



MARINE CORPS **Gazette**

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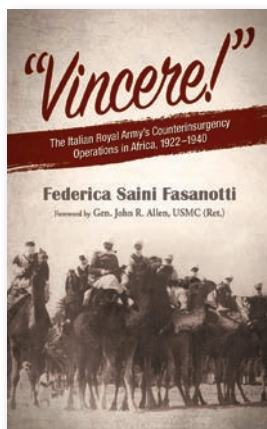




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Marines with the 22d MEU train in Norway in March 2022. (Photo by Cpl Yvonna Guyette.)

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THEIR INSIGHTS ON RADICAL CHANGE.**



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Submit entries anytime
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See p.30 for instructions.

The writing contest is open to active duty Marines
and members of the Marine Corps Reserve.



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JANUARY 2023

Editorial: Special Operations and Future Force Design

As we begin the new year, the January edition focuses on Marine Corps Special Operations Forces and expands that focus to include the relationship between Special Operations and Future Force Design in the Marine Corps. The Commanding General of MARSOC, MajGen Matthew G. Trollinger, introduces the series of articles from across his command with a letter on page 6. In addition to the relevant features on our cover, several more articles examine the roles MARSOF may play as part of the Corps' future operating concepts for Stand-in Force, and EABO including on page 18, "Multi-Discipline Intelligence Operations" by MGySgt Willy R. Pascua Jr. and on page 32 "Future of MARSOC Logistics" by Maj Takashi Okamoto. In broader areas related to Special Operations and Irregular Warfare, we present articles on Security Force Assistance: "Advising Foreign Security Forces" by CIV Michael G. Murray II and LtCol Kirk A. Johnson on page 37 and service with the State Department in "Marine Attachés" by CIV Scott A. Westerfield and LtCol Joseph P. Davidoski on page 42.

This month's edition also continues the professional discourse regarding *Force Design 2030*. We present articles by Marines across the Corps identifying specific challenges facing Stand-in Forces and proposing solutions. Discussions of "contested logistics" include on page 52 "Covert Supply Dumps" by Capt Michael Donovan and Capt Michael J. Sherman and on page 64 with "The Littoral Logistics Battalion" by Capt Michael Roeske and 1stLt Dillon Thompson. Examinations of the requirements for Marine Stand-in Forces to present a credible deterrent to adversary naval forces include on page 59 "Missile Math for Marines" by Maj Andrew Mirsch, and on page 73 "The Main Effort of the Marine Littoral Regiment" by Maj Matthew G. Schedler and MSgt Joshua J. Stepp. We also present the introduction to a series of three articles by the group of authors referring to themselves as "Chowder II." On page 76 "A Preface to 'A Better Way Forward' and Its Authors" explains who makes up this group and the counterargument to *Force Design 2030*. The series will follow in the coming months and is currently available "in toto" on the *Gazette* website.

Two more stand-out articles this month illustrate the power of speculative fiction and spotlight the creative thinking of their authors. In our ongoing Ideas & Issues features on Strategy and Policy "Red Star Over the Caribbean" by Maj Geoffrey Irving on page 48 presents a cautionary tale of great power competition in the information age. On page 88, "#CANCELMOLLY" by frequent contributor Maj Brian Kerg presents a story of the challenges a future Commandant faces in the Information Environment and the "battle of the narrative."

As we march into 2023, the *Gazette* will continue to publish the relevant observations, constructive criticism, and practical recommendations of Marines and other authors on the issue of greatest importance to the Corps. Just as when first published in 1916 your professional journal will continue to provide the platform for the open exchange of ideas on the improvement of the Corps. Finally, a special thank you to Dave Pummell, Tony "Bull" Marro, and the MARSOC authors for their outstanding support for this month's edition.

Christopher Woodbridge

Sustainment and Logistics Data Management

■ As a longtime reader of the *Gazette*, I applauded the Editor and Publisher's May 2022 editorial in which he asserted that "fact-based debate makes our thinking clearer and our arguments stronger" and reaffirmed his commitment to sustaining the *Gazette's* 106-year role as the premier forum for vibrant professional discourse and debate about our Nation's Marine Corps. In that spirit, I was troubled by two articles in the May issue, both emanating from Marine Corps Systems Command. The first was a letter from the commander, in which he discussed Marine Corps Systems Command's role in sustainment and appeared to conflate the two separate and distinct sustainment lines of effort codified last fall in *Marine Corps Order 5000.27*. The first line of effort is "force sustainment," which, per the Marine Corps Order, is led by the Commandant of the Marine Corps through his Deputy Commandant for Installations and Logistics. *SECNAV Instruction 5400.15D*, which underpins the Marine Corps Order, vests in the Service Chiefs (not the SYSCOM commanders) the responsibility to serve as the primary policy focal points for "all matters dealing with sustainment and life-cycle logistics." The second line of effort is "system sustainment," which is the responsibility of the Commander, Marine Corps Systems Command. To manage force sustainment, the Deputy Commandant for Installations and Logistics leverages data and an Enterprise Ground Equipment Management (EGEM) governance structure that creates unity of effort to increase materiel readiness and reduce sustainment costs across the force. After reading another article in the May issue by the Product Manager for Corrosion Prevention and Control at Marine Corps Systems Command, I could not help but wonder how the EGEM governance structure could help improve the Service's campaign plan for winning its "war on corrosion."

The second article I found troubling, "Data Bullets for the Warfighter," was produced by PMW 230. Aside from numerous nomenclature errors ("Envi-

ronmental Data Repository" instead of "EGEM Data Repository," "Mainframe Data Repository" instead of "Master Data Repository," "Enterprise Ground Equipment Maintenance" instead of "Enterprise Ground Equipment Management, etc.), the article completely omits the innovative and foundational work done by the Deputy Commandant for Installations and Logistics in 2015–2016 to close the "central repository for logistics data" capability gap the article identifies. Recognizing the Marine Corps' need for a logistics data management capability (and absent a Marine Corps-owned ready data environment and credible business intelligence tool, given the demise of the Marine Corps' Total Life Cycle Management-Operational Support Tool), the Deputy Commandant for Installations and Logistics developed a secure, cloud-based EGEM Data Repository that integrates a host of standard and non-standard data sources to enable data analysis and visualization and decision support. The EGEM Data Repository has served as the engine powering all *Force Design 2030*-driven inventory management analysis, and the Logistics Data Service development efforts described in the article are being built on its shoulders.

For the Marine Corps' sake, I hope decisions today are being made not just with an eye toward the future, but with a clear and accurate view of history as well.

Cpl Richard Hicks

"Marine Corps Groundbased Air Defense"

■ I would like to thank Col Lobik for his May 2022 update on the Ground-based Air Defense (GBAD) Program Office and overview of the current and future state of Marine Corps GBAD. Col Lobik correctly identified that many of our tactics, techniques, and procedures to mitigate the threat from enemy air have atrophied as a result of the assumption and realization that the United States has achieved air supremacy in past conflicts. Marine leaders would be wise to re-think this assumption moving forward as the air domain will almost

certainly be contested in the future.

As a former Low-Altitude Air Defense Marine, I routinely found myself challenged to ensure those that I was advising planned for and took actions to counter the enemy air threat. This was true both in training against a notional threat, and in combat helping design and implement integrated air defense systems for the MAGTF. I am heartened to hear that our senior leadership has provided the GBAD Program Office and Operating Forces with the necessary support and resources to counter threats posed by potential peer and near-peer adversaries.

While the approach and technology described in the article are evolutionary, for the near future, it seems as though the MAGTF will continue to be largely reliant on the Marine, their Stinger missile, and a sensor for close-in, short-range, groundbased air defense. I encourage the GBAD Program Office to continue to consider highly interoperable, mobile, and lethal systems that support our maneuver warfare doctrine. While we await those systems to be fully fielded, it will be incumbent upon Marine leaders to assume that the airspace will be contested in future fights and take actions to mitigate the threat to their units through active and passive air defense measures.

LtCol David McCulloh (Ret)

Reunion

Org: Hotel Company, 2nd Battalion, 7th Marines Vietnam Veterans Reunion (1965–1970)
Dates: 8–11 June 2023
Place: The Hyatt Place Hotel
 Bricktown, Oklahoma City, OK 73104
POC: Jerry Norris
 940-631-7233
 postalm16@hotmail.com

Letters of professional interest on any topic are welcomed by the *Gazette*. They should not exceed 300 words and should be DOUBLE SPACED.

Letters may be e-mailed to gazette@mca-marines.org. Written letters are generally published three months after the article appeared.

The entire *Gazette* is now online at www.mca-marines.org/gazette.



GEN ROBERT E. HOGABOOM LEADERSHIP WRITING CONTEST



Gen Robert E. Hogaboom.

The Marine Corps Gazette's second annual Gen Robert E. Hogaboom Leadership Writing Contest is here. The contest honors the essay that is the most original in its approach to the various aspects of leadership. Authors should not simply reiterate the 11 Principles of Leadership or the 14 Leadership Traits of an NCO addressed in the Guidebook for Marines. Authors must be willing to take an honest, realistic look at what leadership, either positive or negative, means to them and then articulate ways and methods of being an effective leader of Marines.

DEADLINE: 31 January, 2023

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Background

The contest is named for Gen Robert E. Hogaboom, USMC(Ret), who served the Corps for 34 years. Upon graduating from the Naval Academy in 1925, Gen Hogaboom saw service in Cuba, Nicaragua, and China. Following action in a number of key Pacific battles in World War II, he later served first as assistant division commander, then division commander, 1st Marine Division, in Korea in 1954-55. Gen Hogaboom retired in 1959 as a lieutenant general while serving as the Chief of Staff, Headquarters, U.S. Marine Corps, and was subsequently advanced to the rank of general.

Prizes include \$3,000 and an engraved plaque for first place; \$1,500 and an engraved plaque for second place; and \$500 for honorable mention. All entries are eligible for publication.

Instructions

The contest is open to all Marines on active duty and to members of the Marine Corps Reserve. Electronically submitted entries are preferred. Attach the entry as a file and send to gazette@mca-marines.org. A cover page should be included identifying the manuscript as a Gen Robert E. Hogaboom Leadership Writing Contest entry and include the title of the essay and the author's name. Repeat title on the first page, but author's name should not appear anywhere but on the cover page. Manuscripts are acceptable, but please include a disk in Microsoft Word format with the manuscript. The *Gazette* Editorial Advisory Panel will judge the contest during February and notify all entrants as to the outcome shortly thereafter. Multiple entries are allowed; however, only one entry per author will receive an award.



Fellow *Gazette* readers,

Since last year’s January issue featuring Special Operations and Irregular Warfare articles, Marine Forces Special Operations Command (MARSOC) has continued to refine and implement changes to adapt the force to meet the threats and requirements of the future operating environment. Significant changes in the geo-political arena have driven home the need for timely innovation and modernization. As such, MARSOC has been pursuing a special operations formation that will better posture us both for near term and longer-term requirements. This effort provides an opportunity for MARSOC to serve as a connector between the Marine Corps and United States Special Operations Command in the era of strategic competition and integrated deterrence.

In March of 2021, MARSOC published our Operating Concept, which we refer to as Strategic Shaping and Reconnaissance (SSR). Since then, we have continued to refine the SSR concept, which can be distilled down to those operations, actions, and investments (OAls) conducted to illuminate adversary activities, intentions, and capabilities for the purpose of expanding options for the Joint Force Commander. In competition, these options span all domains, but remain non-kinetic. During crisis and conflict, SSR expands to include kinetics. The two major components of SSR, Littoral Irregular Warfare and Special Reconnaissance employ Special Operations Forces core activities to shape the operating environment while strengthening alliances and partnerships. These provide distinct advantages, with the combined capability to employ Littoral Special Reconnaissance for the purpose of preparing the environment for Combined and Joint Forces. MARSOC’s Force Design initiative—termed Next Generation Raider Force (NGRF)—is currently being refined with an expected initial operational capability of 2025. MARSOC landed on this design through a rigorous study of organizational change, inspired and influenced by the Harvard Business School, and concluded that the most resilient and successful organizations are “ambidextrous.” They simultaneously exploit those successes that made them great while also exploring new ideas and initiatives that posture them for success in the future. Our NGRF design is built on this principle. We will continue to exploit what has made us successful—combat-focused Raiders capable of excelling at full spectrum special operations—while concurrently exploring new organizational design and capabilities.

The Concept for Naval and Special Operations is the strategic vision coordinated through the Marine Corps, Navy, and United States Special Operations Command directing the interoperability and integration of naval and special operations forces. MARSOC is ideally postured to serve as the connector between Marine Corps and United States Special Operations Command efforts. MARSOC conducting current operations in the contact layer as part of the Stand-in Forces, concurrently provide an opportunity for “recon-pull” for the Service through SSR.

As we move to the future, MARSOC will continue to refine and further develop the SSR concept and NGRF organizational design. Through focused experimentation, our subordinate elements provide valuable lessons learned. We participate in Marine Corps, Navy, and SOCOM wargames while also conducting our wargame, Para Bellum Horizon, designed to refine our modernization as part of a strategic planning process. Most importantly, we are aggressively aligning resources through the programming cycles to realize these efforts.

As always, we are grateful for the opportunity to share our perspective and give *Gazette* readers a glimpse into our future. We intend that the following articles will spark constructive discussion that inform the ongoing Force Design efforts. Semper Fi, Spiritus Invictus and Gung Ho!

MATTHEW G. TROLLINGER
Major General, U.S. Marine Corps
Commander
Marine Forces Special Operations Command

Leveraging U.S. Special Operations in the Grey Zone

Confronting peer competitors

by LtCol Anthony Mercado

After the attacks of 11 September 2001, America wanted to strike back quickly. The solution was U.S. Special Operations Forces creating Task Force Dagger and Task Force K-Bar in October 2001. Task Force Dagger contained Operational Detachment Alphas from the 5th Special Forces Group. Its role was to covertly insert these units into Northern Afghanistan, link up with the Northern Alliance to assess their capabilities, and coordinate and integrate joint and coalition close air support. TF K-Bar was a mix of Operational Detachment Alphas and SEAL Teams. Their role was to conduct special reconnaissance and site exploitation. Once inserted, these units with their Northern Alliance counterparts began wreaking havoc on the enemy, calling in airstrikes and waging war against the Taliban and al-Qaeda.¹ That was over twenty years ago. Today, the United States faces new challenges.

The *Interim National Strategic Guidance* and the *National Defense Strategy* clarify that the new U.S. focus is competition with revisionist powers like the People's Republic of China (PRC).² For the maritime Services, the Secretary of the Navy's most recent guidance characterizes China as one of the country's top four pressing challenges. The PRC desires to create a world consistent with its authoritarian model through asymmetric operations in the grey zone, especially in the South China Sea.³ United States Special Operations Command defines the grey zone as competitive

>LtCol Mercado is a Special Operations Officer assigned to MARSOC and stationed at Camp Lejeune, NC, where he holds the billet of the JTF-IP Operations Officer.



A SOF operator posts security during a patrol somewhere in the Pacific. (Photo provided by author.)

interactions among and within state and non-state actors that fall between the traditional war and peace duality. A key element of operations within the grey zone is that they remain below the threshold of an attack that could have a legitimate conventional military response or *jus ad bellum* (just war).

China purports to have indisputable sovereignty over most of the South China Sea (SCS) from its coastline extending out through the nine-dashed line. This aggressive expansionism has enormous international implications because of the region's oil, natural gas deposits, and merchant trade.⁴ Exercising control over the SCS would give the PRC a great deal of economic and diplomatic leverage over other Asian nations and the world. Through USINDOPACOM and SOCPAC, Special Operations Command must increase special operations in the INDOPACOM area of operations (AO) and other areas of strategic influence that directly affect the PRC's efforts for uncontested access to the SCS and surrounding geopolitical territories. The focus of these special operations should be foreign internal defense (FID), special reconnaissance (SR), and unconventional warfare (UW). These collective efforts will allow the United States and its allies to compete with and contain the PRC while strengthening bilateral security relationships. The United States has to face the PRC asymmetrically using special operations because the PRC has refuted the assumptions upon which

the U.S. Joint Force was built—near definitive air, land, and sea control with assured communications. Additionally, after twenty years of conflict, the conventional U.S. military needs time to change its mindset and how it fights while updating its equipment. The basis for understanding how these special operations could be effective in great-power competition and the grey zone is to conduct an overview of the PRCs policy and strategy.

The PRC

The PRC state-sponsored and state-controlled propaganda outlets seek to convince audiences that China is a peaceful and defense-oriented country. This message is the antithesis of reality. Although it is more propaganda than practice, the PRC's stated policy is a "defensive posture unless provoked."⁵ According to the PRC, this "posture" focuses on protecting the Chinese Communist Party, deterring aggression, safeguarding national political security and social stability, opposing and containing Taiwan's independence, safeguarding the PRC's territorial integrity, and protecting interests in space, electromagnetic, and cyber domains.⁶ The PRC intensified its efforts to advance development in economic growth, strengthen its armed forces, and take a more active role in global affairs.⁷ Simultaneously, the PRC recognized that its armed forces should take a more active part in advancing its foreign policy by conducting operations in the grey zone.⁸ According to a DOD report to Congress in 2020, the PRC's strategy aims to achieve "the great rejuvenation of the Chinese nation" by 2049.⁹ China's strategy can be characterized as full-spectrum diplomacy, meaning the aggressive, skillful use of every instrument of statecraft available from military coercion and geoeconomics intimidation to economic rewards and high-profile negotiations.¹⁰ At first glance, the PRC's policy appears to be overly antagonistic—even hostile.

However, this policy's purpose is not to initiate hostilities but to create limited options and potential responses from SCS territorial claimants and the global community while controlling the narra-

tive to bolster the PRC's world standing. The 2014 Haiyang Shiyou 981 oil rig crisis is a great example. The PRC triggered the crisis by dispatching their massive oil rig in Vietnamese-claimed waters in the SCS, claiming those waters were part of the PRC's exclusive economic zone. The PRC then maintained pressure on Vietnam, through coercion and intimidation, by deploying a combination of coast guard ships and People's Liberation Army Navy vessels. After denying many Vietnamese requests to de-escalate the crisis, the PRC sent State Councillor Yang Jiechi to negotiate an amicable agreement with Vietnam.¹¹ The PRC's actions put Vietnam in a quandary with very few options, and those options seemed only to benefit the PRC. Additional examples of PRC aggression are the sinking of a Vietnamese fishing vessel in the SCS, the construction of hydroelectric dams along the Mekong River (negatively affecting Laos, Cambodia, and Vietnam), Taiwanese airspace incursion, and the unfounded territorial claims and building of military compounds in the South China Sea.¹² Furthermore, there is an increase in PRC grey zone operations directly against U.S. warships in the SCS. The People's Liberation Army Navy maneuvered dangerously close to U.S. ships, illuminating them with fire-control radar (suggesting the imminent launch of weapons) while PLA Air Force aircraft conducted close-range, highspeed overflights.¹³ The PRC's escalatory actions have gone mostly unanswered. The United States must respond to these actions in kind to hold the PRC accountable for their aggressive actions using U.S. Special Operations Forces (USSOF) as a potential retaliatory mechanism.

Despite the perception that USSOF units excessively focus on counterterrorism and direct action, special operators spend a great deal of time deploying globally, working with and training partner forces, also known as FID. Counterterrorism and direct action are only two of the twelve core activities for special operations forces (SOF).¹⁴ Most of the remaining core SOF tasks involve conducting FID and developing lasting relationships with the host nation forces that support

U.S. interests and global stability. USSOF teams assigned to the Indo-Pacific have regional language proficiency, cultural training, fiscal and operational authorities, and advanced skill sets that lend significantly to establishing and maintaining these relationships. Fortunately, some vital relationships exist with critical players in INDOPACOM in countries such as the Philippines, Singapore, and Thailand. Through these relationships, USSOF can conduct steady-state competition with the PRC by preventing them from forming alliances and denying them influence in the SCS and the INDOPACOM AO.

Foreign Internal Defence

The conventional military sees competition with the PRC as a scenario where special operations forces support conventional forces. However, USSOF are uniquely qualified to achieve military, political, economic, or psychological objectives by unconventional military means in hostile, denied, or politically sensitive areas, especially in the grey zone.¹⁵ Great power competition and operations in the grey zone are the types of conflicts in which special operations forces are already thriving and needed more than ever.¹⁶ In these types of operations, USSOF complements or sets the conditions for conventional forces, not replaces them. However, after two decades of conflict in the CENTCOM AOR, U.S. conventional forces need to recapitalize on their equipment and retrain personnel. USSOF operations can buy time for conventional forces as they transition from a counterinsurgency focus to educating and training their forces for operations in the grey zone against the PRC—an arduous task. While conducting FID, USSOF teams train and assist partner forces, including foreign militaries, to fight and defeat internal and external threats. FID operations focus on improving the host nation's (HN's) internal defense and military capabilities to enable the HNs to counter subversion and violence and maintain internal stability. Additionally, USSOF can help identify the causes of instability and, through FID, address those causes (whether the HN

desires to address those causes is another matter). USSOF designs FID programs focused on counterterrorism, counterinsurgency, counterdrug, or stability operations based on the requirements of the individual HN.

USSOF uses relationships as a tool of influence from grey-zone operations to armed conflict. When conflicts start, USSOF can leverage these relationships established before and during grey-zone operations to accomplish similar objectives and provide mutual support (including but not limited to logistics, intelligence, and civil engagement).¹⁷ USSOF conducts influence operations to prepare target audiences within the HN (and adjacent nations if required) that support friendly efforts and oppose adversaries from competition to conflict. Supporting HN efforts are accomplished through building partner nation-force capabilities, enhancing USSOF and partner nation-force interoperability, and building rapport. USSOF's enduring presence in the AO can demonstrate U.S. commitment to the region while deterring PRC malign behavior, protecting U.S. interests, and maintaining access and placement in that particular country.

USSOF can potentially influence, empower, and mobilize HN civil entities to execute tasks that benefit the HN, the United States, or both; and, more importantly, have adverse effects on the PRC. As a subtask of FID, Civil Network Development and Engagement enables the USSOF to understand civil entities to empower and potentially mobilize civil networks to resist adversaries.¹⁸ USSOF can develop relationships with and influence shipping infrastructure workers to strike at specified times with the maximum adverse effects on the PRC while minimizing the impact on the HN and other allies. USSOF may consider coordinating with toll booth operators at specified canals and straits or port authorities to conduct extensive inspections to delay Chinese cargo ships and impose a significant financial delay in trade. Although self-imposed, it would be similar to the supply chain issues the United States is currently experiencing. Even though these actions may seem benign, they are well within

the grey zone and likely will not escalate to conflict while incurring costs to the PRC. These actions interfere with their economic Belt and Road Initiative and will more than likely cause the PRC to divert resources to deal with these problems. Simultaneously, USSOF can exploit these inefficiencies in the PRC logistics system through the information domain (i.e., media outlets and social media) to erode PRC economic standing, credibility, and influence.

When properly integrated with FID, Civil Affairs and Military Information Support Operations (MISO) can potentially affect the PRC through grey-zone operations. Civil Affairs teams increase the legitimacy of the partner force (and government by proxy) by strengthening bonds with the local populace.¹⁹ Civil Affairs teams establish rapport amongst these local actors by providing essential services, outreach, engagement, or other activities. This support gains trust and bolsters rapport between USSOF and the local actors while delegitimizing PRC influence. Concurrently, MISO teams advise and assist partner forces, HN government entities, or both in information operations to influence target audiences to support friendly activities while countering the PRC's narrative. In support of the great-power competition and grey-zone operations, a successful FID operation prevents binding commitment for additional U.S. troops to support potential future combat operations. The end state of FID is for USSOF to either transition the training mission to a conventional force or develop an HN force capable of conducting unilateral operations. Either way, the United States further solidifies its relationship with HN forces. FID is one of several effective tools employed by USSOF in grey-zone operations.

