rifle squads the most powerful on earth.

- Put 1,944 light machine guns, removed for the infantry automatic rifle, back into the fire teams of the 648 rifle squads. Require that any adjustments to the organization, training, and equipping of the thirteen-man rifle squad be the responsibility of the infantry battalion, regimental, and division commanders—based on *combat* requirements. Infantry commanding officers and infantry general officers are responsible for the combat capability of the rifle squads. *Own it!*

Third, end the distractions around the edges in our fascination with all things social media, cyber, and other electronic/informational wonders intended to bring us victory in battle without the necessity for actual combat. Put these things in their proper focus in support of decisive maneuver. Can these capabilities be leveraged from the joint force rather than taking precious combat billets from Marine infantry or other combat forces?²⁵

- Consider the distraction of the MARSOC units. Is MARSOC worth the diversion of over 2,500 of our best Marine infantrymen and infantry NCOs? Was the effect on the cohesion and combat capability of the Marine rifle squad considered when making this extraordinary excision from the core of the infantry and the

“For over 221 years our Corps has done two things for this great Nation. We make Marines, and we win battles.”

***—Gen Charles C. Krulak,
5 May 1997***

conventional, combined arms battle capability of the Marine division?

Finally, in emulation of Commandant Lejeune’s vision, create a new doctrine for fleet landing operations that will identify and guide the procurement of the naval capabilities necessary to perform decisive maneuver from the sea in division or multi-division strength as the basis for amphibious operations of the 21st century. Call our Operating Forces what they are—the *Fleet Marine Forces*.

- Given the current dilemma regarding insufficient naval surface firepower to support decisive maneuver from the

sea, pull the most survivable ships ever built, the four Iowa class battleships, out of museum retirement and rebuild them. Since they are the most powerful naval surface weapons platforms on earth, provide them with the surface fires, the anti-ship, anti-ballistic missile, anti-air, and even rail-gun capability that today is only in the realm of novels.

Marines have abandoned the idea of decisive land maneuver from the sea. Fiscal austerity was a constant restraint in Commandant Lejeune’s tenure, as in our own. Commandant Lejeune did

not shrink from articulating a vision of the future in his insufficiency. The Marine Corps has acquiesced into the sliding loss of its naval character and the irrelevance of any naval roots and focused solely on its function as another land army in the wars since 2001. It is the strength of our infantry units and our focus and capability in combined arms that demands our participation in our current conflicts. This is appropriate to our times. Envision, as Commandant Lejeune recognized, the naval and amphibious nature of the Marine Corps—a memory honored in the soul of the American meta-narrative of the Marines. In the face of these constraints, and in the spirit of ADM David Farragut at Mobile Bay in 1864, quoted in the title of this article, emulate Commandant Lejeune. Revive the image of a Marine Corps embracing its naval character and, from that idealization, create the doctrine and ships for decisive maneuver from the sea.

Stafford: Crossroads of National Security & Private Innovation

- NO BPOL tax
- Highly skilled workforce in information technology & advanced manufacturing
- Cyber Center of Excellence
- Ample energy at low cost
- Excess dark fiber capability
- Two HUBZones

STAFFORD
Virginia



Confidential inquiries welcome.

540.658.8681 ■ econdev@StaffordCountyVa.com ■ gostaffordva.com

Notes

1. John A. Lejeune, *The Reminiscences of a Marine*, (Philadelphia, PA: Dorrance and Company, 1930).

2. Ibid.

3. Office of Naval Operations, Division of Fleet Training, *Fleet Training Publication (F.T.P.) 167, Landing Operations Doctrine, United States Navy*, (Washington, DC: GPO, 1938); and The Joint Board, *Joint Action of the Army and the Navy*, (Washington, DC: GPO, 1936).

4. Headquarters Marine Corps, *Marine Corps Operating Concept: How an Expeditionary Force Operates in the 21st Century*, (Washington, DC: September 2016).

5. E. Erickson, "Strength against Weakness: Ottoman Military Effectiveness at Gallipoli, 1915," *The Journal of Military History*, (2001). The Allied forces attacked prepared defenses at a roughly one-to-one combat ratio in terms of divisions and with less artillery than the defenders.

6. *Joint Action of the Army and the Navy*. See also *The Reminiscences of a Marine*; Jeter A. Isely and Philip A. Crowl, *The U.S. Marines and Amphibious War: Its Theory, and Its Practice in the Pacific*, (Princeton, NJ: Princeton University Press, 1951); Anthony A. Frances, *History of the Marine Corps Schools*, (Quantico, VA: Marine Corps Schools, 1945); and Karen L. Corbett, "Marine Corps Amphibious Doctrine: The Gallipoli Connection," (thesis, Marine Corps Command and Staff College, 1990).

7. The Ellis Group, "21st Century Maneuver," *Marine Corps Gazette*, (Quantico, VA: November 2016).

8. The Ellis Group, "21st Century Combined Arms," *Marine Corps Gazette*, (Quantico, VA: December 2016).

9. *F.T.P.-167*.

10. *Landing Force Manual 01 (Tentative Joint Publication 3-02), Doctrine for Amphibious Operations*, (Washington, DC: GPO, 1 November 1986).

11. *JCS Test Publication 3-02.1, Joint Doctrine for Amphibious Operations*, (Washington, DC: GPO, 1989), available at <https://fas.org>.