Special Reconnaissance

Effective grey-zone operations require the INDOPACOM commander to employ strategic sensors to conduct SR operations against those adversaries who desire to weaken our strategic relationships and erode our military advantage across the threat spectrum. USSOF conducts SR activities overtly, clandestinely, or covertly to collect

or verify information of strategic or operational significance.²⁰ USSOF conducts SR throughout the competition continuum—in cooperation, competition, and conflict, employing military capabilities not found in conventional forces. These actions provide INDOPACOM with enhanced collection capabilities and complement (or supplement) national and theater intelligence collection assets by collecting specific and time-sensitive information, even in a technology degraded environment. Moreover, SR connects the Joint, Interagency, Intergovernmental, and Multinational (JIIM) communities to develop persistent collection networks across all domains. These networks provide an enhanced, amalgamated strategic intelligence, surveillance, and reconnaissance effort. The connecting of critical entities such as JIIM, fulfilling priority information requirements, and monitoring human factors within all domains can disrupt the PRC decision-making cycle and, as appropriate, counter PRC action. SR may also complement other collection methods constrained by weather (an issue in INDOPACOM), terrain masking, or adversary defenses.²¹ SR provides essential information through persistent surveillance to develop the INDOPACOM commander's situational awareness. This tool provides him access to the part of the theater ISR architecture that requires the human domain to support information attained by other collection means. This insight is necessary for the commander to make informed decisions about potential follow-on missions, critical assessments, and early warning of enemy or friendly activity that may adversely affect U.S. interests. SR capabilities in the multi-domain environment provide target analysis through a tailored process, including exploitation and dissemination, against networks and prioritize assets to target those systems and minimize detection.

USINDOPACOM continues to be challenged in permissive environments to gain and maintain access and placement within the INDOPACOM AO due to PRC operations in the grey zone. USINDOPACOM can employ

SR capabilities and prepare the battlespace through scalable influence and shaping activities to gain and maintain operational access.²² Persistent access expands the operational options for USSOF beyond those mentioned above. SR can act as an early warning system to prevent PRC SOF or maritime units from conducting amphibious landings on allied shores such as Taiwan. SR provides the USINDOPACOM commander with current and detailed collections and, when tasked, directs action against a specific network, facility, or individual associated with threats against the Nation's interests. Using this intelligence, the commander can develop plans to place the PRC in multiple dilemmas across all domains while simultaneously imposing costs and changing the PRC's risk assessment. The frustration of the PRC decision-making cycle creates friendly decision time and space while providing options for the commander. SR permits USSOF to identify and collect information on the HN's forces, militias, resistance forces, and any other paramilitary organizations that could potentially support U.S. interests in the area. Information on identified key players in the AO (such as key leaders and power brokers) coupled with executing a myriad of implied tasks such as electromagnetic spectrum surveys, hydrographic surveys, and medical reconnaissance (hospitals and clinics) enables USSOF to assist INDOPACOM in setting the theater for follow on conflict. The success of SR relies on a simultaneous cross-domain, integrated (JIIM) approach to enhance the commander's decision making and support to the non-kinetic fires kill chain in grey-zone operations.

Unconventional Warfare

To be effective against the PRC in the grey zone, INDOPACOM must employ unconventional means against the PRC to maintain ambiguity and apply pressure against areas of weakness. UW is a special operation that includes attachments and external support (i.e., MISO, intel), conducted in complex, austere, and politically sensitive environments to support or counter-resistance movements.²³ UW provides the INDOPA-

COM commander with a potent and threatening weapon against the PRC in the grey zone. By forming relationships with groups having similar aspirations, USSOF can train these groups or surrogates to identify, report, and exploit adversary activities or conduct operations on behalf of the United States. These surrogate actions can enable multi-domain operations for INDOPACOM to compete, deter, and impose costs on the PRC. Additionally, the surrogates can shape the environment to disrupt the PRC and create opportunities that enable INDOPACOM to gain an advantage and diminish favorable options for the PRC.

Employing UW in the grey zone does not have to happen on Chinese soil. Doing so could cause significant political, economic, and military retaliation from the PRC and jeopardize our relationships with countries in the INDOPACOM AO. The PRC has substantial economic interests in natural resources (i.e., minerals, lithium, oil) in South America and Africa. Chinese actions in these regions address the PRC's natural resource deficiency but also help to undermine U.S. influence. Currently, the PRC conducts a significant amount of commerce in these regions: approximately \$315 billion with South America and \$174 billion with the continent of Africa.²⁴ Because of the perceived or actual one-sidedness of PRC engagement in these two regions, increased regional unemployment because of the Chinese imported labor force, and aggressive loans, local populations are infuriated with the PRC and want them out. USSOF can exploit these grievances and train groups or individuals to sabotage equipment, destroy transport vehicles, and disrupt overall resource removal operations. Not only would this damage the PRC economically but it will also drive a wedge between the PRC and the HN, causing the PRC to refocus its attention and resources from the South China Sea to other parts of the world.

USSOF can potentially support INDOPACOM by integrating cross-functional capabilities from cyber, intelligence, MISO, and other non-kinetic-related capabilities with UW to converge effects against the PRC in

the information environment in Xinjiang, PRC. From 11 September 2001 to 2014, while fighting a local insurgency, the PRC sought to eradicate extremism in the Xinjiang region through mass punishments by categorizing Muslim religious beliefs as a disease, sterilizing Uyghurs women, and placing Muslims in concentration camps.²⁵ The PRC's collective punishment and the increasing repression of the Xinjiang minorities created more enemies and practices contradicting U.S. counter-insurgency doctrine. USSOF can drive a bigger wedge between the oppressed Uyghurs and the PRC government. MISO teams can send mass anti-PRC messages over multiple domains to the Uyghurs in Xinjiang to help foster riots, protests, and even an insurgency. These actions could force the PRC to focus its efforts internally to deal with the uprising, taking attention and resources away from the South China Sea. These uprisings could continue to highlight PRC human rights atrocities and garner world sympathy and anti-PRC sentiment. To keep the "U.S. face" off of the operation, USSOF can use surrogate networks to provide supplies, intelligence, and training to the insurgents. If required, the insurgent forces could provide intelligence, conduct sabotage operations against PRC equipment and facilities, and be the lead trace of a U.S. infiltration through the western borders of the PRC.

When applied to critical coastal regions at various port facilities throughout the globe, such as Dubai or Singapore, UW may have the ability to affect the PRC's trade significantly. Since 90 percent of global commerce is transported in the hulls of ships, this creates an opportunity for INDOPACOM to potentially slow 10 percent of the PRC's trade by conducting low-level attacks on Chinese port capabilities or vessels in port.²⁶ These attacks could affect or slow about twenty billion dollars in PRC commerce.²⁷ USSOF can clandestinely or use surrogates to target Chinese flagships awaiting passage through a canal or at a port to slow their progression by covertly damaging critical ship components. Damaging a ship can be as simple as fouling a

screw by breaking off one of the blades, tangling objects in the screw to cause it to slow or stop turning, or damaging the shaft line components. There are components within the propeller designed to fail first to prevent drivetrain damage in many larger transport ships, meaning extended ship delays due to repair.²⁸ From 23–29 March 2021, the grounding of the container ship *Ever Given* in the Suez Canal caused a complete blockage of the maritime passageway for over six days delaying the shipment of an estimated \$9.6 billion in goods per day.²⁹ A combination of environmental factors and human error caused the accident. Consider the potential for USSOF or a surrogate to plan and execute a similar incident via cyberattack using the STUXNET-like worm to target port facility supervisory control and data acquisition SCADA devices that run the conveyers, cranes, and other necessary equipment.³⁰ Similarly, a low-power electromagnetic pulse could also be used to damage ship or port equipment or machinery temporarily. The slowing of traffic in the ports, straits, and canals could frustrate the PRC logistics infrastructure, significantly impacting the PRC's Belt and Road Initiative. A frustrated logistics infrastructure would present the PRC with multiple dilemmas and potentially force them to focus resources on protecting their global shipping network and take their focus off the South China Sea. These tactics would also work well against the People's Armed Forces Maritime Militia, a key actor in the SCS disputes.³¹

The United States cannot face the PRC alone. The United States must act, adapt, reform, and embrace bold initiatives that bring like-minded states and influential non-state actors together in new ways.³² When dealing with the PRC, using UW and developing resistance forces is essential. The PRC has by far the world's largest military, with two million active-duty personnel in 2019, and their overall capabilities across the range of military operations are improving daily.³³ Coupled with a PRC-controlled military-industrial complex, advanced technologies, and a significant number of groundbased bal-

listic missiles that can carry out nuclear and conventional strikes, the PRC is closing the gap in military capabilities with the United States.³⁴ USSOF can assist in maintaining a competitive edge in the grey zone through full-spectrum unconventional warfare by developing pre-conflict relationships and conducting operations in the grey zone by, with, and through our partner force.

The Way Ahead

Although USSOF is uniquely qualified to thrive in the grey zone, it cannot become complacent. Leaders must consistently evaluate the asymmetric methods employed to ensure that they remain well nested within INDOPACOM and SOCPACs objectives and adjusted as needed or directed. Additionally, risk tolerance should remain within the commanders parameters. Moreover, because the PRC is a global issue, geographic combatant commands, theater special operations commands, and the Services must set aside their parochialism for this approach to be effective. Command and control must be decentralized and trust placed in subordinate leaders to make the best decisions based on their training, experiences, and circumstances. While the DOD focuses on training and educating the force for grey-zone operations and great-power competition, an effort to educate civilian policymakers and decision makers must be made. Congruence in education for military and civilian leaders can lead to frugal spending, quicker, more effective decision making, and promoting military operations to garner public support when required. The United States must also look at creative ways to leverage newly formed alliances, such as the United States, Great Britain, and Australia alliance formed in September 2021 to deter PRC influence in the region. Another alliance the United States can leverage is with the Quadrilateral Security Dialogue, or QUAD made up of the United States, India, Japan, and Australia.³⁵ Typically, SOF unit subject-matter expert exchanges or Joint Combined Exchange Training (are the gateway for subsequent engagements between foreign and U.S. conventional forces. Regardless of how we leverage

our allies, personal relationships and trust cannot be forced into being the morning after we are in conflict with the PRC. The relationships developed by USSOF pre-conflict amount to a strategic force multiplier for the DOD and potentially across JIIM.

In addition to fostering relationships, USSOF must maintain a global focus vice a regional one. With the addition of the cognitive (information), cyber, and space domains, problems are no longer regional. State and non-state adversaries can inflict significant damage and cost to the United States and its allies from a computer terminal, eroding civilian confidence in the government, destroying political will, and undermining democracy. The USSOF application in grey-zone operations, although this treatise is specific to INDOPACOM, can and must be used against all of our peer competitors such as Russia, Iran, and the PRK.

Conclusion

Over the last twenty years, the U.S. public and policymakers based their awareness of USSOF on counterterrorism and direct-action missions. While counterterrorism will always be a USSOF mission, policymakers are rethinking USSOF applications in the grey zone and in great-power competition. The United States needs to be aggressive and cunning to prevent China from having uncontested access to the South China Sea and surrounding geopolitical territories. The United States, specifically USINDOPACOM, must take advantage of this window of opportunity while the PRC cannot effectively project power outside of the Indo-Pacific (the further away from the first island chain, the less effective they are). USSOF's unique mission sets, focusing on FID, SR, and UW, will bolster HN societal resiliency, deterrence, and resistance capabilities to assist INDOPACOM in competing with the PRC in the grey zone and preventing their aggressive expansion into the SCS. USSOF must continue challenging the PRC across all domains to achieve INDOPACOM's desired effects while mitigating risk through analysis.

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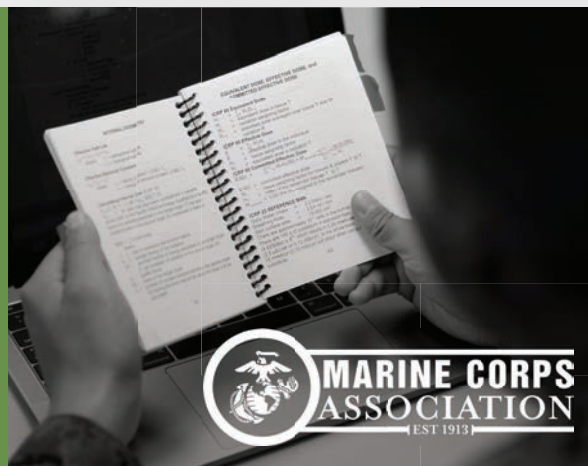
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MARSOC Wargame Series: Para Bellum Horizon

Preparing for war through an aligned SPP

by Mr. Troy Klabo

In March 2022, Marine Forces Special Operations Command conducted its inaugural annual wargame series called “Para Bellum Horizon (PBH-22).” PBH-22 was part of a larger Strategic Planning Process (SPP) that, through the kaleidoscope of the *MARSOF 2030 Vision*, the *US-SOCOM Operating Concept 2030*, *Force Design 2030*, and the *National Defense Strategy*, pitted the Marine Corps Special Operation Command (MARSOC) Strategic Shaping Reconnaissance operating concept against a complex contested future operating environment across the joint, interagency, intergovernmental, and multinational (JIIM) in INDOPACOM. PBH-22 highlighted the need for a “whole of government” approach to wicked gray zone problems targeting the United States, its national interests, and those of its allies and partners.¹ The lessons learned from PBH-22 directly informed the MARSOC force design and modernization efforts while simultaneously stimulating the United States Special Operations Command concepts and designs for entering the Fourth Age of special operations forces (SOF).² While PBH-22 seemed small and insignificant at the time it was conducted, the design, action, and participation forged relationships central to effective interoperability, integration, and interdependence—especially when those SOF, Service, and JIIM relationships can generate actionable effects through real-world partnerships for exercises and operations. Establishing

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these relationships is the first benefit of conducting an annual wargame series as part of the MARSOC Strategic Planning Process. This article exemplifies three main benefits of aligning wargaming to a holistic SPP approach and sets the stage for future PBH wargaming events.

The PBH-22 wargame was led by a Federally Funded Research and Devel-

opment Center called the Center for Naval Analysis and the MARSOC Combat Development and Integration directorate, Strategy and Plans branch. A Federally Funded Research and Development Center enabled agencies to use private sector resources to accomplish tasks that are integral to the mission and operation of the sponsoring agency. Without the Center for Naval Analysis team’s time and efforts, the PBH wargame could not have been conducted, nor would have it accomplished so much. The overall PBH annual wargame series uses a hybrid approach blending the wargaming categories of concept development and combat development and analysis focusing on the future operating environment (Figure 1).³

The PBH-22 wargame design con-



PBH22 event flyer. (Photo provided by author.)

sisted of separated, multi-function elements whose actions worked on a turn-based scenario that encouraged input from all participants, moderated by the Center for Naval Analysis and MARSOC control personnel. The teams for PBH-22 were purposely crafted to represent all functional areas and subject-matter expertise; additionally, care was taken to foster an environment that was conducive to free play and provoke thought. The diversity of team design was essential to capture and align expertise to the divergent and convergent aspects of wargaming wicked gray zone problems.

Before describing the additional benefits of PBH22, one must be familiar with the MARSOC SPP and its linkages. Most DOD planning efforts follow one of two approaches; supply-based, or demand-based to achieve the integrated goals of establishing spending priorities, providing a feasible/affordable capabilities mix, and developing a comprehensive force structure (Figure 2).⁴ These approaches seem simple; however, the implementation is quite complex. Like many SOF components, MARSOC is bound to both Service and SOF Strategic Planning Processes for Force Design, Force Development, and Force Employment. Combine that with a new *National Security Strategy*, *National Military Strategy*, *National Defense Strategy*, and Joint Warfighting Concepts to create an immutable force meets unmovable object scenario, see the Continuum of Strategic Direction in Figure 3.⁵ Surprisingly, that complex scenario did not disrupt PBH-22 results and effectiveness. The second benefit of PBH-22 was the identification, refinement, and use of vignettes or scenarios that portrayed real key operational problems and key Service priorities for use in the wargame evaluation of the operating concept while simultaneously guiding evaluation and informing decisions on strategic prioritization, force design, and critical resourcing throughout the various MARSOC SPP lines of effort. The MARSOC adaptive SPP loosely follows a process-aligned, command-approved, yet personality-driven series of events, decision points, and subsequent writ-

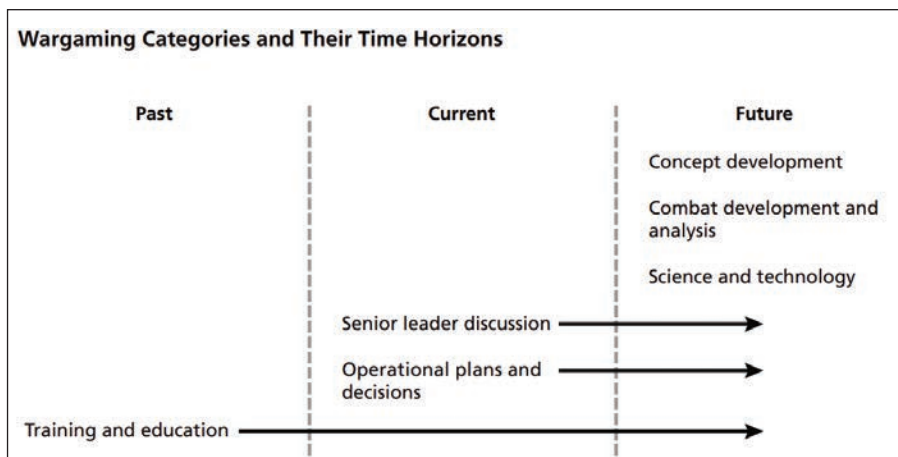


Figure 1. Wargaming categories. (Figure provided by author.)

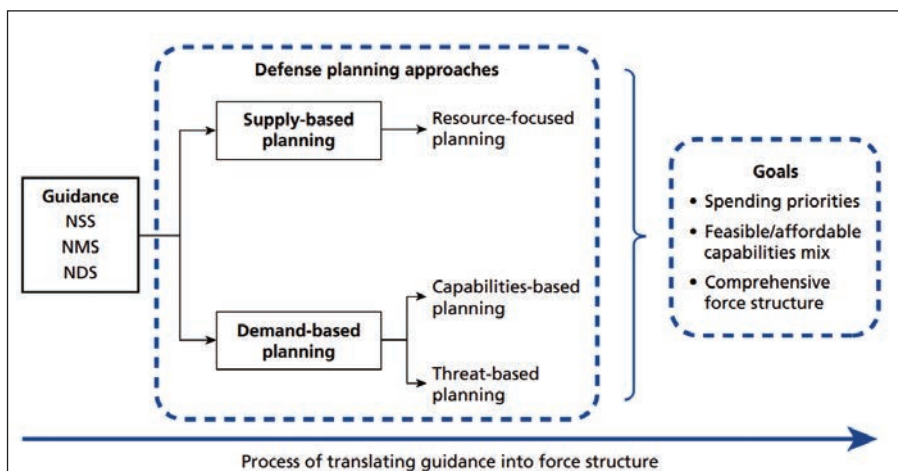


Figure 2. Defense planning approaches. (Figure provided by author.)

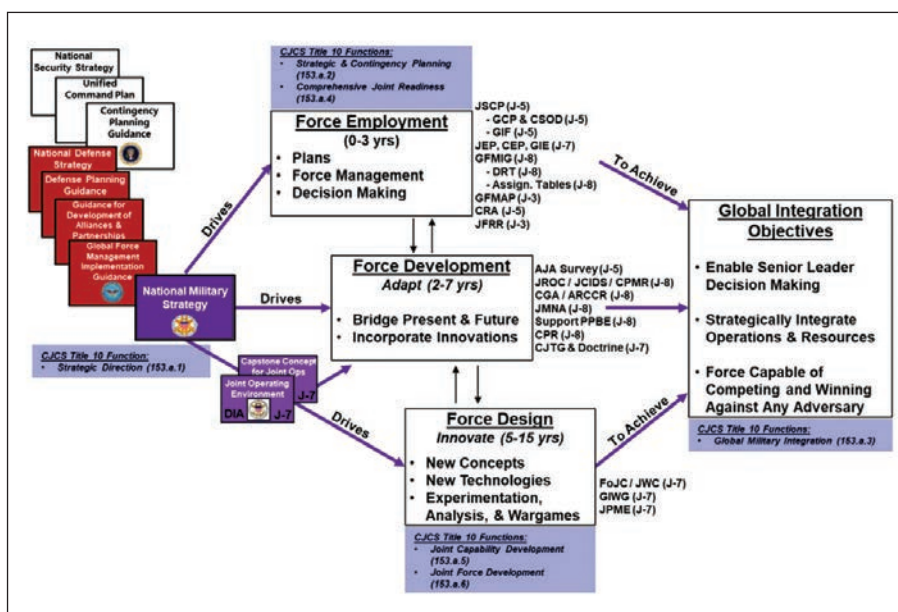


Figure 3. Continuum of strategic direction. (Figure provided by author.)



Figure 4. MARSOF 2030 LOEs. (Figure provided by author.)

ings that provide the inputs, outputs, and associations to the published national, joint, and Service strategic directions. The MARSOC SPP touchpoints span all echelons from the individual to the major subordinate element up to the special staff and command deck. Often, SPP processes have been conducted for so long, and personnel turnover is so high that the significance of some processes is forgotten, causing process reinvention and can result in circular staff efforts; attempt to avoid this as much as possible. PBH-22 used the MARSOC SPP writings and the strategically aligned key operational problems and key service priorities to provide mutually beneficial national to tactical strategic translation covering the Joint Staff Annual Joint Assessment Survey, SOF/Service Force Design efforts, Joint Warfighting Concepts development, and the SOF/Service/Defense POM outlook while evaluating emerging operating concepts and capabilities.

The third wargame and SPP alignment benefit is the identification, refinement, and adoption of unifying themes and energizing repeatable lines of effort. PBH-22 construct provided the functional alignment of expertise across the scenarios and, consequently, the expertise was already aligned to critical points of the MARSOC SPP. Even though not all participants understood their duality of purpose in PBH-22, their fit and function served both the concept evaluation and SPP alignment. *MAR-*

SOF 2030, published in 2018, provides MARSOC SPP with four guiding principles (Figure 4) or lines of effort to energize force adaptation and maximize the value of MARSOC across the JIIM.⁶ Those principles (MARSOF as a Connector, Combined Arms for the Connected Arena, the Cognitive Raider, and Enterprise Level Agility) remain effective today and were on display at PBH-22 and are central to MARSOC Force Design efforts named under the Next Generation Raider Force, a topic reserved for a separate article.

In closing, the overall MARSOC annual wargame concept “Para Bellum Horizon” has proven itself useful. Specifically, the benefits gained from concept wargaming aligned to the MARSOC SPP will continue to reap rewards for MARSOC, Special Operations Command, the Marine Corps, and across the JIIM. Relationships, key operational problems, key service priorities, unifying themes, and repeatable lines of efforts that are evaluated through operating concept benchmarks and wargaming can shape and strengthen the U.S. global partnership framework and promote U.S. comparative advantage. Para Bellum Horizon 23 is planned for execution during the April–June 2023 timeframe. At the time of this writing, the focused problem set will likely be the Joint and Naval Service Crisis to Conflict problem. The regional location and element participation remains to be determined;

however, MARSOC can expect to expand to the South Pacific and are open to combined JIIM participation. If you are interested in participating, please reach out to Troy Klabo, Strategist, MARSOC, Capability Development and Integration, Concepts and Plans Branch: troy.klabo@socom.mil.

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THANK YOU

Multi-Discipline Intelligence Operations

A vision for FMF experimentation

by MGySgt Willy R. Pascua Jr.

“Our philosophy acknowledges that intelligence is inseparable from operations and that effective intelligence shapes or even drives operations.”

—MCDP 2,
Intelligence

>MGySgt Pascua is currently serving as the MARFORSOC G2 Intelligence Chief and the Signals Intelligence/Electronic Warfare Chief.

“Marines enjoy a long history of developing concepts that were successfully turned into real warfighting advantages.”

—Gen Berger, CMC
(A Concept for Stand-in Forces, Proceedings November 2021)

Multi-discipline intelligence operations have been a buzzword alongside “multi-domain” and “cross-functional” in many of the recent planning teams and working groups across the Marine Corps’ modernization and experimentation efforts. A significant shift in the *National Defense Strategy* priorities from counterterrorism/violent extremist organizations to great-power competition has levied an intense campaign of learning on our force.¹

For senior leaders in the Marine Corps Intelligence Surveillance Reconnaissance Enterprise (MCISRE), these shifts to focus on nation-state competitors have begged a number of questions: How do we reduce uncertainty over long persistent time horizons and adapt to a dynamic complex operational environment that crosses into multiple warfighting domains? How do we drive our intelligence cycle faster

than our peer competitors? What type of Marines do we build against these challenges?

MCDP 2 asserts that commanders should aim, to the greatest extent possible, to become self-sufficient in satisfying their own intelligence requirements. Requirements for critical intelligence should be satisfied through organic means whenever possible.² It is a foundational tenet of the Marine Corps warfighting doctrine which we are constantly modernizing. However, we tend to invest an outsized portion of our attention and planning bandwidth on things rather than the development of our people.

Marine Corps Special Operations Command’s (MARSOCC’s) full integration, interoperability, and interdependence of the primary intelligence disciplines as a functional unit of action as part of its primary force offering to Special Operations Command is an operationally actualized vision for FMF experimentation. People who are recruited, screened, and trained together as a cohesive intelligence operations team have provided their MARSOCC commanders with highly adaptive and responsive intelligence cycles across the physical, electromagnetic, and cyber domains since the establishment of MARSOCC.

Intelligence Special Operations Capabilities Specialists

The Intelligence Special Operations Capabilities Specialists (SOCS) that are developed at MARSOCC represent the only collective multi-discipline intelligence capability under SOCOM and arguably across the rest of the Services. These Intelligence SOCS are Marines first and foremost, whose training starts within their primary military occupational specialty tracks. Marines are then recruited and screened for special operations forces (SOF) operations. They attend a SOF training pipeline, which culminates with the Multi-Discipline Intelligence Operators Course (MDI-OC).

MDI-OC is regarded as one of the premier intelligence training courses in all of the Special Operations Command and the DOD. MDI-OC’s multi-discipline approach achieves a “train

like we fight” environment. Furthermore, MDIOC infuses operations/intelligence integration at the DNA level by incorporating experienced CSO and SOO leadership from within Marine Raider Training Center to serve as operations mentors for the candidates throughout the course.

A myriad of follow-on courses on advanced intelligence skills in their specific disciplines as well as across multiple disciplines, in addition to a series of integration exercises, are what is eventually fielded in support of SOF operations, activities, and investments.

From FMF to SOF

Signals Intelligence/Electronic Warfare (SIGINT/EW) Marines are developed across multiple primary MOS (PMOS), including 2621, 2629, 2631, 2641, 2651, 2659, and 2691.³ These PMOSs represent specific SIGINT/EW functions and roles across the intelligence cycle and the electromagnetic spectrum. In the FMF, SIGINT/EW capability is traditionally generated in the form of teams and detachments that are purpose-built against specific technologies and missions.

SOCS-F, Signals Intelligence/Electronic Warfare Operators represent the nexus of tactical SIGINT/EW and tactical Cyber Operations. They are built agnostic to the Marine Corps PMOS 2621, 2629, 2631, 2641, and 2651. Each SOCS-F provides full spectrum intelligence and EW support to planning, conducts force/protection indications and warnings, foreign intelligence collections, preparation of the environment, special reconnaissance, tactical cyber operations, and targeting. They also conduct SIGINT analysis and reporting and provide high-bandwidth secure communications at the team and element level.

Imagery Analysis Specialists and Geographic Intelligence Specialists are two distinct PMOS, 0241 and 0261.⁴ The 0241 Marine processes and analyzes imagery gathered by various sensor platforms to derive intelligence. The 0261 Marine collects, analyzes, and processes geophysical data and geographic information to aid in the production of geographic intelligence products. They

are traditionally assigned to a watch floor or intelligence operations center.

SOCS-G, Geospatial/Imagery Intelligence Analysts are a fusion of the 0241 and 0261 capabilities and lead the latest innovations in integrated data analysis. They conduct full spectrum Geospatial Intelligence Analysis, provide collections operations management, and conduct full motion video production, exploitation, and dissemination. These intelligence SOCS are also certified as ISR tactical controllers and provide direct intelligence support to SIGINT/EW and Counterintelligence/Human Intelligence (CI/HUMINT) operations. The SOCS-G coordinates collection operations and leverages national, theater, and tactical-level ISR. Today, the SOCS-G is driving the integration with SIGINT and All-Source Data Analysts and innovating techniques for commercial data exploitation. Every data point that touches the Earth is theirs to exploit.

FMF CI/HUMINT Marines are created by a lateral move from any MOS. They conduct counterintelligence and human intelligence operations and activities. CI activities are concerned with identifying and counteracting the threat of friendly forces posed by hostile intelligence organizations or by persons engaged in espionage, sabotage, subversion, or terrorism. HUMINT activities are designed to obtain intelligence information using human beings as both sources and collectors, where the human being is the primary collection instrument. They are also certified to conduct interrogations. They are traditionally employed in teams.

SOCS-H, CI/HUMINT operatives provide intelligence and sensitive activities support to planning as well as conduct force protection, insider threat, and collections against foreign-threat entities. These collectors are certified to conduct counterintelligence functional services and vulnerability assessments, in addition to interrogation. The SOCS-H also has a myriad of functional roles in the integration of SIGINT/EW/cyber operations and activities and Geospatial/Imagery Intelligence. The SOCS-H commonly works as an individual operator with the other

intelligence disciplines and often with joint interagency intergovernmental multinational partners and allies.

PMOS 0231 All-Source Intelligence specialists are familiar with all phases and facets of intelligence operations. Typical duties of intelligence specialists involve the collection, recording, analysis, processing, and dissemination of information/intelligence. The intelligence specialist, depending on his rank, may supervise intelligence sections of commands up to and including MEF.

SOCS-I, All-Source Intelligence analysts provide fused multi-discipline intelligence in support of collections, mission planning and execution, preparation of the environment, special reconnaissance, and targeting. The SOCS-I coordinates and directs multi-discipline intelligence operations and support to all assigned SOF. They also provide direct intelligence support to SIGINT/EW and CI/HUMINT operations and activities across the physical, electromagnetic spectrum, cyber, and information domains. The SOCS-I holds it all together.

These Intelligence SOCS Marines are trained and exercised as a fully integrated team, called a Direct Support Team, a downplay of the team’s outsized impact. The Direct Support Team is also scalable to Direct Support Elements for small element and singleton operations. The team is multi-disciplined in its training and is capable of utilizing other intelligence agencies, organizations, and non-intelligence techniques to enhance its primary missions. Each intelligence professional communicates and coordinates between joint, interagency, intergovernmental, and foreign partners throughout the execution of their missions. They harvest unique skills and experiences in MARSOF formations. Those unique skills and experiences are not locked away on Stone Bay.

The Marine Corps maintains a powerful advantage in the open manpower model of the intelligence SOCS roadmap. MARSOC builds SOF intelligence professionals and exports them back into the FMF, who then share their hard-earned experiences and serve as connectors for the Marine Corps and the rest of the Joint Force.

Talent Management and Service-wide Impacts

It is not commonly known that these high-value intelligence professionals cycle out of MARSOC formations and are assigned to some of the most influential billets in the FMF, HQMC, and across the Joint Force. They bring depth and breadth of experience from a well-resourced and intense training, exercise, and deployment cycle in a joint operational environment. These Marines are well-postured to identify emerging capabilities and tactics, techniques, and procedures, drive innovation, and serve as true force multipliers. As of this writing, the billets that are currently filled by intelligence SOCS include but are not limited to: Command Senior Enlisted Leader of USSPACECOMM, Senior Enlisted Leader of the Defense Language Institute Foreign Language Center, Operations Chief of the MEF Information Group, Operations Chiefs of Radio Battalions, Senior Enlisted Advisor of Marine Corps Intelligence Activity, G2 Chiefs at the MEFs and MARFORs, and billets across HQMC (Intel Division, CE-Intel SEA within DC CD&I, MM); in addition to the Marine Littoral Regiment, Division and other high-impact billets in the Joint Force and intelligence agencies.

The same staff non-commissioned officers and senior enlisted leaders that have served in MARSOF formations are regular active participants and functional capability advisors to the flurry of experimentation, wargaming, and concept development planning teams that the CMC campaign of learning has generated.

Stand-in Forces

The center of gravity for Stand-in Forces (SIF) is placement and access. SIF calls for forward-postured, steady-state forces operating in contested areas to create a strategic advantage. MARSOC's operating concept, Strategic Shaping and Reconnaissance, is a functional complement to SIF. "SSR [Strategic Shaping and Reconnaissance] connects and synchronizes the global and theater-level priorities through the development of human, physical, and virtual infrastructure."⁵

"A Concept for Stand-in Forces is a sophisticated vision designed to provide solutions to a difficult problem. It will require changing how business is conducted, not just with the Marine Corps but also the Navy, joint force, and interagency."

**—Gen Berger, CMC,
(A Concept for Stand-In Forces,
November 2021, Proceedings)**

Today, Raider Intelligence SOCS, as a critical component of integrated MARSOF units of action, are conducting intelligence operations and sensitive activities for the Joint Force in areas with little to no DOD presence or support. They flow in and out of these operational areas to develop regional support networks for future operations to provide critical information that supports situational awareness, intelligence estimates, and cultural insight into regional norms and mores. They are a stand-in force.

With their FMF counterparts, MARSOC Intelligence Marines are conducting operations against shared theater Priority Intelligence Requirements. It is common for FMF Intelligence Marines to augment MARSOF operations. The integration of FMF Marines with MARSOF is relatively seamless as the Marine Corps has a distinct advantage over other Services in its ability to optimize its forces with the proper authorities through constant battle rhythm liaison with Marines placed in national agencies.

MARSOC intelligence teams can be broken down into elements and individual operators who work in small cross-functional elements with other SOF specialties. SIF are characterized by small, lethal, low signature, and mobile units of action designed to operate across the competition continuum. The tactics, techniques, and procedures that make these units of action possible and effective are accessible to the FMF.

Maritime Reconnaissance Counter-reconnaissance

As described in *A Concept for Stand-in Forces*, reconnaissance and counter-reconnaissance encompasses the activities of the SIF, which include SOF, Navy and Coast Guard, allied, and partnership forces.⁶

"Marines will establish a persistent presence in contested littorals to execute operations, activities and investments that set conditions for the success of U.S. integrated deterrence efforts and hold adversary high-value maritime targets at risk in case of conflict."

**—LtGen Heckl, DC
CD&I (A Functional
Concept for Maritime
Reconnaissance
and Counter-
reconnaissance)**

SIF will conduct multi-domain reconnaissance operations to fight for information and conduct operational

preparation of the environment. SIF will provide a platform for the MCISRE collection and analysis to identify and map the multi-domain information environment, baseline adversary and host nation populace pattern-of-life, identify key infrastructure and maritime terrain, and conduct network development and engagement activities using clandestine and overt operations.⁷ (*A Functional Concept for Maritime Reconnaissance and Counter-reconnaissance.*)

Today, MARSOC Intelligence SOCS conducts intelligence operations, surveillance, and reconnaissance actions in hostile, denied, or diplomatically and/or politically sensitive environments to collect or verify information of strategic or operational significance, employing military capabilities not normally found in conventional forces.⁸ Those capabilities were seemingly esoteric in the early 2000s. It is 2022—these capabilities exist in the FMF and are widely proliferated in the commercial sector off the digital shelf marketplace. The tactics, techniques, and procedures and technologies that make these operations, activities, and investments possible are accessible to the FMF.

Modernization and Experimentation

The operational history of intelligence SOCS provides a powerful advantage for MCISRE modernization planning—especially while firsthand knowledge still exists in the FMF formations. The SOCS experience provides the Marine Corps with well-resourced experimentation efforts from SOF formations that thrive in an environment of immense enterprise agility. These lessons learned should help drive the recent series of MCISRE integrated planning teams.

The MCISRE training continuum could incorporate many of the MDIOC approaches to building intelligence capability suitable for the SIF and reconnaissance and counter-reconnaissance operations and activities. Though the MDIOC curriculum, which is based on 2000-level training and readiness standards, is not overwhelmingly advanced in content, the course's multi-discipline approach to training in an environment

that replicates the resource-constrained challenges that Strategic Shaping and Reconnaissance aims to solve is what sets it apart. MDIOC effectively breaks down the traditional stovepipes and organizational boundaries that habitually constrain coordination between the intelligence disciplines. Multi-discipline intelligence operations take full advantage of the diverse backgrounds and specialized skills within the team and foster constant collaboration throughout the intelligence cycle.⁹ This should not be constrained to MARSOF alone.

The Raider Intelligence community has been actively developing functional tactics, techniques, and procedures in live training and operational environments for artificial intelligence/machine learning, data analytics, and advanced signals exploitation, in addition to aggressively modernizing its ISR systems and requirements.

Moreover, MARSOC has been experimenting with sensors and their employment, integrated tactical SIGINT/EW/cyber concepts, and intelligence operations with/through non-intelligence enablers. These initiatives are active components of the Marine Raider Training Center course portfolio and are also integrated in battle rhythm training and exercises. There are a plethora of lessons learned that are ripe for formal integration with FMF experimentation efforts.

Conclusion

Multi-discipline intelligence operations represent a unique high-demand capability for MARSOF. However, fusing intelligence disciplines is not unique. The execution of this fusion with such small teams and elements is unique. The ability of a few Marine intelligence professionals to make such significant contributions out of proportion to its size is notable. That these Marines conduct intelligence operations and serve as a connector within the Joint Force is powerful.

Prosaic as it may be, organic intelligence capabilities that drive and are inseparable from operations are already a mainstay of the Marine Corps' war-fighting philosophy. *The training, equipment, and expertise for multi-discipline*

intelligence operations exist in the FMF. Moreover, SIF and reconnaissance and counter-reconnaissance operations, activities, and investments are optimized by the convergence of FMF and MARSOF operational concepts. At that convergence, we find MARSOC's silent professionals.

The SOF operators with multi-discipline intelligence experience exist in FMF formations. Raider Intelligence SOCS are Marines after all.

Notes

1. Department of Defense, *Fact Sheet: 2022 National Defense Strategy*, (Washington, DC: March 2022).
2. Headquarters Marine Corps, *MCDP 2, Intelligence*, (Washington, DC: April 2018).
3. Headquarters Marine Corps, *NAVMC 3500.105C Ch 1-2, Signals Intelligence T&R Manual*, (Washington, DC: September 2021). 2621 COMINT/EW Operator, 2629 SIGINT/EW/Cyber Technician, 2631 SIGINT/EW ELINT Analyst, 2641 Cryptologic Language Analyst, 2651 ISR Systems Engineer, 2659 Intelligence Technology and Data Chief, 2691 SIGINT/EW/Cyber Ops Chief.
4. *NAVMC 3500.100C, Intelligence/Ground Sensor T&R Manual*.
5. Mr. David Pummell, "MARSOC Operational Approach for Modernization: Strategic Shaping and Reconnaissance," *Marine Corps Gazette* 106 No. 1 (2022).
6. Gen David H. Berger, "A Concept for Stand-in Forces," *Proceedings*, November 2021, <https://www.usni.org/magazines/proceedings/2021/november/concept-stand-forces>.
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Never Start from Zero

Untether with force infrastructure capacity development

by Mr. Sean Flores

Problem Statement: *Legacy logistics practices requiring tethered sustainment do not support Operational Preparation of the Environment (OPE) in the Future Operating Environment (FOE).*

Sometimes the way we look at the problem can be the problem. Sustaining forces in the FOE requires innovative thinking. However, the innovation received is often based on the questions asked. Asking small questions such as, “How do we support and sustain ourselves in the fight for fifteen days?” localizes the problem and reduces grander solutions stemming from untethered innovation. Asking a larger question such as *How could we flood an area with flexible response options to sustain a Joint Force with additional positive impacts to the host nation?* results in unconstrained critical thinking and broader solutions with positive second and third-order effects. Untethering our constrained manner of staring at sustainment problems will result in more elements leveraging untethered logistics in the FOE.

U.S. Special Operations Command defines *untethered logistics* as the ability to enable greater endurance to Special Operations Forces (SOF) in an anti-

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access/area denial environment with limited to no access to traditional theater logistics support. Untethered logistics increase a SOF team’s ability to self-sustain in the absence of resupply. It entails a comprehensive process of collecting requirements; detailed planning; establishing redundant, resilient, and flexible logistics services; and prepositioning equipment and relevant classes of supply through multiple means in FOEs. The untethered logistics concept provides opportunities to generate strategic effects in the FOE utilizing combinations of standard and non-standard logistics means.

The FOE is comprised of potential battlefields that are more discernable to adversaries and potential enemies with emerging technologies and growing populations. Governments are under greater pressure from new challenges

and the growing shortages of limited resources. Competition for finite resources can erode democracy and expand roles for alternative solutions of governance: “Rapid urbanization—occurring mostly in Africa and Asia—will stress governments’ ability to provide adequate infrastructure, security and resources for growing cities.”¹ These growing issues challenge logisticians to gain access and influence through established mutually bonding relationships and networks. Logistics and sustainment govern what is operationally achievable. Identifying inadequacies and shortfalls early shape timely and tailored logistics solutions.

OPE involves a strategic approach beyond setting the groundwork for the environment in preparation for a fight. We should ask untethered thought-provoking questions from an after-actions report vantage point to frame environments for worst-case scenarios. Example: If we knew we would have to sustain the blunt force and fight to get to the fight, what would we have done differently to prepare the environment? Could strategic and methodical OPE have deterred the adversary from escalating to a crisis or conflict? Thinking in broader terms of attributes vice absolutes opens the door for innovation and sets conditions for untethered logistics. Untethered logistics suggests we should never start from zero resulting in a foundational framework for strategic OPE. Untethered logistics minimize the strategic risks inherent to immature theaters.

Logistics sustainment serves many purposes including humanitarian assistance, disaster relief, crisis response, and building partner nations. OPE for these types of missions requires a proactive mindset using a push vice pull methodology of logistics support. The pull



Scene from *The Men Who Stare at Goats*. (Photo provided by author.)

capacity gap. Identifying capacity gaps and shortfalls in locations at the component and combatant command-level for cross-Service integration and theater planning will identify decision points for operations, activities, and investments. With a clear, concise, and mutual understanding of gaps, component and combatant commanders can leverage options and the best skill sets across the force to build the required capacity.

Tactically, utilizing host-nation resources is not a new concept. Host-nation support has been leveraged as part of our doctrine and technical tactical procedures for decades. However, host-nation support has been and is currently used as an augmentation and tertiary form of sustainment. The FIC-D model turns this on its head by prioritizing host-nation support capacity development first with other methods as a secondary and tertiary means.

Sustainment for the Marine Corps and the Joint Force has long been a matter of building “iron mountains” to support force sustainment requirements. Historical Marine Corps efforts to support the expeditionary nature of Marine Corps operations led to the then cutting-edge concepts of pre-positioning aboard Maritime Pre-positioning Force vessels and landward (Norway). As sustainment support matured from these floating iron mountain builds, logisticians have continued to develop the application of civilian logistics and supply chain methods resulting in a mix of pre-positioned war reserve material, conventional supply chains, and warehousing that has been optimized for efficiency to support the Joint Force. *Our training, organizational structure, and doctrine set us up to have 2010 solutions to a 2040 problem sets.*

Small logistics-support planning and sustainment may require protection. However, large-scale logistics sustainment is protected by public incredulity. Hiding in plain sight is a loose term that refers to techniques used for deception. The deception is based on what an adversary believes to be a normal civilian or commercial activity. FIC-D offers solutions to support untethered logistics in plain sight because we are proactively building capacity for our

allies and partners in preparation for crisis or conflict.

Marine Raiders continuously conduct OPE and can offer flexible response options working together with the Marine Corps, other Services, allies, and partners on mutually beneficial goals and objectives. There is a lot to be learned from SOF logistics challenges and methods to overcome them. There is also much to be gained from connecting with the Marine Corps to support strategic operations, actions, and investments. Adversaries seek to undercut U.S. global influence, degrade our relationships with key allies and partners, and shape the global environment to their advantage without provoking a U.S. conventional response. These adversary initiatives provide opportunities to campaign for advantage by building stronger physical and human infrastructure and capacity by identifying and addressing mutually beneficial objectives. Marine Raiders’ current presence can inform FIC-D Cells with recommendations and solutions.

Untethered logistics enable greater logistical endurance for a SOF team in an A2/AD environment with limited to no access to traditional theater logistics support. This concept can be replicated, enhanced, and matured for a myriad of Joint Force requirements. Support to distributed Joint Force operations like the Marine Corps’ concept of Stand-in-Force and Marine Littoral Regiments requires a shift from building iron mountains and optimized supply chains to sustainment and services provided at the point of need through multi-faceted networks of human and physical infrastructure developed over time. These developments evolve every time a Joint Force action is conducted in a potential theater of operations. A strategic thought to keep in mind is: *Everything we do before the bang matters; what we do before the bang that can prolong or possibly mitigate the bang?*

Standard logistics models operate with efficiency in mind resulting in a tethered mindset. How the Joint Force untethers is a complex question requiring several answers. Concepts of foraging require available capabilities to scavenge. The scale of previous logistics

requirements for the traditional Joint Force truly makes the idea of using non-standard methods of capacity building a daunting and potentially sisyphian task. To make this truly effective, other elements of the JIIM that are not traditionally leveraged by the Joint Force need to be incorporated. This implies coordination with State Department, USAID, and other national agencies that can support this network development.

Conclusion

A great strategy must be understood to be remembered and it must be remembered to be implemented. *We do not have to bring it if it is already there.* We compete every day for influence and access to generate strategic impact. The FOE implications comprised of numerous variables and adversarial malign intents toward the United States compel us to establish capacity now. If we wait until crisis or conflict, it will be a case of “too little, too late.” We should stop staring at the problem as if it will untether itself and embrace innovative solutions with strategic impacts such as FIC-D that create flexible response options with positive second and third-order effects. Untethered logistics is tied to the Special Operations Forces Interim Modernization Strategy and is supportive of the Marine Corps 2021 concepts of Stand-in Forces and Expeditionary Advanced Based Operations .

Note

1. Director of National Intelligence, “Global Trends 2040,” *Director of National Intelligence*, March 2021, <https://www.dni.gov/index.php/gt2040-home/emerging-dynamics/state-dynamics>.