12. *Joint Publication 3-02, Amphibious Operations*, (Washington, DC: GPO, 18 July 2014).

13. Ibid.

14. Janet A. St. Lawrence, *Issues Related to Navy Battleships (GAO-06-279R)*, (Washington, DC: U.S. Government Accountability Office, 2009). See also Ronald O'Rourke, *Navy DDG-51 and DDG-1000 Destroyer Programs: Background and Issues for Congress* (CRS Report No. RL32109), (Washington, DC: Congressional Research Service, 2013). For intent to fill naval surface fires gap and the original intent to purchase 32 and reduction to current plan for three Zumwalt class destroyers. Christopher P. Cavas, "New Warship's Big Guns Have No Bullets," *Defense News*, (Washington, DC: November 2016), available at <http://www.defensenews.com>.

15. Carl von Clausewitz, *On War*, edited and translated by Michael Howard and Peter Paret, (Princeton, NJ: Princeton University Press, 1984).

16. G.S. Isserson, *The Evolution of Operational Art* (1936, report, Fort Leavenworth, KS: Combat Studies Institute Press, 2013). See also Richard Simpkin, *Deep Battle: The Brainchild of Marshal Tukhachevskii*, (London: Brassey's Defence Publishers, 1987); and Charles E. Thompson, "Miracle on the Vistula: The Red Army's Failure and the Birth of the Deep Operations Theory of Annihilation," (monograph, School of Advanced Military Studies, Fort Leavenworth, KS: 2017).

17. Shimon Naveh, *In Pursuit of Military Excellence: The Evolution of Military Theory*, (Portland, OR: Frank Cass, 1997).

18. John R. Boyd, "Patterns of Conflict," eds. Chet Richardi and Chuck Spinney, (PowerPoint, Online: January 2007, available at <http://www.dnipogo.org>, "Proceedings of Seminar on Air Antitank Warfare, May 25-26, 1978," (Springfield, VA: Battelle, Columbus Laboratories, 1979), and "Armored Warfare in World War II," conference featuring F.W. von Mellenthin, Generalmajor German Army, (Springfield, VA: Battelle, Columbus Laboratories, 1979).

19. Mary R. Habeck, *Storm of Steel*, (Ithaca, NY: Cornell University Press, 2003). See also Rolf-Dieter Müller, *Das Tor zur Weltmacht*, (Boppard am Rhein, Germany: Harald Boldt Verlag, 1984).

20. For the German context of destruction: Deutsches Kriegsministerium, *D.V.E. Nr. 53. Grundzüge der höheren Truppenführung*, (Berlin: E.S. Mittler und Sohn, 1910). See also Jehuda L. Wallach, *The Dogma of the Battle of Annihilation*, (London: Greenwood Press, 1986); Colmar von der Goltz, *The Nation in Arms: A Treatise on*

Modern Military Systems and the Conduct of War, translated by Philip A. Ashworth, (London: Hugh Rees, 1906); Donald Cranz, "Understanding Change: Sigismund von Schlichting and the Operational Level of War," (monograph, School of Advanced Military Studies, Fort Leavenworth, KS: 1989); Heeresdienstvorschrift (H.Dv.) 300/1 *Truppenführung*, (Berlin: Verlag von E.S. Mittler und Sohn, 1933), translated by US Army Command and General Staff School (1936 reprint); Heinz Guderian, "Kraftfahrkampftuppen," *Militärwissenschaftliche Rundschau*, (Berlin: E.S. Mittler und Sohn, 1936); Heinz Guderian, "Die Panzertruppen und ihr Zussamenwirken mit den anderen Waffen," *Militärwissenschaftliche Rundschau*, (Berlin: E.S. Mittler und Sohn, 1936); and Waldemar Erfurt, "Die Überraschung im Kriege," *Militärwissenschaftliche Rundschau*, (Berlin: E.S. Mittler und Sohn, 1937).

21. Lawrence Freedman, *Strategy: A History*, (Oxford: Oxford University Press, 2013).

22. *On War*.

23. David E. Johnson, *Occasional Paper: Military Capabilities for Hybrid War; Insights from the Israel Defense Forces in Lebanon and Gaza*, (Santa Monica, CA: RAND, 2010); Matt Matthews, *Long War Series Occasional Paper: We Were Caught Unprepared: The 2006 Hezbollah-Israeli War*, (Fort Leavenworth, KS: U.S. Army Combined Arms Center, Combat Studies Institute Press, 2008); Russell W. Glenn, *Army Research Paper*, vol. 9, *Short War in a Perpetual Conflict: Implications of Israel's 2014 Operation Protective Edge for the Australian Army*, (Russell, A.C.T.: Department of Defence, 2016); Kha M. Nguyen, "Learning to Mow Grass: IDF Adaptations to Hybrid Threats," (monograph, School of Advanced Military Studies, Fort Leavenworth, KS: 2017).

24. Table of Organization and Equipment (T/O&E) Weapons Company, Infantry Regiment, F-7, (Approved 27 March 1944), available at <http://www.ibiblio.org>.

25. Daniel Wasserbly, "Pentagon Budget 2018: USMC End-Strength Increases to Focus on Intel, Cyber," *Janes Defence Weekly*, (Washington, DC: 8 June 2017): The corps will 'focus its personnel growth in areas such as intelligence, electronic warfare, cyber and information warfare, Lieutenant General Robert Walsh, deputy commandant for combat development and integration, told the Senate on 6 June 2017."