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Marine Raiders and the Stand-In Force

MARSOF in the littorals

by Mr. Otto Hecht

Marine Raiders are connectors and that can help the Marine Corps to achieve its objectives in the littorals. The littoral space requires unique capabilities, and the force of choice must understand the littoral battlespace as an environment. Marine Raiders have been forward deployed in the littorals in places like the Philippines since 2007 building relationships with host-nation forces and conducting advise and assist missions.¹ The Philippines is just one example of Marine Raiders conducting littoral irregular warfare (L-IW) across the domains, connecting with partner-nation forces, and building relationships with other governmental agencies. This type of unique placement and access allows Marine Raider elements, in concert with partner-nation

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forces, to provide situational awareness, information, and sustainment options for follow on Marine Corps Expeditionary Advanced Base Operations (EABO) forces.

Understanding the Littoral Operating Environment

The littorals are divided into two zones. The *seaward* zone is that area from the open ocean to the shore that must be controlled to support opera-

tions ashore.² The *landward* portion is the area inland from the shore that can be supported and defended directly from the sea. Modern warfare and technology have created a blending of seabased operations and landbased operations that creates the case for a separate littoral domain. The ability to ascertain operations at sea from land within the littorals has become untenable. Distinguishing an operating environment from a domain is difficult. Regardless, the littorals are unique, complex, and rapidly developing in both size of population and economic importance globally. For the purpose of this article, the littorals are defined as an operating environment within the maritime domain.

The littoral environment is characterized by specific features that increase the complexity of conducting IW operations: congested urban communities, high-volume commercial commerce, foreign influence, transient populations, porous borders, multi-cultural and high-volume traffic. Littoral maritime vessels include military, civilian, and commercial vessels. Consistent key terrain within the littorals are seaports, airports, hospitals, power grids, bridges, and critical communication infrastructure. Additionally, littoral regions are susceptible to reoccurring natural disas-



Marine Raiders train Philippine forces. (Photo by Sgt Ethan Green.)

ters such as earthquakes, tsunamis, tidal waves, erosion, landslides, and sea-level rise. Economic exclusion zones make the littorals susceptible to economic instability and black-market influences. These littoral characteristics impact the stability of both the population and economics, making them susceptible to influence and shaping operations and prime areas for L-IW operations. Three key features and considerations within the littorals stand out as consistently unique regardless of location: socio-economic instability, natural disasters, and maritime traffic and ports.

Socio-economic instability is a re-occurring feature with the littorals as populations surge and natural disasters occur. Ninety-five percent of the world's population lives within 600 miles of a coastline and sixty percent of the world's important political urban areas are within sixty miles of a coast.³ Combine those statistics with approximately eighty percent of the world's country capitals located within the littorals and



Congested port operations: Port of Manilla, Philippines.⁶ (Figure provided by author.)

of Fire” the Pacific Ocean is made up of 450 volcanoes that are the results of plate tectonics.⁴ It is not a question of if, but rather a question of when a natural disaster will occur. Climate events including earthquakes, storms, flooding, and landslides are prevalent in the littoral regions. If left unchecked or untreated natural disasters can be

human ecosystem and port authorities. Most maritime and port traffic patterns are predominantly monitored through coastal defense organizations or port authorities. These organizations are most domestically focused and are not prepared to deal with foreign adversaries as they try and influence key littoral spaces and maritime safe passage routes. Typically, underfunded and undermanned port police, coastal defense patrols, and coast guard units are susceptible to foreign influence through foreign monetary and equipment contributions and funding.

If left unchecked or untreated natural disasters can be the catalyst for violence and political change.

you create a mixing pot for the majority of global economic influences and human interactions. These influences create uncertainty and ever-changing political influences that diminish security and economic well-being for large population groups. The political promise of security, economic well-being, and a positive future becomes easily clouded with doubt, frustration, and fear. This environment is then ripe for adversary opportunities to exploit uncertainty and influence foreign agendas. Marine special operation forces consistently engages and develops select partners to stabilize regions and counter these malign influence elements in the protection of U.S. interests.

The littorals are consistently susceptible to natural disasters. Specifically, most of the Pacific island countries are located within the hurricane/typhoon belt and geographically located near tectonic boundaries. Named the “Ring

the catalyst for violence and political change. With the global economy showing signs of stress spending on disaster preparedness is decreasing. Opportunities for adversaries to counter U.S. influence through the provision of equipment and monetary funds to support local populations susceptible to natural disasters are increasing.

Maritime traffic and ports are significant features that create complex scenarios prime for irregular warfare operations. A prime example is the port of Manilla in the Philippines. This port consists of 22 berths and 12 piers. The annual traffic load of vessels is 21,000 with an annual footfall of 72 million passengers with a cargo tonnage of seventy-five million tons.⁵ Some of the largest international ports in the world are located within the Indo-Pacific region. This one example is representative of thousands of ports within the littorals that have their own

Littoral Irregular Warfare: The Marine Raider Connection

The complex littoral environment and the strategic competition in these areas illuminate the need for littoral-specific irregular warfare (IW). IW is defined as “the violent struggle between state and non-state entities for control over a population” and has five pillars: counterterrorism, counter-insurgency, unconventional warfare, foreign internal defense, and stability operations.⁷ Littoral irregular warfare (L-IW) maximizes traditional IW activities that are connected to both landward and seaward-based partner-nation forces to shape and influence populations and legitimacy in the littoral regions. Additional activities of L-IW include disinformation, deception, sabotage, economic coercion, as well as proxies, guerrilla, and covert operations.⁸

L-IW is the means by which Marine Raiders shape the environment

to enable access to key terrain and key partner-nation relationships. L-IW is based on the foundation of a whole of government approach that builds on networks of partners and organizations. Marine Raiders conducting L-IW can train and equip local forces, conduct key leader engagement with local leaders, scout and identify advance basing opportunities, and engage with inter-agency partners. L-IW is conducted by, with, and through local forces by training regular and irregular forces to shape the balance of power, control adversary competition, and create terms favorable to influence and shape U.S. national interest abroad.

MARSOC SSR and the Next-Generation Raider Force

Marine Corps Forces Special Operations Command (MARSOC) continues to implement its strategic shaping and reconnaissance (SSR) concept introduced in 2021. SSR was created to meet the challenges of a complex future operating environment (including the littorals) and “provide a cornerstone to design, develop, and employ SOF prepared to meet the adversary or enemy across the domains.”⁹ SSR envisions globally connected SOF deployed for a purpose that illuminates and assesses adversary threats and imposes costs on them with actionable solutions. SSR is MARSOC’s contribution to the Joint Warfighting Concept and service concepts like EABO in support of *National Defense Strategy* priorities. While not every SSR mission is in the littorals, MARSOC’s maritime roots and connection as Marines create ideal conditions for littoral employment in the future.

Strategic Shaping and Reconnaissance

Leveraging SSR in the gray zone to influence and build partner capacity, Marine Raider elements are poised to deter global threats and influence partner activities. SSR emphasizes all domain connectivity and understanding to decipher the threat and Special Operations activities to achieve global effects. The littoral space holds importance to Marine Raiders as MARSOC

moves forward to implement, codify, and refine SSR. The Marine Corps should value MARSOC’s operating concept of SSR as critical support to EABO.¹⁰

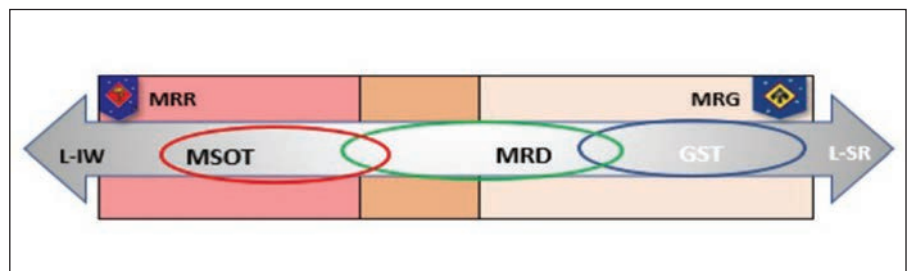
Those activities are conducted by special operations elements in cooperation, competition, and conflict. SSR encompasses a wide array of skills employing SOF-specific equipment to provide shaping and influence effects. SSR is conducted through a hybrid approach utilizing selected SOF core activities and programs. Effects are achieved by reconnaissance and intelligence operations, and persistently developing regional relationships.¹¹

In order to advance the SSR concept and emphasize the importance of the littorals, MARSOC is working on an updated Force Design concept called

the Next-Generation Raider Force (NGRF). The focus of this force design seeks to address pacing and acute threats by employing a formation across the SSR capabilities spectrum. L-IW and Littoral Special Reconnaissance (L-SR) represent the two poles of the SSR spectrum.¹² The NGRF leverages three foundational building blocks: (1) the L-SR-focused Ground Support Team, (2) the L-IW-focused Marine Special Operations Teams, and (3) the Marine Raider Detachment (MRD)—a hybrid team operating in both the L-IW and L-SR mission sets.¹³

The NGRF envisions a future where SOF units need to be ambidextrous. Using Michael Tushman’s *explore* and *exploit* methodology, the NGRF introduces a new operational base element inside of MARSOC called a Marine Raider Detachment.¹⁴ Marine Raider Detachment are smaller, scalable Raider elements capable of both L-IW and L-SR while looking to *explore* innovation pathways, technologies, and trends. This new unit will complement the existing Marine special operations team, which will continue to provide the high standard of strategic thinking and tactical expertise that they are known for. Marine special operations teams will *exploit* current strengths through incremental improvement and process refinement. This envisioned force will enable MARSOC to excel in the littoral regions and support both SOF and Marine Corps initiatives.

MARSOC is currently executing SSR globally through existing special operations activities and investments in coordination with partner-nation forces. Littoral regional expertise, interoperability, modern mobility, ISR platforms, emerging information, and cyber technologies are required to en-



MARSOC next-generation Marine Raider force.¹⁵ (Figure provided by author.)

hance SSR and increase strategic effects. A higher level of regional expertise is developed through persistent engagement than through sporadic or episodic engagement. Marine Raiders have gained this level of expertise through a continual deployment to key areas in the littorals for over a decade.

As an example, MARSOC has spent over fifteen years training and advising the Philippine military. Shortly after MARSOC was established in 2006, the first advisors from the Marine Special Operations Advisory Group (MSOAG) deployed to the Philippines.¹⁶ These advisors helped train Filipino forces, counter terrorist threats, and interact with key local leaders. Over the past fifteen years, this relationship has grown exponentially. When the Islamic State of Iraq and the Levant–Philippines invaded Marawi in May 2017, MARSOC forces were instrumental in helping free the city by advising and assisting Filipino forces.¹⁷ MARSOC’s relationship with the Filipino forces has permitted the freedom of movement for MARSOC units to engage local leaders, conduct joint training at various port cities, and understand the opportunities and challenges with operating in the terrain, climate, and culture of the area.

SSR and EABO

A vital part of the EABO concept is the Stand-In Force (SIF). Examples of SIF are Marine Littoral Regiments, reconnaissance and counter-reconnaissance elements, and special operations forces.

“SIF are small but lethal, low signature, mobile, relatively simple to maintain and sustain forces designed to operate across the competition continuum within a contested area as the leading edge of a maritime defense-in-depth in order to intentionally disrupt the plans of a potential or actual adversary. Depending on the situation, stand-in forces are composed of elements from the Marine Corps, Navy, Coast Guard, special operations forces, interagency, and allies and partners.”¹⁸

These SIF elements are critical to EABO as connectors and facilitators for follow-on forces. As the example above illustrates, Marine Raiders have

been persistently deployed as rotational SIF in places like the Philippines and are uniquely positioned to enable access and placement for conventional force SIFs. This persistence is an opportunity for the Marine Corps to utilize in its EABO concept. These SOF elements are conducting SOF activities, building connections with other governmental agencies, and building relationships with partner-nation forces in the littorals.

Marine Corps EABO and SIF elements should embrace Marine Raiders

“As a complimentary force in the contact layer, Marine Special Operations Forces are poised to do the advanced work to assess EAB locations, footprints, and capabilities while also working as part of the stand-in force to buy time and space for joint physical and virtual maneuver.”¹⁹

—LtGen James Glynn

as the SOF SIF of choice and an ideal partner to maximize operational and strategic effects in the littorals. When the Marine Corps looks to execute its EABO concept, forward Marine Raiders who are already inside of the weapons engagement zone will enable the successful reception, staging, onward movement, and integration of Marine Littoral Regiments or reconnaissance and counter-reconnaissance forces. This would include connecting these SIF forces with the right partner nation forces or local leaders. The chance of SIF success increases exponentially when partnered with the right force

and with the right local leaders. L-IW is the means by which Marine Raider SIF gain and maintain influence with partner nation forces that are vital to the Marine Corps EABO characteristics.

Marine Raiders conducting L-IW in concert with USMC SIF actions in support of Marine Corps EABO concepts will create additional momentum for operational preparation of the environment and maritime domain awareness in support of the Joint Fleet. The tentative EABO manual specifically mentions “SOF’s unique authorities, relationships, and capabilities provide critical support to EABO when connected to relevant operational concepts and approaches.”²⁰ Marine Raiders executing L-IW under SOF unique authorities could enable USMC EABO SIF to operate within politically sensitive environments to achieve greater access and placement with key partner nation forces.

Conclusion

The unique role of Marine Raiders as part of the SIF is in our bloodline as Marines. Aligned with Service equities, Marine Raiders walk and talk Marine leadership principles, ethos, and MAGTF acumen. Understanding this unique relationship creates mutually supporting lines of effort that maximize conventional force and SOF, integration, interoperability, and interdependence in the littoral regions of the world. As MARSOC executes SSR and pushes forward with the NGRF, this bond has the potential to grow even stronger. Together, Marine Raiders and Marine Corps SIF forces can navigate complex features and human terrain in the littorals.

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MAJGEN HAROLD W. CHASE PRIZE ESSAY CONTEST



The annual MajGen Harold W. Chase Prize Essay Contest invites articles that challenge conventional wisdom by proposing change to a current Marine Corps directive, policy, custom, or practice. To qualify, entries must propose and argue for a new and better way of "doing business" in the Marine Corps. Authors must have strength in their convictions and be prepared for criticism from those who would defend the status quo. That is why the prizes are called Boldness and Daring Awards

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INSTRUCTIONS

The contest is open to all Marines on active duty and to members of the Marine Corps Reserve. Electronically submitted entries are preferred. Attach the entry as a file and send to gazette@mca-marines.org. A cover page should be included, identifying the manuscript as a Chase Prize Essay Contest entry and including the title of the essay and the author's name.

Repeat the title on the first page, but the author's name should not appear anywhere but on the cover page. Manuscripts are accepted, but please include a disk in Microsoft Word format with the manuscript. The *Gazette* Editorial Advisory Panel will judge the contest and notify all entrants as to the outcome shortly thereafter. Multiple entries are allowed; however, only one entry will receive an award.



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Future of MARSOC Logistics

The need to change to maintain relevancy

by Maj Takashi Okamoto

The logistics community within Marine Special Operations Command (MARSOC) must drastically change its ways to recruit, train and employ Marine logisticians to remain relevant within the MARSOC and Special Operation Forces (SOF) community. Under the current model, the community lacks direction, and current training standards provide little value for future missions. Furthermore, much attention is given to developing technology to bridge the logistics capability gap and to support operations in a complex or non-permissive environment.¹ However, before testing and training Marines on new technology, the community must first set the foundation to prepare the logisticians to support future missions that Marine Raiders will undertake.

Background

MARSOC incorporated untethered logistics in the recently drafted Strategic Shaping and Reconnaissance (SSR) manual. Special Operations Command (SOCOM) defines untethered logistics as an activity that “enables greater logistical endurance of SOF team in Anti-Access/Access Denial (A2/AD) environment with limited to no access to traditional theater logistics support.”² This concept is a departure from the present model; most special operations rely heavily on the conventional military to provide common-user logistics past the initial fifteen days of operation.³ Under Operation ENDURING FREEDOM, the U.S. military matured logistics networks in the Middle East, Africa, and Indo-Pacific, and the con-

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ventional forces continue to support SOF activities in these theaters.

MARSOC’s Logistics Support Teams (LST) also rely heavily on existing logistics networks to enable deployed Marine special operations companies (MSOCs). While deployed LSTs can cover six joint logistics functions (excludes health service) at both tactical and operational levels with twelve cross-trained Marines, they are not designed to operate independently to sustain SOF teams. Furthermore, given the rotational nature of the recent deployments, most MARSOC logisticians lack experience supporting an MSOC without substantial higher headquarters oversight. As a result, MARSOC logisticians are not experienced, trained, or resourced to sustain forces in a non-permissive environment, where U.S. forces are denied access due to diplomatic or physical barriers.

Additionally, as SOF teams must maintain a low signature, particularly in reconnaissance missions, establishing a traditional logistics tail to sustain low-density teams is tactically inapplicable. Under the conventional doctrine, the military assumes that logistics nodes and links are visible targets that must be protected to avoid being a critical vulnerability.⁴ Furthermore, over the past decade, the logistics community focused on transparency and in-transit

visibility to create a realtime logistics common operational picture across the DOD. Consequently, logistics have become a major target of cyberattacks in the digital age.⁵

To overcome these obstacles, SOCOM looks at technology as an enabling factor that will help lengthen the time that teams can remain untethered from logistics support. While advanced technology is a part of the solution, MARSOC must first define MARSOC’s untethered logistics and the associated training standards. Without a clear definition, MARSOC logisticians will continue to be just regionally specialized enablers that rely on the existing conventional military network. The community will not be able to support SSR operations, and we will lose our relevancy within the SOF community.

Potential Solution

While each SSR mission will require detailed planning and coordination, each mission will have two common themes. First, any plan must adhere to logistics principles (responsiveness, simplicity, flexibility, economy, attainability, sustainability, and survivability) and have multiple layers of redundancy built in.⁶ Second, support cannot expose the SOF team inside the A2/AD environment; therefore, logisticians must eliminate or minimize the logistics tail. The limitation posed by the second point makes untethered logistics extremely challenging. To overcome it, logisticians must expand their aperture and utilize every resource available inside the operational environment to accomplish the mission.

When logisticians begin planning, a physical network analysis (PNA) is conducted to study the terrain and identify the existing logistics network. PNA identifies nodes and links that logisticians can use to facilitate the distribution of resources to the point of need.⁷ However, PNA focuses on physical structures (roads, airfields, ports, bases, and forward staged supplies) and readily available assets (a direct or general support unit) to link different nodes. With an SSR mission, friendly forces, including the LST, will likely not have control or access to the physical network. Further, the LST will not have the time or capacity to develop a logistics network if an urgent mission develops. To overcome this challenge, logisticians should rethink the nodes within the PNA as different human resources instead of physical nodes. Further, MARSOC logisticians must develop relationships with various resources now, during Phase 0, so MARSOC is better prepared to operate in any region.

When planning logistics support for SSR missions, logisticians should consider nodes and links as resources and capabilities available across joint, interagency, intergovernmental, multinational, and commercial resources. While the operation and fiscal authorities will dictate what resources will become available, the planner still needs to consider the full spectrum of logistics capabilities in the operational area. Specifically, the planner must identify what U.S. entities have access to areas that the U.S. military does not. Within the Joint Force, the Army's Security Force Advisor Brigade is an example of an independent unit that has access to host-nation forces and bases that most conventional military does not.⁸ Outside the U.S. military, available resources vary by location; however, U.S. diplomatic posts, companies, and partner-force nations typically operate in many areas that lack U.S. military presence. In 2019, the United States maintained 273 diplomatic posts across the world.⁹ These posts can act as the access point for other U.S. government agencies, the host nation's military, and the local economy.



Without a framework to train MARSOC logisticians to operate within the Joint Logistics Enterprise, Raiders will be challenged sustain operations. (Photo by LCpl Symira Bostic.)

By leveraging and coordinating with multiple services, agencies, and the local economy and military, logisticians can map multiple avenues of approach by utilizing the distribution means employed by these entities without creating an additional logistic footprint. However, despite a robust network of support, for an SSR mission, there will be situations where the distribution network stops short of the point of need. In these situations, advanced technology may be considered a potential capability to fill the gap within the last tactical mile. However, the planner should utilize the technology as another linkage within the network of support systems and not as a stand-alone solution that solves all logistics issues.

Only with an honest assessment can the organization adapt ...

Utilizing partners to expand the logistics network is not new; military logisticians have used various means to meet the operational requirement in various wars.¹⁰ As SSR missions will likely be in a joint environment,

MARSOC logisticians must leverage resources across the full spectrum of logistics capabilities. At a minimum, it is critical that MARSOC develops logisticians capable of operating inside the Joint Logistics Enterprise (JLENT) and not just inside the MAGTF.

Current Problem

The MARSOC logistics community's current framework inadequately prepares young logisticians for future missions. While MARSOC logisticians will continue to serve the SOF community well, the current manning and training model emphasizes support for the rotational deployment model and fails to challenge and prepare mid-grade logisticians to address future missions. Undertaking a new concept requires a detailed assessment of the current model. Only with an honest assessment can the organization adapt to the upcoming changes. Looking across doctrine, organization, training, materiel, leadership, personnel, and facilities, the analysis identifies several areas the MARSOC logistics community must address.

Doctrine

Doctrine provides the foundation for all other elements of the new concept. Without it, there are no standards

that the Marines should train or formations that provide properly manned, trained, and equipped enablers. Lack of doctrine results in inconsistent capabilities that vary based on who provides said capabilities. Currently, three Marine Raider Support Battalions provide regionally aligned LSTs to the deploying MSOCs. The Logistics Company under each battalion mans and trains the LST Marines; three company commanders guided by three different battalion commanders drive the training plan. While Chapter 11 of *NAVMC 3500.128* guides MARSOC Combat Service Support Marines' Training and Readiness standards, it is rooted in conventional Marine Corps doctrine and does not address any skillset required to support operation in JLENT, interagency, or commercial environment.¹¹ Consequently, if tasked to provide enablers in support of SSR, three different sets of capabilities will likely be provided based on three different commanders' interpretations of untethered logistics.

In general, SOCOM as a whole lacks publication on SOF sustainment. Outside *Army Technique Publication (ATP) 3-05.40, Special Operations Sustainment*, only a handful of orders, handbooks, and standard operating procedures are available to guide the training. Because special operations are constantly evolving, it is understandable why there is a lack of doctrine. Furthermore, while *ATP 3-05.40* discusses some principles that drive SOF sustainment planning and execution, it is a technical publication that provides the foundation for supporting Army SOF units.¹² It does not guide SOF sustainment as a joint warfighting capability. Doctrine development takes time, but it establishes the concept and mindset that drives how logisticians approach different problem sets. As SSR becomes the driving force behind future MARSOC operational concepts, the logistics community must embrace it and provide proper guidance for future MARSOC logisticians.

Organization

As SSR becomes operational, there will be three primary missions that MARSOC logisticians must fulfill:

1. Provide logistics in support of SSR operations.
2. Provide logistics in support of full spectrum special operations.
3. Provide logistics in support of generating Marine Special Forces (MARSOF).

As the MARSOC continues to develop and evaluate the MARSOC 2030 structure, the logistics community must ensure that we are organized to provide logistics support to these three primary missions effectively. SOCOM's core activities include direct action, unconventional warfare, foreign internal defense, civil affairs, counter terrorism, military information support operations, counter proliferation, security force assistance, counter insurgency, hostage rescue and recovery, foreign humanitarian assistance, and special reconnaissance. Although there are overlapping skills, there are differences in enabling SSR from direct action or security force assistance. Moreover, as a SOCOM entity, MARSOF must be prepared to execute any special operation mission. MARSOC logisticians must maintain skillsets and teams to support any special operations.

MARSOC must have officers and SNCOs who are well versed in JLENT and interagency ...

Finally, the logistics community cannot neglect our support to Marine Raider Training Center and the component in generating capable MARSOF Raiders and deploying units. The garrison support logisticians provide in generating force can be immense. The Marine Raider Training Center runs exercises throughout the year to generate and develop Raiders. Additionally, twice a year, MARSOC supports culminating exercises supporting deploying units called Raven. All these exercises require various logistics support such as transportation, utilities, or food service. To produce quality Raiders and deploying

units, the training quality must match the expectation, and it needs dedicated support to provide high-level training. Under the current model, the support is pulled across MARSOC; consequently, various logistics entities are challenged with balancing providing support and training logistics Marines for future deployments. MARSOC should consider dedicating a unit to provide direct support to these exercises. It will mean better support while preventing distractions from training and deploying logisticians.

Training

Currently, a limited number of courses address special operations sustainment. For officers and staff non-commissioned officers (SNCOs), there are MARSOC's MARSOF Logistics Course and Joint SOF University's Joint SOF Logistics Course, and Logistics Support to Sensitive Activities. For the junior Marines, MARSOC runs three variations of the Multi-Discipline Logistics Course (MDLOC): Supply and Mobility (L), Maintenance (M), and Ordnance (O). These courses provide a good orientation and a starting point, but they need continued maturation.

MARSOC must have officers and SNCOs who are well versed in JLENT and interagency, regardless of how MARSOC defines untethered logistics. MARSOF Logistics Course, Joint SOF Logistics Course, and Logistics Support to Sensitive Activities are all one-week courses. Furthermore, while MARSOF Logistics Course and Joint SOF Logistics Course cover JLENT and the embassy function, they are minimal, spending approximately one to two hours each on each topic. Logistics Support to Sensitive Activities incorporates JLENT and interagency better, but the course expects that students are already knowledgeable or experienced working with other agencies. Furthermore, while MARSOC is usually allocated a seat in Joint Staff's Joint Logistics Course, the course typically selects field-grade officers or a senior SNCO who will be less likely to plan and execute the support mission. Therefore, there is a requirement to better prepare company-grade

officers whose exposure to JLENT is working as a MEU S4A at most or SNCOs who are likely joining MARSOC formation after completing a special duty assignment.

For the junior Marines, the community must give Marines tools to execute logistics support inside the JLENT and in a host nation's commercial environment. For supply and mobility Marines, through MDLOC-L, the Marines are exposed to GCSS-Army, operational funds, and operational contract support—but that is the limitation. Instead, the class focuses on cross-training two specialty areas on Marine Corps orders, policies, and procedures. The course focus needs to shift to preparing the Marines as joint enablers. For example, MDLOC-L should prepare Marines to be proficient with interagency mechanisms such as the Department of State's Diplomatic Pouch and Mail services or the International Cooperative Administrative Support Services (ICASS) system to move goods and funds to various locations.

MDLOC-M provides fundamentals behind various engine repairs but focuses heavily on theory. In support of SSR, the Marines must be able to help plan operations in an A2/AD environment where building, engineering, and equipment standards differ significantly from the U.S. standards. For example, the utility specialist should be skilled to remotely assist a Raider with assessing and repairing a commercial generator or engine with only the tools and supplies available to the Raider locally.

Materiel

The equipment set within the MARSOC logistics elements must be rebalanced to match the three aforementioned mission sets. The MARSOC has sufficient tactical equipment to support the garrison mission. However, MARSOC lacks commercial equipment to train the Marines to support SSR or some of the special operations mission sets. For example, MARSOC will not deploy to an A2/AD environment with tactical utility equipment; the community must advocate for acquiring available commercial off-the-shelf equipment to train the deploying

Marines. The Marines must train with equipment similar to what they may encounter in the operational area. Furthermore, MARSOC must develop an acquisition and lifecycle management plan that is not hindered by the traditional supply-chain support offered by the Defense Logistics Agency.

Leadership

Marine Corps should adopt an ascension pipeline similar to the Army SOF (ARSOF) community to build a mature and credible logistics community within the SOCOM. Just as MARSOC matured and developed Raiders into current leadership positions, the logistics community needs senior logisticians who are educated and experienced in special operations support. An ideal leader should understand LST's capabilities, potential, and limitations to help steer the future MARSOC logistics standards and training through experience. Furthermore, the senior logistician has established a network of JLENT and interagency relationships in various Geographic Combatant Commands that LSTs can leverage in the future.

Within ARSOF, once a logistics soldier is screened and accepted in the ARSOF, they are placed in a different talent pool than the regular Army and stay within the ARSOF community. Once accepted, the ARSOF logistics community trains them to support various special operations depending on the unit assigned. These logisticians eventually fill key billets within ARSOF, SOCOM, or Joint Special Operation Command G4 or take command or senior enlisted billet of Special Operations Logistics Support Element or sustainment brigade within the ARSOF. Given years of training, education, and experience, these leaders are force multipliers within ARSOF and SOCOM communities. On the other hand, the second-tour assignment with the MARSOC logistics community is based on the availability and timing of the Marines, and it is not always guaranteed.

Personnel

As MARSOC operationalize SSR and reorganizes its formation, the logistics community must address two key

personnel issues. The first is the staffing of MARSOC logisticians. Across the logistics community, we continue receiving new Marines who have never served in the FMF. To train Marines in skillsets beyond their primary military specialty, MARSOC requires proven Marines that can perform as soon as they arrive. For example, for a new logistics officer who just graduated the school, before educating this officer on operational-level logistics or JLENT, the community must ensure that the Marine has a good grasp of tactical-level logistics, so the Marine can connect the resources to what the Raider needs on the ground.

An ideal incoming logistician can tactically support MSOC, train and develop multi-functional logistic Marines, and facilitate planning and coordinating actions at Theater Special Operations Command (TSOC) and interagency levels. While it takes education and experience to perform effectively in these areas, an experienced, career-designated captain out of the fleet should have sufficient tactical-level logistics experience, a foundation necessary to succeed at MARSOC. Additionally, to produce the talent pool required while minimally impacting the rest of the Marine Corps, MARSOC should recruit supply officers and engineer officers to fill the LST OIC billet. Both supply and engineering fields provide young officers with a foundation in tactical-level logistics, and these officers are capable of performing as the LST OIC.

Similarly, for the first-term Marines, the community will spend the first two years teaching the Marines on basics before moving on to topics like GCSS-Army, SSAVIE, or International Cooperative Administrative Support Services. Due to their contract length, the community's return on investment in these new Marines is minimal. Instead, MARSOC requires Marines capable of effectively supporting daily unit operations but can learn new skills usually not asked in a conventional unit. Otherwise, MARSOC's return on investment into this Marine is not materialized. Therefore, the community must receive second-term Marines with sufficient contract length.

Facility

While the MARSOC logistics community requires no new physical structure to support SSR, there are facilities that MARSOC needs to leverage to prepare the logisticians better. One is local vocational schools to teach Marines technical skills, such as small engine repair, boat or automotive repair, internal wiring, and vertical construction. Currently, MARSOC utilizes a local community college to train these commercial skills not inherent in any MOS. With more focus on commercial off-the-shelf equipment, leveraging local schools allows the Marines to receive more appropriate vocational training than working with tactical gear. MARSOC does not have to invest in a new facility, instructors, or training materials to train constantly evolving technical skills.

Second is embassies and combatant commands. As aforementioned, MARSOC logisticians should be well-versed in a full spectrum of logistics, including JLENT, interagency, and local economy. One way to learn and leverage these resources is to build relationships with various regional agencies and commands by physically visiting these organizations. When a Marine Foreign Area Officer goes through the program pipeline, they have an opportunity to live and travel their assigned region and engage with various U.S. and host-nation institutions. Through this experience, the Marines learn about embassy function, U.S. initiatives, and the geopolitical situation. As a secondary effect, Marines also become knowledgeable of regional infrastructure, local economy, and host-nation government policies, such as border control and customs, simply from traveling and observing the region. By adopting a similar model where MARSOC logisticians travel the region for several weeks, MARSOC logisticians can develop relationships and gain an understanding of the regional logistics network. This kind of experience is more valuable than any three-week classroom session.

Summary

Many talented logisticians in the current MARSOC formation contribute

significantly to the MARSOC mission, and there are various efforts that the logistics community is undertaking to meet future requirements. However, it is also evident that the community lacks a baseline regarding supporting SSR and untethered logistics. As a community, we need to define untethered logistics in a way suitable for MARSOC and SOCOM, acceptable under existing federal and DOD policies and guidelines, and feasible by MARSOC logisticians with available resources. A new concept takes time to develop, and it will take a series of wargaming and testing of concepts. In the meantime, the community needs to shift its focus to two things:

1. Developing enablers comfortable operating within the JLENT and interagency environment.
2. Retaining upcoming, talented logisticians inside the formation.

MARSOC is the youngest branch within SOCOM, and the logistics community within MARSOC is still maturing; to become an effective contributor to MARSOC and SOCOM’s mission, MARSOC logisticians must continue to develop. As MARSOC operationalizes SSR and updates its formation, the timing is right for the logistics community to evolve. However, how we evolve depends on how the community envisions untethered logistics. The fifth SOF truth states, “Most special operations require non-SOF support.” If the community fails to adapt, the SOF teams will look elsewhere in SOCOM to support SSR missions, and MARSOC logisticians’ relevancy inside SOCOM’s JLENT will be marginalized.

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Advising Foreign Security Forces

The application of psychology and the behavioral sciences

by CIV Michael G. Murray II & LtCol Kirk A. Johnson

“Because war is a clash between opposing human wills, the human dimension is central in war. It is the human dimension which infuses war with its intangible moral factors. War is shaped by human nature and is subject to the complexities, inconsistencies, and peculiarities which characterize human behavior. Since war is an act of violence based on irreconcilable disagreement, it will invariably inflame and be shaped by human emotions.”

—MCDP 1

The Marine Corps is expeditionary, meant to be forward deployed and engaged with foreign populations. While interacting with those populations, a Marine is expected to be both the peace-maker and, when necessary, a lifetaker.

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MCDP 1 sets the stage for understanding the human dimension of war. In accordance with understanding the human dimension, the Service must create Marines that understand themselves first before they can comprehend the human dimension of war. In short, this means creating critically thinking, emotionally intelligent (EI) Marines, with a bias for action. The Marine Corps currently has two programs, Language Regional Expertise and Culture and Combat Hunter (CH), that are intended to help Marines understand their operational environment better. However, they are not sufficiently aligned and produce conflicting world views. In short, they teach Marines two categories of skills: *No Better Friend* and *No Worse Enemy*. There is a way to bridge this gap and to help create a more critically thinking Marine that is moral and ethical with a bias for action.

Operational Culture, which includes concepts on establishing cross-cultural relations and cultural stress or culture shock, is designed to provide the education necessary to connect with foreign populations better. We will call these skills, “No Better Friend Skills.” CH is designed to provide a Marine with the skills required to profile a target and kill, capture, contact, or let it go. We

will call these skills “No Worse Enemy Skills.” The purposes of the programs are opposing and the lexicons both use social science and behavioral science terms to provide context and relevance to their intended purposes. These two programs are providing a Marine with two opposing sets of skills, using two similar lexicons, to make decisions. The net effect is mental confusion, which disrupts the Marine’s decision cycle by confusing whether to treat a foreigner as a friend or foe. When in fact, the self-awareness and skills required to exercise both No Better Friend Skills and No Worse Enemy Skills can and should be complimentary and built into a Marine’s EI and ability to critically think about EI. By doing so, the Service may see benefits in a Marine’s personal growth, ability to handle multiple types of stress, and improved ability to interact both interpersonally and in times of violence, and an improved ability to make decisions.

This article will discuss the linkages between the Marine Corps’ cultural learning and CH programs as they intersect in the world of advising foreign security forces and overseas deployments by the FMF when engaging and interacting with foreign security forces and foreign government officials and

populations. It will do so by attempting to walk the reader through categories of required advisor understanding and linking established mental models to demonstrate a better way of training to interact in complex environments. This will be done by anchoring Marines with a firm understanding of EI and how it impacts thinking and their ability to improve it.

Emotional Intelligence

EI is defined as, “The capacity to be aware of, control, and express one’s emotions, and to handle interpersonal relationships judiciously and empathetically.”¹ One’s level of EI is hard to determine and measure, in most cases, it will be recognized by another in terms like, *that person just has it together*. However, what makes up EI can be defined to some degree. Figure 1 depicts the categories of EI that are commonly accepted in the field of psychology. To the Marine or sailor on the ground, understanding each of these categories, what they are, what they mean, how they relate to oneself, and how one exhibits these traits is critical. This requires a lot of external study on what EI is—as well as a lot of self-reflection to understand how they relate or manifest within one’s own head. If we view EI as the key to one’s ability to relate to and react in the world around them, we can then teach a Marine to enhance their EI. By using a series of mental models, it is possible to improve a Marine’s EI by explaining: how one receives information from the outside world; how it is processed in the brain through pre-existing “file folders” (i.e. Heuristics) of past experience; how to update those file folders; and how to improve the ways a Marine reaches a decision.² The study of EI, with the intent of personal growth, requires self-examination and a lot of self-critical analysis and thinking.

Decision Making

If EI is the proficiency level of one’s understanding and ability to wield the categories of information in Figure 1, then it is obvious that we are beginning to think about how and why we think. For a Marine, a bias for action is key.

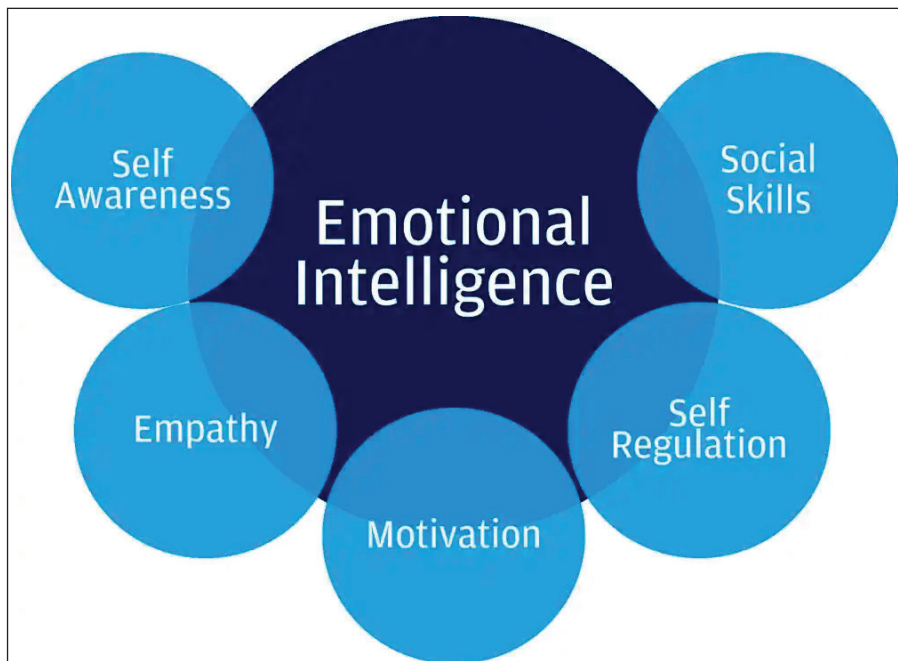


Figure 1. Emotional Intelligence. (Figure provided by author.)

Marines are taught very early about Boyd’s Observe, Orient, Decide, and Act (OODA) cycle depicted in Figure 2 on next page (e.g. OODA Loop).³ However, rarely is it taught to the degree it should be. Boyd intended that each step of the cycle contained a feedback loop that could restart the cycle at any

The study of EI ... requires self-examination and ... self-critical analysis and thinking.

point based on circumstances. Boyd also developed the model as a way of depicting how to create implicit guidance and control versus explicit. This is a key requirement in the execution of maneuver warfare. Figure 2 (on next page) contains a blue box that demonstrates categories of information that affect decision making: cultural traditions, the ability to analyze and synthesize information, etc. These can be compared to the categories depicted in Figure 1: Emotional Intelligence. It is apparent that Boyd had a grasp of the

concept of EI and how it influences our decision making. At a minimum, it can be deduced that he understood that the culture and experience had an effect on biases that we carry, which in turn affect how one makes decisions. His model was considered by the developers of CH, as the net effect of that program was to help Marines process incoming information in a more efficient and effective manner to decide to act. The methodology utilized to teach CH was through the use of John Boyd’s OODA Loop (Figure 1). The rationale was that no matter what task a Marine conducted, he could not escape the OODA cycle, and it was something simple for junior Marines to understand; thus, it became the perfect teaching mechanism to simplify complex concepts. In 2009, the Federal Bureau of Investigation, Behavioral Science Unit helped the Marine Corps create a Boyd-like model to codify the thought processes that a Marine would incur during the creation of a profile by attempting to blow out the file folders, or compartments, of information a Marine used to profile. Figure 3, from CH, depicts what Dr. Gregory Vecchi, head of the Federal Bureau of Investigation, Behavioral Science Unit in 2009, provided the Marine Corps.

Effectively Dr. Vecchi’s team validated the six domains of Marine Corps behavioral profiling and placed them into three categories: individual body language, environmental indicators, and heuristics (see Figure 3). Heuristics is one of the original domains but also came to be a category of its own due to the fact that the intent of behavioral profiling was to collect behavioral and environmental cues that allowed the Marine to create a “tactical shortcut” or heuristic that allowed him to cycle through the OODA loop faster. This work effectively validated the Marine Corps CH Program and allowed the Marine Corps to export its content to the other Services and governmental organizations. It was the first time any agency, police or military, had codified a methodology for explaining adages such as the sixth sense or “the hair on the back of your neck,” why they occur, how to recognize them, and how to use them to your advantage.

Behavioral Profiling

The basis of any human interaction requires the use of both verbal and nonverbal communication. When communicating, humans have an innate ability to determine meaning and provide context or relevance to an interaction with another human via verbal and nonverbal cues. The ability to understand these cues, with more ability than you have innately accrued through years of interactions in and with your environment, is a skill that requires specific training and education as well as experience. Commonly, we refer to this skill as the

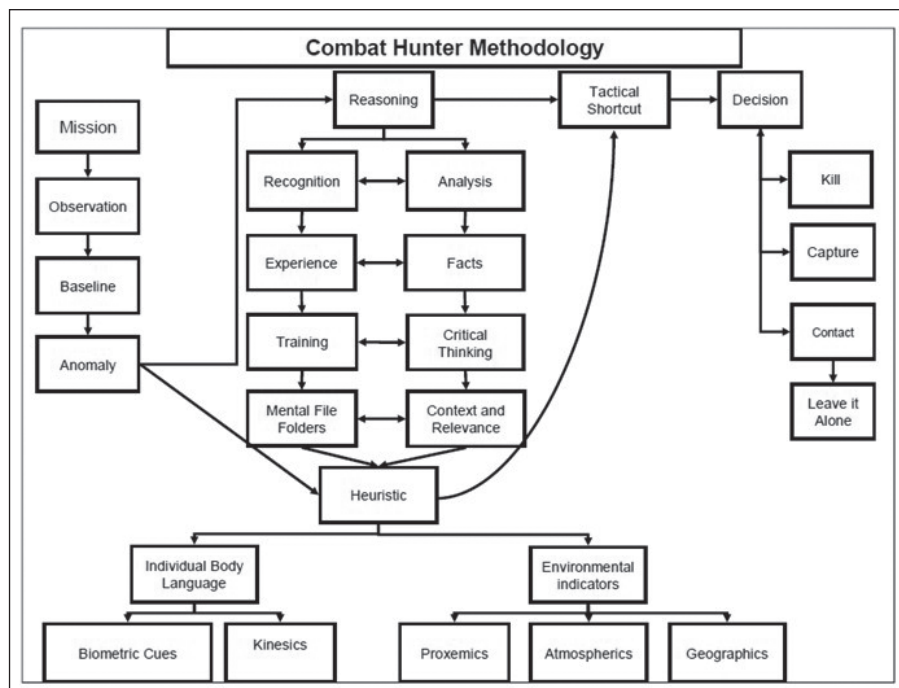


Figure 3. Combat Hunter Methodology (MCRP 3-02). (Figure provided by author.)

... any human interaction requires the use of both verbal and non-verbal communication.

ability to behaviorally profile a person. The ability to profile another human being involves mental processes and conversations that occur in the brain. Those conversations occur as we recall file folders of past experiences (i.e. heuristics), receive and interpret new

information, and rapidly choose how to react. The reasoning we conduct in our head, is influenced by the incoming cues as described above (Figure 3). The recognition of an anomalous cue, or group of anomalous cues, when quickly processed through the lens of one’s experiences (i.e. life, culture, biases, training, etc.) affect the decision made. Boyd’s model (Figure 2) highlights this same dynamic.

The use of these models (Figures 2 and 3) has larger impacts beyond “No Worse Enemy” skills. This model can be applied to how one makes decisions and chooses actions, or responses, during everyday interactions. More specifically for the advisor, these skills should be utilized during interpersonal interactions with foreign counterparts. Thus, using this model for teaching “No Better Friend” skills, linked to how culture, both the student’s and the counterpart’s (e.g. Language Regional Expertise and Culture skills), impacts the reading of cues is a very valuable tool in enhancing a Marine’s ability to make decisions. Critical thinking about how the decisions are reached by explaining observed cues and any interpersonal biases that surface directly links back to training emotional intel-

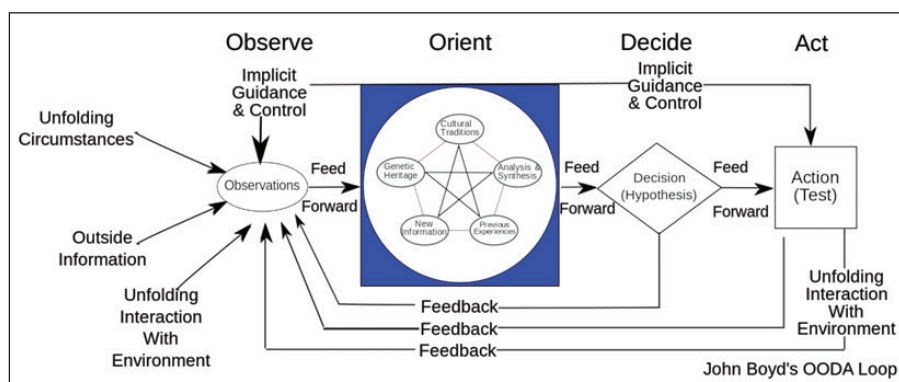


Figure 2. Boyd's OODA Cycle. (Figure provided by author.)

ligence. It is the analysis of a decision, how and why the Marine reached the decision, coupled with bringing to light any biases that influenced the decision that allows the Marine to gain a better understanding of his EI level.

dissonance, which is defined as the state of having inconsistent thoughts, beliefs, or attitudes, especially as relating to behavioral decisions and attitude change.⁴ CBT is used to treat many types of mental issues, including Post-Traumatic

other stressors, such as cultural stress or shock.

Operational Stress

Operational stress comes in many forms. It can come from the stress of being away from home, family issues, the stress of combat action, or the tempo of operations. Culture experts specifically like to call out cultural stress or culture shock as something significant that occurs when a Marine is immersed into a new culture and must absorb environmental changes more rapidly than the Marine can handle the required acceptance of changes. It is one’s opinion that inculcating Marines with the knowledge and inner workings of the models explained in this article coupled with CBT methods (i.e. instructional methods) of bringing to light corrupt file folders for discussion and revision into positive file folders will help overcome cultural stress, as well as other stressors. A practical example of this would be a Marine who meets a host-nation counterpart for the first time and is offended by the counterpart’s body odor and put off by a handshake coupled with a kiss on each cheek. The Marine is filled with perceptions of what a greeting should be, as influenced by his culture, experiences, or file folders of their defined normalcy, as they interpret them. In this simple example, the stress of dealing with unfamiliar smells and behaviors experienced by the Marine can cause him to interact with the counterpart inappropriately or perhaps build resentments that may present themselves in a multitude of ways, including affecting other relationships. If another Marine were to pull the suffering Marine aside and talk him through the bad experience and help them shape a new understanding, they can then uncorrupt an existing file folder and help the Marine process the inputs to their environment better.⁵

Critical thinking about how the decisions are reached ... and any interpersonal biases ... links back to training emotional intelligence.

This type of mental exercise has impacts beyond the ability to behaviorally profile others. Using this method of breaking down the mental process can help prepare Marines to handle stress much more effectively. A comparative model used in cognitive behavioral therapy (CBT), shown in Figure 4, demonstrates how psychiatrists and psychologists link how our thoughts create feelings, which in turn we act out when executing behaviors. Comparing this model to Boyd (Figure 2) and to the CH Methodology (Figure 3), we can deduce that if bad thoughts are pulled from file folders (i.e. experiences) then they can corrupt our decision making. This equates to producing cognitive

Stress Disorder. The therapy focuses on challenging and changing unhelpful cognitive distortions (i.e. corrupt file folders) and behaviors, improving emotional regulation, and developing personal coping strategies that target solving current problems.

By building an understanding of EI, Boyd’s OODA Cycle, and the CH methodology linked to CBT methods of interrupting cognitive dissonance or fixing corrupt file folders—that affect decision making—it should be possible to speed up and improve a Marine’s decisions. Additionally, the same methodology of bringing to light a corrupt file folder to interrupt cognitive dissonance is a simple way for Marines to interrupt

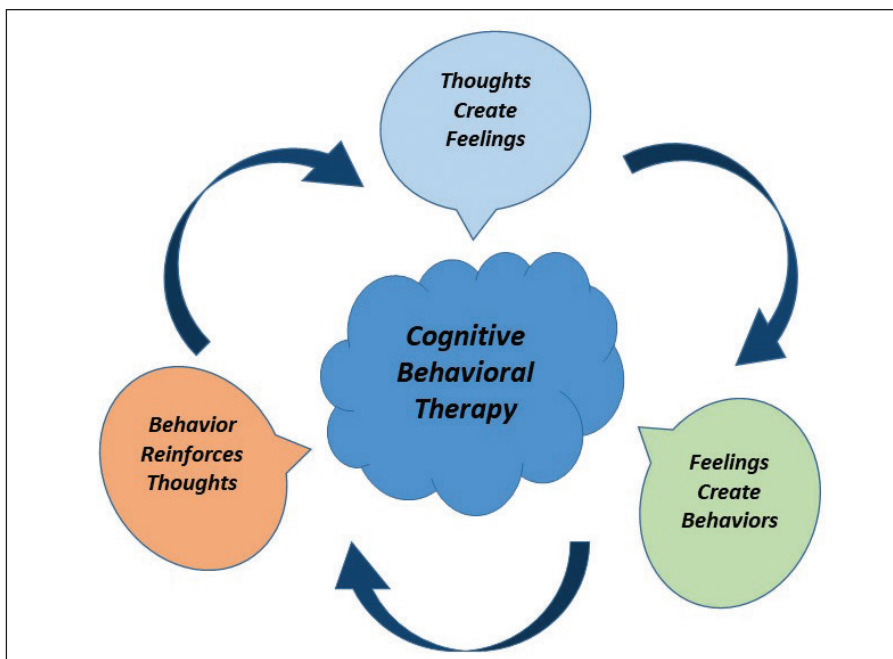


Figure 4. Cognitive Behavioral Therapy. (Figure provided by author.)

Conclusion

Critical thinking is an endeavor that must be honed and exercised if one is to become a good critical thinker. The Marine Corps needs, now more than ever, Marines who can think and make rapid decisions while exercising increased au-

thorities at junior levels. Current FMF security cooperation activities such as advisor missions, mil-to-mil engagements, unit deployment programs, MEU patrols, and Special Purpose MAGTF Crisis Response deployments coupled with emerging concepts, such as Expeditionary Advanced Based Operations or Littoral Operations in Contested Environments, will be executed amongst foreign populations. Future Marine Corps operations will require not only advisors to be inculcated with critical thinking skills but all of those Marines and sailors who interact with foreigners on an ad hoc, or persistent, basis.

The study of emotional intelligence, its relationship to Boyd's OODA Cycle, CH, as well as methods mentoring Marines through stressful situations using CBT methods to fix corrupt file folders, is one way of helping to create better critical thinkers. Analyzing how one thinks, the influences on how they

The study of emotional intelligence, its relationship to Boyd's OODA Cycle ... is one way of helping to create better critical thinkers.

think, and the communication of that information to another Marine helps to increase EI and thus speed the Marine's ability to wade through the OODA Cycle faster. It is recommended that the Marine Corps, the Marine Corps Security Cooperation Group in particular, explore linking these things together in a coherent teachable package of instruction to be absorbed by all ranks.

Notes

1. Psychology Today Staff, "Emotional Intelligence," *Psychology Today*, n.d., <https://www.psychologytoday.com/us/basics/emotional-intelligence>.
2. Headquarters Marine Corps, *MCRP 3-02, Combat Hunter*, (Washington, DC: June 2004).
3. Ibid.
4. *Oxford Dictionary*, s.v., "Cognitive Dissonance," https://www.bing.com/search?q=cognitive+dissonance&form=EDNTHT&mkt=en-us&httpsmsn=1&msnews=1&rec_search=1&plvar=0&refig=d2648ca97dc24468d0ae329466dd7b15&sp=-1&ghc=1&pq=cognitive+dissonance&sc=8-20&qsn=&sk=&cvid=d2648ca97dc24468d0ae329466dd7b15.
5. Interviews between author and Dr. John Mason.



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Marine Attachés

On the strategic and tactical edge

by CIV Scott A. Westerfield & LtCol Joseph P. Davidoski

The clouds of a geopolitical storm are gathering in a geographic region with many eyes upon it. The odds of a strategic or operational miscalculation are very high, not only in this immediate region but globally as well. How will our future adversary react? Perhaps more importantly, how will our allies and partners react? What is their willingness to join or support our coalition and what capabilities will they be able to bring to bear? These are questions answered daily by the men and women serving in the Defense Attaché Service (DAS) and powerful voices inside that organization are the Marine officers and staff NCOs serving throughout the world.

Military Attachés and Marines: A Brief but Thorough Overview

Defense/Military Attachés, who are direct representatives for the Secretary of Defense and their respective Service Chiefs, serve as vital components of any American diplomatic mission—principally from our embassies and consulates worldwide. These officers serving as attachés, along with their enlisted support staff, form the Defense Attaché Offices (DAO) managed by the Defense Intelligence Agency in Washington, DC, through the DAS. There are over 140 DAOs around the world, providing DOD representation to at least 185 countries.

Approximately 35 Marine officers serve within the DAOs as Marine Attachés (MARA) and 14 enlisted staff NCOs serve in support staff roles as Operations NCOs or Operations Coordinators. Additionally, four MARAs serve as the Senior Defense Official/Defense Attaché (SDO/DATT) in numerous geographic regions, including the Caribbean/Latin America,

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Northern Europe, West Africa, and the Indo-Pacific. At least two MARAs have additional responsibilities such as representing the senior Naval Attaché, formally known as the Assistant Legation United States Naval Attaché.

Our Service intends to expand its MARA presence in the USINDOPACOM region over the coming decade to maintain close alignment with the 38th CMC's intent for *Force Design 2030*. Some of this expansion will come by off-ramping the extant MARA structure in Europe where Marine Corps interests have either lessened or outright declined in the last several years.

Like any other U.S. military attaché, MARAs fulfill a vital role as members

military attachés are tasked with an “observe and report” mission while legally and formally assigned to their respective diplomatic missions without fear of coercion or harassment by the host nation. This long-enshrined diplomatic principle and recognition thus enable all military attachés to observe and report within the appropriate bounds of decorum and the accepted bounds of legality inside the host nation.

An annual, highly competitive board process selects Marines for attaché billets, with the calling message released in the spring, board convening in late summer, and results released by late autumn/early winter. Coming to the DAS from a wide variety of MOSS, suc-

Defense/Military Attaches, who are direct representatives for the Secretary of Defense and their respective Service Chiefs, serve as vital components of any American diplomatic mission ...

of a U.S. military group within any American diplomatic mission. Besides serving as direct representatives of the Commandant and the Corps, MARAs also represent the Secretary of the Navy and Secretary of Defense alongside their Joint Service peers.

Subject to the Vienna Convention on Diplomatic Relations (1961), all

successful attaché candidates are comfortable living overseas, possess excellent emotional intelligence, initiative, and display incredible attention to detail across a broad scope of topics and missions. It is also to the Corps' benefit if they possess valuable language, regional, and cultural expertise in a given geographic region. Following selection,

Marines receive the appropriate foreign language training, complete Joint Military Attaché School at Defense Intelligence Agency headquarters, and any other required courses prior to arriving at their respective diplomatic mission. Once in-country, these highly trained officers focus on three core missions of military diplomacy: inform, advocate, and coordinate.

Inform, Advocate, Coordinate

The most historic and arguably important role of a Marine serving in a DAO is to inform the DOD and U.S. Government as a whole. While forward stationed as the strategic eyes and ears on the ground for the DOD, members of a DAO develop deep and long-standing ties with their host nation (HN) counterparts. A MARA often does this with an HN's Marine Corps or naval infantry but often with a foreign Naval Service or ground forces as a whole. The authors both served as MARAs in countries without a dedicated Marine Corps (Oman and Iraq) but where there was a high demand for the talents and benefits of a relationship with the Marine Corps. SDO/DATTs will cultivate relationships with an entire Ministry of Defense or the Chief of Defense. Often, the DAO is the key DOD entity in the country during a natural disaster, coup, insurrection, or other crisis and is a vital source of current information for the DOD and the U.S. Government. DAOs also work on long-range issues and relationships which in turn shape U.S. policy such as defense treaties and long-term security cooperation.

Advocacy, whether for Marine Corps interests or DOD, is another vital function of Marines in the DAS. As an integral part of the Embassy Country Team, MARAs provide military advice and context to the ambassador and other members of the country team including the legal attaché, economic and political foreign service officers, and other members of the U.S. Government. MARAs translate guiding Marine Corps doctrine and policies and routinely generate opportunities for senior leader engagements and training. The Marines serving as SDO/DATTs have the additional responsibility to coordi-

nate all the security cooperation efforts in their designated country. Ranging from foreign military sales to unit-level training programs, the SDO/DATTs manage these efforts through another distinct entity on the Country Team known as the Security Cooperation Office.

Virtually every day for an attaché or ops staff member has some element of coordination. Whether coordinating Navy port visits, securing air clearances for military aircraft, or finalizing agendas for senior DOD or U.S. Government delegations, the DAOs daily perform these mechanics of military diplomacy. The MARA is called on to facilitate face-to-face meetings in-country for senior Marine Corps general officers, Department of the Navy leadership, and even the Secretary of Defense or President of the United States. This is all part of the vital work done behind the scenes to develop and strengthen partnerships with key allies.

Stand-In Forces, the Attachés, and Allies and Partners

How will the military diplomacy efforts of the MARAs, and DAOs, contribute to future Marine Corps missions and employment? The efforts of the DAOs, especially as it relates to allies and partners, are a key element in the Service's development and implementation of the Stand-in Force (SIF) concept. As noted in the strategic context for *A Concept for Stand-in Forces*, "potential rivals make every effort to disrupt and degrade the United States' relations with its allies and partners,"¹ and there are few Marines better placed to strengthen these relationships than those in the DAOs. Potential rivals' adversaries' efforts against our allies and partners will only increase over the next decade in scope and complexity ranging from information operations, gray zone actions, and military deterrence activities. The on-the-ground expertise and knowledge of the DAOs are a ready source of information and diplomatic power to identify and mitigate those efforts. DAOs are also the persistent DOD presence in most countries. Long before and after an adversarial activity is complete, the attachés will still be in

country, continuing to promote U.S. interests and maintain strategic partnerships.

The DAOs are also on the ground floor for initiatives to enable allies and partners with complementary capabilities, including the maritime domain, another key element of the SIF concept.² The attachés are in the meetings with their HN maritime partners, observing local military exercises, and providing updates to senior DOD leaders on the HN maritime security concerns. This highly detailed level of understanding and context is a vital input towards developing a local plans and initiatives in line with the overall operational concept.

MARAs and other Marines in the DAS are at the leading edge of developing and maintaining strong ties with allies and partners around the world. Senior Marine leaders have directed an expanded MARA presence in the IN-DOPACOM AOR in the next decade. Already living a "persistent, forward-deployed posture,"³ MARAs leverage their long-term relationships to provide context, contacts, and other information required to translate the SIF operational concept into viable actions. As the SIF concept is further refined and tested, the capabilities of the MARAs will remain forward to observe and develop the needed relationships with allies and partners.

Notes

1. Headquarters Marine Corps, *A Concept For Stand-In Forces*, (Washington, DC: December 2021).
2. Ibid.
3. Ibid.



In Competition

Don't forget the FETs

by Sgt Leah Henning & Maj Rob Boudreau

Authors' Note: While deployed as the 31st MEU Civil Affairs Detachment 22.1, the authors of this article assisted the MEU in developing a Provisional Female Engagement Team (FET) standard operating procedure, which includes, among other things, a concept of employment as a provisional capability; member evaluation and selection criteria; an organizational structure; a training package for team members; and guidance for operating as planners and tacticians. This article captures the reasons behind the creation of the FET and recommends that each MAGTF similarly develop a standing FET capability to meet the challenges of the current operating environment and further the policies of the 2017 Women, Peace, and Security Act.

As the counterinsurgency operations in Iraq and Afghanistan fade into distant memories, one of the tools created to reach women and girls within these populations—that is, FETs—has largely gone by the wayside.¹ However, FETs should not have been viewed simply as tactical-level specialty teams that are less relevant in the competition environment. The United States 2017 enactment of the Women, Peace, and Security (WPS) Act underscores the importance of including partner nations' women and girls in shaping a secure future; the subsequent DOD implementation of WPS policy tacitly urges thoughtful leaders at all levels of command to identify practical solutions for translating policy into practice.² These authors propose that taking a fresh look at the FET concept and how it can be adapted to satisfy U.S. policy while remaining relevant in a changing national security landscape is more important now than ever. Specifically, we propose FETs should be established within each of the MEUs as a standing capability rather than a separate organizational

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Female Engagement Teams evolved into valuable assets during operations in Iraq and Afghanistan. (Photo by Cpl Tawanya Norwood.)

element, which can be used to further WPS objectives both from a planning perspective and as needed at the tactical level.

Historical Development

There is an adage that the military prepares to fight the last war. Capturing elements of sarcasm, realism, and chagrin at not knowing what challenges an adaptive enemy may next bring to bear, the sentiment also carries an admonition: to adopt the lessons learned from past experiences and apply them

to new contexts. Nowhere is this more important than in the DOD implementation of the WPS Act of 2017.³ The WPS Act codified U.S. policy both to acknowledge the importance of women's roles in peacebuilding as well as to increase the participation of women around the world in the peace process. While the WPS Act provided formal, strategic-level guidance for the DOD, it was still a decade late catching up with tactical truths that Marines and soldiers discovered in Afghanistan and Iraq.

As U.S. forces in the Middle East transitioned from combat to stability operations, they found that a stark reality blocked their efforts to engage local populations: strict Islamic culture largely prevented male service members from speaking, meeting, and interacting with literally half the population—the local women.⁴ Early encounters had shown that simply conducting searches at security checkpoints was culturally problematic, and so in Iraq—where women were sometimes engaged in terrorist or smuggling activities—Lioness Teams were developed, which integrated female service members into ground combat teams.⁵ In Afghanistan, where the security concerns were different, but cross-cultural boundaries remained, the Marines conceptualized and developed the FET: a team of all-female service members, augmented with a civilian translator, designed and employed specifically to overcome local women's fears and create meaningful dialogue with this previously unreachable segment of the population.⁶ That was 2008; over the next few years, many FETs were employed throughout the region. Invested leaders captured their experiences, learning points, and best practices, many of which can still be accessed through the Marine Corps' Center for Lessons Learned.⁷

The benefits of the FET program were multi-layered. First, the FETs sought to meet real needs of local women—for example, by including medical personnel on the teams who could provide medical outreach and education.⁸ Second, FETs were used to collect information, both from women and from men (contrary to conventional assumptions, local men were not opposed to speaking with female service members). Third, FETs were an information environment multiplier, providing an on-the-ground means of contributing to influence operations amongst the female populace. Fourth, FETs facilitated other military operations by increasing understanding and awareness and improving access within the environment. But most importantly, the FETs fundamentally recognized the critical roles of local women within their communities as change agents—

even if, up until that point, their influence was outside the Western public's eye.⁹ The FETs' immediate success on the ground led to full-time FETs being organized and deployed to support combat units.

With no troops left in Afghanistan and a comparative handful remaining in Iraq, FETs have not been regularly employed in the Middle East in years. The Services never developed the FET as a doctrinal organization structure, nor was a formal FET training pipeline established.¹⁰ However, a flexible FET construct can still be leveraged to further WPS objectives and improve operational effectiveness.

WPS Implementation

By no means suggesting that the WPS Act was born of the FET program, it is nevertheless evident that both served to further the same goals. The DOD issued its Women, Peace, and Security Strategic Framework and Implementation Plan in 2020, setting forth three objectives: first, to model and display WPS through the development, management, and employment of the Joint Force; second, to ensure that women in partner nations can meaningfully participate in all occupations across all ranks in the defense and security sectors; and third, to assist partner nations' security and defense sectors in ensuring that women's and girls' safety and human rights are secured, especially in conflict settings.¹¹

The first objective, modeling and displaying WPS to and for the world, requires that force employment reflect the United States' values, including the opportunity for women to serve in all occupational specialties. This objective is equally important in all contexts, whether in the operating forces, on combatant command and international staffs, or at multinational exercise planning conferences.

The second objective, ensuring that partner nations similarly support women's participation in military service, requires both observation and deliberate engagement by the U.S. military. In military-to-military engagements between U.S. and partner forces, planners should consider the gaps in the partner

nation's forces and identify opportunities to improve integration.

The third objective, assisting partner nations in ensuring women's and girls' safety, effectively builds a new layer into planning considerations for the civil environment, necessitating that the population be analyzed to determine whether additional gender-based vulnerabilities must be addressed.

At present, the WPS program sees primary implementation across the DOD in staff gender advisor positions. However, there is no particular prescription as to how, or down to what level of command, gender advisors should be assigned. Enter the FET. Within every MAGTF structure, the FET can be used, first, as a way to augment the operational planning team to improve gender considerations within the civil environment, and second, as a specialty engagement team which can be formed to execute particular missions.

FET Employment

Planning

On a typical operational planning team within a MEU, primary responsibility for analyzing the civil environment and incorporating civil considerations into the planning process typically falls to the civil affairs (CA) element, often comprised of a CA officer and a staff or senior non-commissioned officer. In practice, the CA element nests within the operations in the information environment cell, which is part of the S-3 fires cell. The CA planners manage the information-related capabilities (IRCs) of the civil environment and support development of courses of action for civil military operations. In addition, the CA planners will lead the Green Cell, representing the independent will of the population within the area of operations.¹²

Within the population, subgroups should also be assessed for unique vulnerabilities, disproportionate impacts, and opportunities to reinforce societal resiliencies. WPS provides a specific lens for identifying and addressing women's concerns within affected communities, and building that layer of understanding into the overall planning. Here, the FET can

provide unique value to the operational planning team by supporting Green Cell activities and analyzing additional planning factors relating to women and girls within the area of operations. FET participation in the Green Cell can be a formal, distinct activity, but it does not need to be; rather, staff planners who dual-hat as FET members can support Green Cell activities by providing insights from a WPS perspective to the operational planning team while maintaining other planning responsibilities.

Planning, however, should be viewed broadly, and not limited just to tactical missions. For example, planning for future military-to-military engagements begins at combatant command (or higher) levels in the multinational exercise life cycle. It then is shaped for execution by subordinate units. At planning conferences and working groups, FET members should be included to assess partner-nation involvement and seek openings to broaden opportunities for women’s participation. There is no one-size-fits-all approach: in some settings, it may be appropriate to coordinate for female U.S. service members to engage female service members of partner nations to pursue WPS initiatives; in others, FET members may provide operations in the information environment analysis to U.S. forces to refine course of action development. The key will be flexibility to further WPS initiatives as each situation allows.

Integrating gender considerations into planning, while perhaps recently revitalized as a U.S. policy interest, is not new in the international realm. The North Atlantic Treaty Organization has issued several publications to support planning, including a 2015 *Gender Functional Planning Guide* which provides guidance for planning at the strategic, operational and tactical levels,¹³ as well as a 2016 update to the *Gender Advisor Functions Standard Operating Procedure*.¹⁴

Tactical FETs

The FET should be a scalable, flexible team of Marines and sailors which can be augmented with specialists from various military occupational specialty backgrounds to accomplish particular missions. Just as they historically found success in Afghanistan and Iraq, FETs may be employed on the present-day competition landscape where mission analysis supports a determination that female population groups will be most effectively engaged by female U.S. personnel. In these instances, the FETs should be sized, composited, equipped, and augmented appropriately to meet mission requirements, to provide force protection, and to integrate with adjacent and partner forces.

FET member selection should also take into consideration maturity, education, languages spoken, and other relevant factors. The following organizational structure provides a simple

baseline example of how a FET may be constructed to conduct engagements in a region: The FET may also be augmented with additional military and civilian specialists, such as interpreters, military police, intelligence, psychological operations, civil affairs, medical and other personnel.

FET Training

The FET construct is not new; however, creating a provisional FET as a standing capability within the MEU is new. Missions, the operating landscape, and the U.S. operating forces change over time. Accordingly, any training plan should evolve to reflect innovation, to incorporate lessons learned, and to best prepare Marines and sailors to serve as FET professionals.

Training should generally fall into three functional areas.¹⁵ First, FET members should develop basic culture operational skills, such as evaluating and integrating WPS considerations into missions, conducting civil reconnaissance; preparing for and conducting engagements with key leaders; and using interpreters. Second, FET members should receive appropriate tactical training to improve internal security and to integrate seamlessly with U.S. units with which they are embedded, such as basic lifesaving field casualty care; detainee handling; and infantry patrolling, shooting and convoy operations. And third, FET members should participate in region-specific training, such as online Regional Culture and Language Familiarization courses. As with all other aspects of the provisional FET, training should be adaptive to support mission priorities while maintaining awareness of local WPS considerations.

In addition to tactical training, FET members should also receive training in the Marine Corps planning process, focusing particularly on relevant civil considerations. Ideally, at least the senior, if not all, FET members would attend the Marine Corps Civil Military Operations School’s planners or basic MOS courses, where for two to four weeks they will be immersed in training on understanding the civil environment and feeding information into the



Figure 1. Example FET organization. (Figure provided by author.)

intelligence picture; detailed operations planning; and orders development.¹⁶ They would also be trained on Green Cell activities and develop a strong foundation for integrating WPS considerations into the civil understanding of the environment and assessing likely populace reactions to military actions.

Conclusion

Commanders are responsible for ensuring that operations take *all* human perspectives into account, and not just those of the most powerful or most audible. While eras, cultures, adversaries, and operating environments change over time, the principles underlying WPS initiatives remain the same: to identify, understand, protect, and strengthen vulnerable female population groups, wherever they may be found. Provisional FETs, organized around mature, trained and capable warriors, will provide a force-multiplying capability to commanders seeking to build more stable, secure societies wherever they deploy.

Notes

1. Several units, such as 1/23 Mar, 4th MarDiv, recently established FETs in support of Operation ALLIES WELCOME at Fort Pickett, VA, and in other locations to assist Afghan evacuees. These authors would submit that this seeming resurgence is anomalous, and largely mirrors the historical FET programs in Afghanistan and Iraq, as discussed further below. An 18 January 2022 story by David Intriago, “Résumé Building at Fort Pickett,” about one such FET operation is available on Defense Visual Information Distribution Service here: <https://www.dvidshub.net/image/7014340/resume-building-fort-pickett>.

2. *Public Law 115-68*, October 6, 2017.

3. U.S. Department of Defense, *Women, Peace and Security Strategic Framework and Implementation Plan*, (Washington, DC: June 2020).

4. For a general discussion of the difficulties encountered by commanders and planners, see Aniela Szymanski, “A Woman in Charge: A Civil Affairs Marine Team Leader Experience in Afghanistan,” in *Marines at War—Stories from Afghanistan and Iraq* (Quantico: Marine Corps University Press, 2016).

5. Raymond T. Kareko, “Female Engagement Teams,” *Army University Press*, October 25, 2019, <https://www.armyupress.army.mil/Journals/NCO-Journal/Archives/2019/October/Female-Engagement-Teams>.

6. Matt Pottinger, Hali Jilani and Clair Russo, “Half-Hearted: Trying to Win Afghanistan without Afghanistan Women,” *Small Wars Journal*, (February 18, 2010), <https://smallwarsjournal.com/jrnl/art/trying-to-win-afghanistan-without-afghan-women>.

7. Information available at https://usmc.sharepoint-mil.us/sites/TECOM_MCCLL.

8. This structure was described by Zoe Bedell in a May 2011 presentation on FETs, still available on NATO’s website at https://www.nato.int/issues/women_nato/meeting-records/2011/pdf/BEDELL_FETPresentation.pdf.

9. Writing of his experience in Afghanistan, Pottinger noted that “Though rarely seen by outsiders, the [Pashtun women] are keen observers and opinion-makers about the goings-on in their villages.” *Ibid*.

10. The Marine Corps developed two additional MOS fields: Female Engagement Officer (0534) and Female Engagement Specialist (0538). See NAVMC 1200.IE, *Military Occupational Specialties Manual*. These MOS’s are available to civil affairs Marines who complete additional training in integrating gender perspectives into operational planning.

11. *Women, Peace and Security Strategic Framework and Implementation Plan*.

12. For a general overview of Green Cell operations, see Staff Marine Corps Civil-Military Operations School, *Marine Corps Civil-Military Operations School Circular 3.1, Green Cell*, (Quantico: 2017).

13. Supreme Headquarters Allied Powers Europe, “Allied Command Operations (ACO) Gender Functional Planning Guide,” *Forsvarsmakten*, July 2015, <https://www.forsvarsmakten.se/siteassets/english/swedint/engelska/swedint/courses/genad/07-aco-gender-functional-planning-guide.pdf>.

14. North Atlantic Treaty Organization, *Joint Headquarters Standard Operating Procedure 106, Gender Advisor’s Functions in JFC & JTF Headquarters*, (Brussels: March 2016).

15. This recommended training program follows similar functional lines to those used by the Army and Marine Corps to train FET members headed to Afghanistan or Iraq. See Center for Army Lessons Learned, *Center for Army Lessons Learned Handbook 11-38, Commander’s Guide to Female Engagement Teams*, (Fort Leavenworth: September 2011). See also Emily J. Naslund’s after action report from October 10, 2010, “I MEF (FWD) Female Engagement Team After Action Report,” retrieved from the Marine Corps Center for Lessons Learned.

16. Additional information is available at the school’s website: <https://www.trngcmd.marines.mil/Units/Northeast/Weapons-Training-Battalion/-MCCMOS>.



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Red Star Over the Caribbean

A tale of great power competition

by Maj Geoffrey Irving

Maj Lin Biao looked out from his beachside barracks at the azure waters shimmering under the Caribbean sun. A gentle breeze caught the cigarette smoke off his exhale and wafted it downwind. It slowly dissolved into the ocean. He noted that the air here had a different quality as he breathed in during breaks from the burning cigarette. It was lighter and somehow happier than the air that he grew up breathing in Hubei or the heavy air that he had become accustomed to at the bases he inhabited throughout his career. It seemed lighthearted and almost incompatible with the weight of his dark camouflaged uniform—a uniform crisply pressed and adorned with devices that noted his worldwide service. This island air reminded him of being at sea as if he were looking out from the deck of a massive unsinkable carrier.

Maj Lin heard the door of the room next to him open and looked over while taking another drag on his Zhonghua.

Capt Lu, bleary-eyed and disheveled, popped out of the door and squinted against the sun before making eye contact with him.

“Hey Sir, what time did we have to be at class?”

Chris Lu was a doughy officer, of middling height and effusive wit who had a punctuality problem, and often forgot necessary readings and assignments, but earned the adoration of the class with an easy demeanor. Lu was an American exchange student and was purported to be the best the American Marine Corps had to offer. Maj Lin often thought that it was a poor reflection

>Maj Irving is a Marine Judge Advocate currently serving as a Reserve Support Officer with Recruiting Station New Jersey.

on the state of the American military, but maybe an appropriate one.

“We should leave now, Chris.” Maj Lin chided, exhaling his cigarette and watching the smoke snake out onto the horizon again.

“OK, wait a second. I’ll be right out.” Capt Lu popped back inside without closing the door. Maj Lin could hear Lu rustling around to get dressed and plugged in before stumbling out the door in a minimally acceptable state of dress.

Lu was an American exchange student and was purported to be the best the American Marine Corps had to offer.

“Let’s go, slowpoke,” Maj Lin said as he started striding away from the barracks toward the university building down the street. Capt Lu walked a pace behind him, taking on the unfocused stare of someone scrolling through morning updates on their lens.

The duo could not look less alike. Maj Lin was a tall, wiry man with a long face and an impassive mask that rarely

broke. His dark eyebrows dominated his face and projected a stern demeanor. He walked, even on a beautiful Caribbean morning like this, with a brisk pace that eschewed ancillary movement. At his side, Capt Lu was more of an ambler, with wide hips, and a stride that rolled from one foot to the next as if strutting to a beat.

They passed a circular driveway with three flag poles waving in the center. The five-star red flag occupied the middle, proudly standing taller than the subservient two of stars and stripes. All three fluttered and gleamed in the sun, reflecting red, white, blue, and yellow. A sign on the lawn read: People’s Liberation Army National Defence University Satellite Campus: Guantanamo Bay.

The door slid open to admit the pair, and an automated message on Maj Lin’s lens welcomed him to the facility.

“Welcome, Maj Lin Biao. Your Advanced Command College class: ‘Contemporary History of Great Power Transition’ with Professor Qi Fabao begins in 2 mins 31 secs. Please make your way to room 101. Remember to provide your biometrics before entering. Thank you for your cooperation.” The floating message on his lens dissolved once he finished reading.

“Right on time, huh? Couldn’t have planned it better if we tried, sir.” Capt Lu grinned, as Maj Lin opened the lecture hall door. Lu pressed a thumb against a raised biometric reader and quickly entered the hall. Maj Lin did the same.

The lecture hall was alive with the sound of conversation as students, clothed in a panoply of military uniforms, chatted in the enduring tradition

of military BS-ing. Every foreign officer was paired with a People's Liberation Army officer one grade their senior and freely chatted across language barriers, assisted by simultaneous translation bone-conduction bands pressed behind each ear.

At 0900, an elderly man who had been chatting with a group of serious-looking PLA officers at the front of the lecture hall started to climb up to the stage. He was dressed in a grey suit that was only a shade darker than his full shock of brilliantly white, combed hair. He had an august demeanor and exuded that type of calming and commanding aura that emanates from a being supremely confident in their own existence and expertise. Rumor had it that when he was a regimental commander, Professor Qi had stopped a charging battalion of Indian soldiers in their tracks with his outstretched hands and commanding presence alone. The crowd hushed and turned to sit straight in their seats as he took the stage.

"Alright, ladies and gentlemen, let's begin. Most of our class to date has focused on modern Chinese history and China's rise to power. Today we're going to change focus. Today's lecture will cover American 21st-century history and how it created the need for a powerful China. As always, I ask that you stay focused on me and my screen rather than your own."

"I have some slides to direct myself but will mostly use a traditional lecturing method." Professor Qi smiled softly and paused, touching his right index finger and thumb together. The wall behind him came to life with a simple timeline set against a white background. The left side of the timeline started in 1989 and ran right across the wall to 2050—present day. Below the timeline, a block of text read "DIMEFIL." Professor Qi began his lecture:

"In 1989, America was presented with an opportunity unlike any other in human history. Its main counterweight in the globe—the Soviet Union, crumbled and succumbed to reactionary and counter-revolutionary internal forces. The Soviet Union dropped the mantle of the global communist revolution and entered a period of weak-

ness that created a power vacuum for America to fill. At once, America was the sole great power in the world and the world watched to see what America would make of the opportunity."

"Stepping into that vacuum, America's leadership did not have a clear goal, or the ability to make a consistent long-term plan for capitalizing on global hegemony. The American people, without a clear and understandable 'enemy' to focus on inevitably turned inward and focused on a frenzy of consumerism and consumption. As we know, at the end of the 20th century, China understood the need to keep a low profile while it established the governmental structure, economic strength, and international legitimacy that would allow us to strive for achievement and leadership once matured."

America ultimately burned whatever was left of its international credibility and claim to international leadership in the years following its disastrous departure from Afghanistan.

Professor Qi continued, as the "D" and the "M" of the "DIMEFIL" grew and pulsed on screen.

"With no enemy to galvanize public support, American leadership created one. After the terrorist attacks of 2001, President Bush created an enemy in Iraq. At that time, leaders from across America's military institutions understood China's potential. These leaders saw Iraq as a distraction. Senior leaders resigned in protest of the Iraq invasion. But the American government proceeded nonetheless, and China watched and waited."

"Every estimate showed that economic growth, population size, natural resource density, and regional position would make China America's next competitor. However, America's foolhardy and easily distracted democracy was not able to maintain a consistent policy. America shifted its focus to two irrelevant conflicts in the Middle East for the next two decades, and China watched and waited."

"Countries at peace often reap something called a 'peace dividend.' The peace dividend is the cost savings of not being at war, which can be better applied toward domestic programs or infrastructure that promotes future economic growth. This dividend lets a nation at peace strengthen itself through productive economic and financial power. America's need for instant gratification and the lack of long-term planning meant that it squandered its peace dividend over the course of twenty years in Iraq and Afghanistan. Years that it could have spent educating its population, investing in emerging technologies, or updating its infrastructure got shoved into the gas-guzzling engine of the military-industrial complex. America ultimately burned

whatever was left of its international credibility and claim to international leadership in the years following its disastrous departure from Afghanistan. Instead, China reaped America's peace dividend."

"After the Iraq and Afghanistan conflicts, the American military machine, lumbering as it was, attempted to contain China. However, as I've said before, the American governmental system wasn't built for that type of long-term strategic planning. The case for maintaining defense spending in peacetime was a fool's errand in a political system that was increasingly focused domestically. This was a fool's errand that had been repeated throughout American history—its repetition so entrenched that American post-conflict demobilization seems like a deep American tradition."

"America decommissioned its army after the Revolutionary War only to be caught unprepared during the War of 1812, it decommissioned its military

after World War I only to be caught unprepared for World War II, it decommissioned its military after World War II only to be caught unprepared for Korea, and then did the same post-Korea, only to be caught unprepared for Vietnam. Senior military leaders had repeatedly tried to break this cycle but could not overcome the American population's need to immediately see the fruits of government spending. Thus, faced with a growing financial crisis in the late 2020s and political and public sentiment that soured to the military, America again decommissioned its military, leaving a new vacuum on the world stage."

As Professor Qi paused, the "D" and "M" shrunk to their original size, to be replaced by the "E" and the "F" of DIMEFIL.

"America saw itself as a beacon of capitalist democracy to the world. For much of the early 21st century, it was able to uphold the façade of the 'American Dream.' However, as the greed of unchecked capitalism chewed away at the roots of democracy, America could no longer maintain that façade."

"In 2025, the Federal Reserve ran out of options to keep the economy growing at a pace investors demanded. The Fed finally announced that it would remove the crutches of cheap credit and quantitative easing and pulled the plug on the ever-growing market. Widespread civil unrest stemming from racial tensions and economic inequality exacerbated the crisis. Social media magnified the troubles, and domestic radical disinformation campaigns created pockets of the nation that believed they were supporting their government by undermining it. Americans didn't trust their government, didn't trust their neighbors, and didn't trust education. They didn't know what to believe and reverted to whatever narrative aligned with their deepest prejudices—whatever narrative went down easiest. With that, the strength of America's central institutions diminished and lost the capacity to make or execute meaningful policy. America was rudderless."

"When the booming economy of the 20s came crashing down, the population demanded federal spending to

fix it. But, being unable to borrow more on America's tarnished credit rating, Congress was forced to default, take austerity measures and cut spending. With no wars to fight, the Department of Defense was an easy target for cuts."

"In 2029, there was a notable absence of military veterans on the Congressional committee that ultimately led to the consolidation of the Departments of Defense and Homeland Security. A number of technology-focused consultants and business leaders who prided themselves on eliminating redundancies looked at the operational overlaps between DOD and DHS and quickly recommended consolidation. Congress-

Americans did not see the need to intervene in regional conflicts ...

sional inquiries into the necessity for eighteen different intelligence agencies only lent weight to the argument that consolidation would capture huge cost savings without impacting operational capacity."

Professor Qi paused and touched his index finger and thumb together again. The screen behind him went black.

"As you might know, I conducted a joint humanitarian operation with America's Marine Corps in Africa in 2022. During that experience, I made a number of close friends in that organization and followed it closely throughout the rest of my career. I'm going to take some time to explain how the American Marine Corps, as a culture and organization, lost its purpose throughout this period as an analogy for America's decline as a whole."

"In the flurry of reorganization and consolidation of the early 2030s, the spotlight didn't find the Marine Corps. Rather, the Marine Corps brought the spotlight onto itself. The Marines captured national headlines after a complete breakdown of good order and discipline in California's 1st Marine Division in November 2031.

On 10 November 2031, approximately 20 Marines engaged in a violent shootout at the San Diego Courthouse in Vista, CA in an attempt to free one of their friends from jail. Seven police officers and sheriff's deputies were killed and scores more injured as the rogue Marines attempted to seize the county courthouse. The Marines had been stoked into violence by a radical online group, of which they were all members. Only weeks later, with the nation still reeling from the violence, a journalist uncovered that the Assistant Commandant of the Marine Corps was an active member of the same radical group. The public and political furor started a feeding frenzy that quickly undercut the Marine Corps' reputation. Losing all political and popular support, it was easy to propose that the Army absorb the Marines as designated littoral units. The Army was happy to oblige.

"It was just as well. The Marine Corps had seen its relevancy wane over the past decade as the demand for their product decreased while the supply of 'forces-in-readiness' increased. In the austerity measures of the late 2020s, the State Department drastically reduced its foreign service staff. With a smaller footprint, the State Department was able to take responsibility for its own security at the few sites it kept open. The Marine Corps dropped the embassy security mission."

"Additionally, Americans did not see the need to intervene in regional conflicts, and relegated defense responsibilities to regional defense partnerships. To meet decreased demand, the Army and Special Operations Command increased their capacity to provide regional ready reaction forces and argued that the interoperability of Army reaction forces with follow-on Army ground forces streamlined operational planning. The Marine Corps increasingly looked irrelevant and redundant. The Marine Corps as a coequal Service branch of America's military died in 2031, and it, unfortunately, deserved that death.

Professor Qi snapped his fingers together dramatically, and the screen behind him came to life again, zooming into the timeline at the year 2031 and

showing a graph with a blue line following a negative slope labeled “USD” intersecting with a red line following a positive slope labeled “e-CNY.” He continued his lecture.

“In the financial turmoil of the early 2030s, China stepped into the international power vacuum on the back of its widely-adopted digital currency, the digital renminbi, or ‘e-CNY.’ Investors did not trust America’s equity market, its volatile fiat currency, or its central bank and looked to the Chinese digital currency as an alternative for seamless payments across international borders. Even American consumers happily held their assets in e-CNY and were able to use the currency for same-day delivery of any imaginable SKU through JD.com or Amazon automated international delivery services.”

“Through the strength of the e-CNY, President Xi brokered the peaceful reunification of China—a just territorial merger that America supported in return for a line of credit to fulfill central bank obligations to bloated federal entitlements. With its domestic borders secured, and the promise of the Communist revolution finally fulfilled, China proudly became a beacon of hope and prosperity for the world to mimic. America’s population was all too willing to cede responsibility on the international scene, as a growing majority sought to create an America in Canada’s model—disengaged from international relations and reliant upon a benevolent partner for guaranteed defense.

“In the late 2030s, America abandoned its longstanding adherence to the Monroe doctrine and invited Chinese and international interventions to alleviate poverty and suffering in South America and the Caribbean. As partners, China and America agreed to open joint bases at many of the sites of America’s previous imperialist adventures. The People’s Liberation Army improved these installations and removed much of the shameful history associated with places like the very base we’re on today. Through partnerships with America in the Western Hemisphere, with Russia in the European Theatre, with Iran and Egypt on the

African continent, and through stabilization of the global economy with the digital Renminbi, China picked up the pieces of *Pax Americana’s* failure and created a prosperous *Pax Sinica*.

Professor Qi stopped and walked over to the podium to take a drink of water. The wall behind him transitioned to a graphic of the globe painted red with China’s partners, including the United States.

Maj Lin looked over at Capt Lu a few seats over from him. Maj Lin had lived most of this history and had witnessed firsthand the ugliness on the ground that was not reflected in Professor Qi’s flowery class. He knew that this narrative was the party line—the story that had been written by the victors. However, he wondered if a Marine officer would see through that narrative or would easily consume this CCP information like every other compliant American raised at the teat of social media.

Capt Lu sat slouched in her seat looking up with apathetic eyes at the slowly spinning globe adorned with red and yellow.

She raised her hand.

“Yes, Capt Lu?” Professor Qi pointed at the young Officer and placed the glass of water down.

Capt Lu shuffled up out of her seat and cleared her throat.

“Hey Professor Qi, are you going to be sending these slides out after class?”



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Covert Supply Dumps

Sustainment in the Western Pacific

by Capt Michael Donovan & Capt Michael J. Sherman

Executive Summary

The Marine Corps' Expeditionary Advanced Base Operations (EABO) concept will fail if the United States cannot find a realistic way of sustaining small units dispersed across the Pacific at the outset of a war with the People's Republic of China (PRC). The People's Liberation Army's (PLA) advanced anti-access/area denial (A2/AD) capabilities will disrupt the United States' ability to transport supplies and equipment to the First Island Chain (FIC). From the onset of hostilities and until the Joint Force can achieve air and maritime superiority, the United States' most viable option will be to rely on prepositioned supplies. Prepositioning is a proven concept. Programs like the Maritime Prepositioning Force have demonstrated their worth in deterrence and combat operations alike. However, large supply ships and static supply dumps will not thrive in kinetic environments. Furthermore, once conflict begins, any overtly prepositioned supplies will quickly find their way onto a PLA targeting list. To increase the viability of a prepositioned supply dump, the United States should act covertly—purchasing or contracting through local intermediaries who will then establish and maintain supply dumps. Dumps should contain innocuous supplies and commercial equivalents of military logistics vehicles. Front companies could preemptively lock down contracts for fuel, food, and services, long before a conflict begins and sustain Marines in the FIC long enough for long-range logistics networks to catch up.

Introduction

Sustaining small units operating within range of China's advanced A2/AD capabilities is the paramount issue facing expeditionary advanced basing.



Marine Corps Prepositioning Program-Norway combat vehicles staged for inspection in 2019. (Photo provided by author.)

>Capts Donovan and Sherman are actively serving Marine Intelligence Officers who previously served in 3d MLG.

Strategic sealift is slow and susceptible to long-range precision fires. Cargo aircraft require air superiority to fly and lack the range, carrying capacity, and responsiveness to solely sustain combat operations. And while novel solutions like long-range semi-submersible connectors have value, they are neither responsive enough nor do they have significant internal storage capacity.¹ The United States needs something different to provide Marines with equipment and supplies before a conflict makes transportation to and within the FIC untenable.

The Marine Corps will have limited time and resources to align their forces for combat operations before the Navy temporarily loses access to the FIC. Until the Joint Force can establish air and maritime superiority, sustainment will be intermittent and Marines will

quickly exhaust supplies. If Marines cannot establish defensive positions on key maritime terrain and sustain operations, the Chinese Communist Party (CCP) will have the opportunity to achieve its strategic objectives in the region.² To address these issues, the United States can covertly preposition supply dumps throughout the FIC.

Prepositioned supply dumps offer several advantages to transporting supplies during a conflict:

1. They allow for the seamless transition of forces from infiltration to combat operations.
2. They increase resiliency in logistics networks by reducing reliance on vulnerable logistics platforms and long lines of communication.
3. They are a cost-effective alternative compared to the potential loss of expensive logistics vessels.
4. They reduce the susceptibility of logistics networks to the price hikes inherent to conflict.

Legacy programs like Maritime Prepositioning Force or the Marine Corps Prepositioning Program-Norway have demonstrated their worth in de-

terrence and combat operations alike.³ However, these programs are not survivable. Should a conflict begin, any overt prepositioned supply dump will quickly find its way onto a PLA targeting list.

The key to increasing the survivability of supply dumps in the FIC is covert action. Openly prepositioning military equipment increases political tension between the United States and the PRC.⁴ It also cues a hyper-optimized intelligence apparatus designed to locate U.S. activity. The United States can avoid increasing tension and undermine PRC intelligence by working through local intermediaries instead of national governments to establish supply dumps in the FIC. It can fill these dumps with innocuous supplies and commercial equivalents of military logistics vehicles. Front companies can preemptively lock down contracts for fuel, food, and contract services, long before a conflict begins. Through these covert actions, the United States can reduce the visibility of PLA financial, human, and geospatial intelligence on U.S. activity in the FIC and prevent exposing allies with close economic ties to the PRC to repercussions.

The United States must adapt what it views as its conventional logistics networks. The covert establishment of supply dumps would require a whole-of-government approach to confuse PRC intelligence. These supply dumps would provide “the virtues of mass” while reducing the apparent vulnerabilities of concentrating large amounts of resources on “defenseless long-range connectors.”⁵ While covert supply dumps are not a panacea, they may prove to be an effective way to keep the Marines in the fight long enough for more traditional long-range logistics to catch up.

A Lack of Time

In 2019, the PRC’s State Council published a White Paper entitled “China’s National Defense in the New Era.”⁶ In this open document, the PRC’s leaders laid out what they viewed as the most significant threats to their national security and internal stability. Taiwan was mentioned repeatedly, including the statement that

“To solve the Taiwan question and achieve complete reunification of the country is in the fundamental interests of the Chinese nation and essential to realizing national rejuvenation.” The White Paper went further to say that the Chinese military apparatus, the PLA, would “resolutely defeat” anyone who tried to separate the two nations. When coupled with the increasing number of challenges to Taiwan’s southern air defense identification zone, it is clear that CCP leadership is growing less willing to wait for Taiwan to choose to be part of the PRC.⁷

There is a significant debate between scholars and military planners over how long an amphibious invasion of Taiwan would take. However, most estimates anticipate an invasion lasting a matter of days after the commencement of hostilities, with Taipei’s seizure following within a week or two.⁸ Although a Chinese invasion of Taiwan remains “highly risky,” the PLA is becoming increasingly confident that one day they will have the military capability to retake Taiwan.⁹ The crucial question then is how quickly could the United States be able to contest the invasion. While a Taiwan invasion is a useful example of a strategic contingency, there is a full gamut of regional flashpoints that the United States may feel compelled to respond to as laid out in the National Security Strategy. The common theme among all contingencies is our response time.

Time is one of the most crucial components of a U.S. response in any scenario. A near-peer adversary, like the PRC, fighting a war with limited objectives, may open and close a conflict before the United States can complete its deployment unless the gear its forces need is already where it needs to be. If success depends on its ability to respond immediately to any contingency, the United States will need a way to support the Joint Force until long-range logistics networks can be established.

The Surface Connector Gap

The Japanese island of Okinawa is pivotal to U.S. power projection in the FIC. Its centrality offers the 27,000 Marines of III MEF an advantageous

position to launch and sustain operations. However, there are no long-range surface connectors homeported on Okinawa. In the event of a conflict with the PRC, the Marines would have difficulty getting off-island while the connectors coming to transport and sustain them would face a perilous journey.

The seventeen ships of Amphibious Squadron-11 (Sasebo, Japan) and Maritime Prepositioning Ship Squadron-3 (Guam) are the only blue water connectors available to support Marines in the FIC. These squadrons are slow, require local air and maritime superiority, and cannot support distributed operations. The PLA’s multidimensional A2/AD capabilities would deny U.S. ships access during the early stages of conflict as far out as Guam.¹⁰ What is more, these squadrons would need to support many units scattered throughout the Pacific, each with its own unique sustainment needs. These geographically dispersed combatants may occupy terrain lacking a deep-water port, they might not have ship-to-shore connectors to offload supplies, and they might not even know the squadron is coming. Until the Navy could gain unfettered access into the FIC, sustainment would be irregular, and Marines would be on their own.

The Navy’s complement of LCACs and LCUs will not be of much use either. These ships have limited over-the-horizon transportation capability and cannot function over sea state 4. Unpredictable weather patterns and the need to tie these ship-to-shore connectors to grey or black-hulled ships limit their utility. Novel solutions like semi-submersible vessels offer a risk-worthy alternative to relying on strategic sealift. However, depending on where these vessels come from, they can take anywhere from five to fifteen days to reach their target. The United States needs a way to sustain Marines during the uncertain and non-permissive period following the beginning of hostilities.

The Folly of 21st-Century Foraging

Twenty-first-century foraging will be an ineffective supplement to long-range logistics at the beginning of a conflict with China. According to the *Expeditionary Advanced Base Handbook*, “21st-

century foraging involves contracting noncommissioned officers and credit cards.”¹¹ It is the planning equivalent of *we’ll figure it out when we get there*. Not only does it place tremendous responsibility on small units that they cannot reasonably train to, but it assumes that the local population will be either willing or able to help. Austerity measures may be in place during wartime, and anyone seen helping the United States may do so at their peril.

Even when conditions are right, 21st-century foraging is only suitable for basic needs like water, food, and fuel. There is no guarantee that the United States can contract enough vehicles in a conflict scenario for various reasons. There may be a lack of availability, commercial appetite, or government support during a conflict. Therefore, foraging is an unacceptable solution for acquiring large amounts of lift and equipment.

21st-Century Collections

The PLA collection apparatus presents a problem for logistics in the FIC. It is an integrated network of intelligence capabilities (particularly geospatial, signals, and human intelligence) that could quickly hyper-focused on a single problem set: identifying U.S. activity. The problem is that U.S. political maneuvering is overt and military equipment is difficult to hide. Bilateral defense treaties will always draw attention, and there are a finite number of ways to disguise a howitzer or a tank. The high visibility of U.S. activity will prove lethal if the United States attempts to overtly preposition supplies within the FIC.

PLA Earth observing/infrared/synthetic-aperture radar and signal intelligence satellites are capable of collecting on areas of interest in the FIC. These persistent assets identify deviations in communication baselines and will one day use AI to identify different types of U.S. warships, thereby preventing U.S. movement or communications from going unnoticed. As more satellites come online, the number of gaps between satellite passes grows narrower and decreases the likelihood that the United States can operate in a blind spot. Ship movements, port operations, landbased

transportation, and the emplacement of supplies will likely be identified by satellites, especially if they are queued by the more pervasive threat of PRC human intelligence.

The countries in the FIC have complicated histories with their Sino neighbor. Many of them are in the uncomfortable position of being ideologically or militarily aligned with the United States but economically tied to China. This creates opportunities for PRC intelligence officers to develop assets inside governments, financial institutions, and commercial businesses of FIC nations. These assets can provide the PRC insight into U.S. prepositioning efforts. At a relatively low cost, local populations can unwittingly be co-opted into a massive human intelligence network as well. One does not need James Bond or Jason Bourne when one can pay off a dockworker with \$500 to report the presence of any U.S. persons operating out of a port. Additionally, we can be confident that the PRC will learn from the success of Ukraine in the Russo-Ukrainian war by leveraging publicly available OSINT data from sources like TikTok to cue, collect, and target U.S. forces.

The uncomfortable reality is that the United States’ freedom of maneuver in the FIC is an illusion. PLA collections will identify conventionally prepositioned supply dumps and quickly destroy them at the beginning of a conflict. To defeat PLA collection capabilities, the United States needs a covert approach. This approach must leverage the local population and commercial infrastructure and capabilities to mask prepositioning activity. In this way, the United States can hide in the noise of commerce and daily civilian life patterns.

Covert Supply Dumps in the FIC

The case for prepositioning supplies in the FIC is clear-cut. Prepositioning is cost-effective and is initially advantageous to long-range transportation. However, prepositioning supplies through conventional means has apparent vulnerabilities. The only way to bolster the survivability of U.S. logistics supplies is to reduce its signature through covert action.

The level of host nation involvement in this program should vary on a case-by-case basis. Programs like Marine Corps Prepositioning Program-Norway rely too heavily on foreign government cooperation to ever be considered “covert.” FIC governments are generally economically aligned with the PRC and may be unwilling to jeopardize that relationship by allowing the United States to preposition military supplies. Additionally, even governments who value their security relationship with the United States over their economic ties with the PRC are not necessarily permissive. The PRC likely has well-placed human intelligence sources sprinkled throughout FIC nations’ governments, financial institutions, and commercial and commodities sectors. These sources would report on any U.S. activity they have visibility over. Therefore, the United States should compartmentalize the size, location, and type of any such supply dumps; accepting that the more people know of them, the greater the chance of compromise.

To reduce the signature of supply dumps in the FIC, the United States could work through trusted local intermediaries without full national government supervision. Intermediaries could identify and lease suitable storage locations. They could then purchase supplies and equipment on behalf of the United States, emplace them, and hire personnel to maintain the supply dumps. Since the intermediaries would be locals, PRC intelligence would likely have trouble identifying the United States’ role.

The equipment and supplies inside a dump are just as crucial to reducing its signature as the methods used to establish it. Military equipment is easily identifiable. Vehicles like tanks, armored trucks, and cannons have no commercial equivalent. Moving them into an FIC nation without being spotted would be difficult, and PRC intelligence will find them if given enough time. Logistics vehicles, however, are a different story. The U.S. military’s fleet of logistics vehicles has commercial equivalents in every FIC nation. These vehicles are cheaper to purchase and maintain than their military coun-

terparts (see Figure 1). They also have the added benefit of already being where they need to be. Filling depots with commercial vehicles would reduce the reliance on strategic lift, making it more challenging to identify U.S. supply dumps.

2. Human intelligence needs to start developing assets for future repositioning tasking.
3. The Marine Corps must start licensing Marines to operate commercial equipment.
4. The Department of State must

Pre-Positioning-Program-Norway-MCPP-N; Staff, "MARITIME PRE-POSITIONING FORCE (MPF)," *U.S. Marine Corps Concepts & Programs*, n.d., <https://www.candp.marines.mil/Organization/MAGTF/Maritime-Pre-Positioning-Force-MPF>; and John Pike, "Sealift in Operation Iraqi Freedom," *Global Security*, n.d., <https://www.globalsecurity.org/military/systems/ship/sealift-oif.htm>.

Cost comparison of POR Logistics Vehicles and Commercial Equivalents			
USMC Program of Record	Cost/Unit	Commercial Equivalent	Cost/Unit
Logistics Vehicle System Replacement (LVSR)	\$1270k	Truck w/shipping container side loader	\$70k
LVSR-wrecker variant	\$1270k	Tow truck	\$250k
M970 semi-trailer refueler	\$200k	Airport jet refueler	\$180k
Joint Light Tactical Vehicle (JLTV)	\$270k	Pickup truck	\$30k
Medium Tactical Vehicle Replacement (MTVR)	\$230k	Box truck	\$30k

Figure 1.

The signature of supply dumps filled with vehicle parts, medicine, and fuel would be even easier to mask. These types of supplies are innocuous and unattributable. Filling warehouses or storage containers with these supplies are not likely to raise alarms in Beijing, allowing the United States to establish dumps with relative impunity.

The United States should work through local intermediaries to minimize the signature of supply dumps. Fronts can lock down future fuel contracts before a conflict and deny the PRC financial indications of U.S. activity (this also minimizes the inevitable impact of increasing costs during a conflict). They can also ostensibly operate as a legitimate logistics company, turning a profit to help pay down the up-front cost of setting up supply dumps.

The Way Ahead

Covert supply dumps could provide U.S. logistics networks the flexibility they need to handle inevitable disruptions to long-range transportation. These dumps confront the realities of insufficient connectors and a lack of time. They also undermine the PRC collection apparatus. The United States must take the following steps to begin establishing supply dumps covertly:

1. Logistics planners must determine what equipment is immediately required.

reveal U.S. actions to only its most trusted partners.

Conclusion

Asymmetric thinking often requires imagining solutions beyond the pale or immediately actionable. Sometimes those solutions require paradigm shifts. Covert supply dumps may be part of that solution; providing an affordable option to initially sustain geographically dispersed Marine units deep inside contested spaces. The challenges the Nation faces need answers, and we hope our work lights the fire of imagination and determination in Marines to find them.

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Drill Baby Drill!

Success in combat, or a military version of the “Five Monkeys Experiment?”¹

by LtCol Thaddeus Drake

“Drill is more than just a show piece. Success in nearly every element of combat can still find a correlation with proficiency in drill.”

**—SgtMaj Black,
“Non Negotiables”**

Many Marines make the entirely reasonable assumption that proficiency at drill should correlate with discipline and thus combat success. It is common throughout the force to regularly hear sentiments congruent with the quote above. As the Marine Corps develops its 21st-century force structure, missions, and manpower model, the Service must also strive for intellectual humility—continuously examining underlying assumptions and asking, *what if we’re wrong?* This question clearly applies to drill; although many claim that it correlates with discipline and success in combat, this relationship is far from causative. Opinions abound regarding the efficacy of drill as a training mechanism, but if there is no causative link or clear supporting evidence, it should be jettisoned for something with more direct utility.² There are several questions we should ask about drill in the 21st century: first, *does it* correlate with combat success; second, if not, is there any use in retaining it; and third, if so, is the way we currently drill right for a 21st-century force?

Military thinkers regularly state without supporting evidence that “drill

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breeds discipline” and connect this directly to success in combat.³ Is there any way to know if this is actually the case? There are few obvious data points to use for comparison; the Marine Corps, along with most modern militaries, has used some version of drill as a foundation since the early 1900s. Indeed, most Western armies made it foundational long before.⁴ However, some examples suggest a more nuanced reality. Perhaps the best examples to falsify the drill-combat success hypothesis lie outside of combat units entirely. If observers should unambiguously expect units that drill well to have excellent combat discipline, then one might assume drilling units from Marine Barracks 8th & I or the Army’s “Old Guard” to be the most combat-disciplined units in their respective Services. To expand this logic, outstanding college marching bands or Japanese precision walkers, for example, should be paragons of combat discipline. Perhaps this is the case, although most Marines would likely challenge it. Beyond these admittedly extreme counterpoints, however, some examples show a more complicated reality from within the military profession as well.

The best example to falsify the drill-combat discipline assumption for the Marine Corps comes from the early Korean War. Because of the near-immediate mobilization of the Marine Corps Reserve to support the needs of

the conflict, many Reserve Marines mobilized and deployed to Korea “as is.” This is a useful and illustrative vignette because, in the early 1950s, Reserve Marines did not attend boot camp and thus received essentially no training in basic drill.⁵ Despite this lack of time marching and executing manual of arms at recruit training, there is no indication that their discipline was notably worse than any other participants in the fighting; indeed, modern Marines and historians alike rightly lionize nearly all Marines who fought in the Korean conflict—to include those who never formally trained in drill.⁶

A second example is a more modern one. Most observers consider the combat arm of Joint Special Operations Command (JSOC) to be the most combat effective in the U.S. military. It is generally the most combat-disciplined, lethal, and competent element of the Joint Force.⁷ Despite this, it is exceptionally *unusual* to see a unit from this command execute drill, aside from funerals and other specific military ceremonies.⁸ If drill was the best way to ensure a force is disciplined and successful in combat, should an observer not expect the most disciplined and competent force in the U.S. military to drill regularly?⁹ Instead, the suggestion that members of this organization spend their limited time training in marching or practicing the standard manual of arms weapons movements borders on the farcical.

Ultimately, drill is antithetical to the sort of discipline this type of elite unit requires. Units such as JSOC rely on a system based on *intrinsically motivated* discipline (i.e. discipline from personal desire). The Marine Corps drill model instead favors *extrinsically motivated* discipline—obedience to requirements imposed by leadership, with punishment if not obeyed.¹⁰ This has

been a well-understood dichotomy for centuries; from the Napoleonic era until World War I, thinkers drew a bright line between the sort of discipline and capabilities required of “skirmishers” and that needed by “troops of the line.”¹¹ Even as armies developed doctrines requiring more individual action, initiative, and intrinsic discipline—for example, German “Stormtroopers” of World War I—they nonetheless made deliberate decisions to train and fight using close-order formations and standardized-infantry drill. Although employing forces like this in modern combat had many significant drawbacks, the hope was that the imposition of extrinsic discipline in this way would mitigate control and discipline problems expected to result from the so-called “empty battlefield” combined with conscripted, non-professional soldiers.¹² The Marine Corps is in many ways the opposite of this: a professional force that is beginning to attempt to model itself on special operations forces that rely almost entirely on intrinsically motivated discipline.¹³ It should thus question if imposing extrinsic discipline in recruit training—through drill or other methodologies—will achieve the desired results. The Marine Corps must not develop a force that relies primarily on extrinsically imposed discipline. Indeed, even if drill instills discipline, it may not be the type of discipline we want to cultivate under our ethos of mission tactics.¹⁴ If Marines do not possess significant intrinsic discipline, will they be effective warfighters, capable of executing without direction on a battlefield that requires independent action? Do we inadvertently socialize recruits with the wrong type of discipline?

Even without a direct causative relationship between drill and discipline, there may be other reasons to retain it as a useful part of entry-level training and beyond. First, it may enhance unit cohesion. William McNeill describes drill as a form of “muscular bonding” akin to religious ceremonies or dance that instills “*esprit de corps* that supersede[s] previous identities and insulate[s] from previous attachments.”¹⁵ This is exactly the goal at entry-level training; it suggests that drill may indeed be useful,

albeit not because it instills discipline like many claim. However, this effect is also transitory; it does not last forever and is most effective in groups that remain together. Although drill in recruit training surely creates the muscular bonding McNeill describes, ironically most of it is lost almost immediately as platoons dissolve upon graduation from recruit training and newly minted Marines move onto their MOS schools and beyond. This was a known problem as far back as World War II; executing extensive drill to make units cohere in entry-level training was then and remains unlikely to provide a significant return on investment.¹⁶ Additionally, the Korean War Marines referenced above provide one obvious example to suggest this sort of socialization may be largely unnecessary. Al-

though time spent learning outdated techniques that provide no obvious combat advantage?”

The answer is yes. This article does not advocate for the elimination of drill per se, and it does not suggest that some particulars of drill are not useful at all in a modern military. However, it claims that the available evidence does not support the assumption that proficiency in drill translates directly to discipline or combat success. The question must then be how to retain useful parts of drill while discarding the elements that are no longer useful. First, the elements to discard are clear. Modern drill should eliminate purely ceremonial movements that have no application in modern combat. Although useful when reloading muskets or maneuvering masses of troops on a 19th-century

This article does not advocate for the elimination of drill per se, and it does not suggest that some particulars of drill are not useful at all in a modern military.

though they received essentially none of the socialization of recruit training and its many hours of drill, they nonetheless performed as effectively in combat as their well-drilled comrades. Many in the Service may indeed overemphasize the arguments for socialization and initial group bonding dynamics.

Finally, is it possible that drill provides some other inherent value beyond instilling discipline? Although a less common argument, it is nonetheless not unusual to hear Marines claim that drill has value because it teaches familiarity with weapons and their manipulation. If so, we use a strange method—1800s-style marching and musket movements—to teach weapons handling. There are likely some ancillary benefits to the manipulation of the rifle and marching in time, but we should ask if it is possible to gain additional benefit from the time spent learning these movements. Is there some way to simultaneously maximize the possible discipline and cohesion benefits of movement in unison while minimiz-

ing battlefield, many of the movements we have retained for ceremonial purposes are just that—and thus provide minimal utility for a combat-focused force. Marching movements that require hours of practice yet provide no real-world military advantage should go as well. For example, there is no plausible modern combat scenario where proficiency in “boxing the staff” provides an advantage.

There are certainly elements of drill that could still provide value; with adjustments, they might continue to contribute to the intangibles that so many Marines believe to be crucial while simultaneously improving combat readiness. For example, the manual of arms from the days of musketry existed to simplify and increase formations’ rate of fire; why not reconfigure current drill to do the same? Instead of stilted weapons movements that serve no combat purpose, we might design new versions akin to battle drills that emphasize combat weapon carries, presenting the weapon at a target, and reloading (also a crucial

original purpose of musket drill). As a second example, it would not be difficult to adjust drill movements to focus on the individual discipline and decision making required of modern Marines. Instead of making marching drill an exercise in pre-planned movements and extrinsically imposed discipline—a single unit commander directing unit movements by issuing commands—reconfigure it as an exercise in implicit communication. Rather than immediately reacting to verbal direction from a “unit commander,” individuals and units might move and act based on each other’s actions. This would help develop the sort of characteristics we claim to seek in the modern Marine—action based on intent and application of intelligence, implicit communication, and self-discipline to execute the proper course of action. Would it look the same? Absolutely not. Our current drill looks the way it does, however, because it increased the likelihood of success in combat hundreds of years ago; could today’s drill not provide a similar advantage? These adjustments would certainly receive significant push-back from the force but would also create a far higher return on investment than the time we currently spend learning to properly manipulate muskets.

As the Marine Corps looks inward and thinks through the changes necessary to prepare for the 21st-century operating environment, every member of the service community must be willing to examine assumptions, make evidence-based conclusions, and try new things. In the context of drill, there is limited evidence that it does what we ascribe to it; yet it can provide a scaffolding upon which to build the Marine of the 21st century. In the current moment, it is crucial to ensure the force is not simply executing a military version of the “Five Monkeys Experiment” but is instead deliberately focusing all its efforts on methods that provide 21st-century combat advantage. Today, we use movements, commands, and methods developed centuries ago; we must be willing to jettison traditions that exist purely for appearance if there is an opportunity to develop a new model that provides more. We must eliminate cen-

tralized command methods designed to ensure success in combat with muskets and instead develop a replacement that fosters the decentralized, professional, and self-disciplined fighting manner we expect from 21st-century Marines.

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Missile Math for Marines

Understanding salvo equations for the Stand-in Force

by Maj Andrew Mirsch

The CMC has issued clear guidance in his force planning directives and follow-on documents like *A Concept for Stand-in Forces* that the Marine Corps must change its role in naval operations. This guidance has generated a large amount of spirited discussion about how to structure the new Marine Corps and what its new doctrine and tactics should be. The 2021 *Tentative Manual for Expeditionary Base Operations* describes new force structures such as the Marine Littoral Regiment and its role in Expeditionary Advanced Base Operations (EABO). One novel feature of the proposed Marine Littoral Regiment and future MEU force structures is the inclusion of a Navy-Marine Expeditionary Ship Interdiction System (NMESIS) battery.¹ The NMESIS battery is a tailor-made unit designed for engaging enemy ships with naval strike missiles from ashore. The NMESIS battery's inclusion into Ma-

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The NMESIS battery is ... for engaging enemy ships with naval strike missiles ...

rine Corps force structures marks our Service's entry into the arena of naval missile combat.

Although most Marines understand the NMESIS capability's tactical and operational benefits, there is only limited knowledge within our Service about

missile combat in a naval context. What features of this capability are important? How do we define success and how should we measure our effectiveness and performance in this new mission? This article strives to demystify how missile combat is quantitatively modeled and what important insights may be obtained for the Marine Corps regarding naval missile combat. This material requires some mathematical equations for a full explanation, but none of the following examples include any computations requiring math skills greater than basic algebra. The intent is that after reading this article, Marine readers better understand their Service's role in anti-surface ship warfare, with the benefit of some insights about what is important in naval missile combat. At no point should any of the mathematical models discussed in the following paragraphs be considered *predictive* in the real world. Real combat in all forms is far too chaotic to be explained perfectly by a handful of expected value equations. Instead, these models are useful for understanding the attributes of missile combat and discerning what elements of the friendly and enemy system deserve additional scrutiny and improvement.

How Your Fleet Fights

In 2019 the CMC added *Fleet Tactics and Naval Operations* by CAPT Wayne Hughes, USN (Ret), to the intermediate-level officer Commandant's Professional Reading List. This book is a semi-



A Marine Corps NMESIS launcher during LARGE SCALE EXERCISE 2021. (Photo by Cpl Luke Cohen).

nal document for understanding how the Navy models naval combat and develops its force structure, doctrine, and tactics. The first conceptual leap that Marines must make for understanding naval combat is that according to Hughes all naval combat is *attritional*. Maximizing the physical destruction or damage to enemy systems is the key to success in naval combat. All models of naval combat rely on attrition in some form or fashion as the primary measure of effectiveness (MOE).

Of the several models of naval combat presented in *Fleet Tactics and Naval Operations*, the most important one for understanding how the Navy’s surface fleet trains and fights today is Hughes’ Salvo Model of Modern Missile Combat.² This model describes combat between surface ships armed with surface-to-surface missiles (SSMs) or anti-ship cruise missiles. It is used to calculate the attrition caused by a single missile salvo exchange in a force-on-force engagement between an A Force and a B Force. The full model’s formulation with enrichments for targeting effectiveness is:

$$\Delta A = \frac{\sigma_B b_2 B - \tau_A a_3 A}{a_1}$$

This equation may seem daunting at first. However, by breaking it down into its component pieces, one can conceptualize how this equation succinctly describes naval missile combat in the real world. The parameters of the model and their meanings are as follows:

- A = the number of units (ships) in A Force
- B = the number of units (ships) in B Force
- = the number of well-aimed missiles fired by B Force (**striking power**)
- = the defensive readiness or alertness of the A-Force ship/crew for combat; $0 \leq 1$
- = the number of hits by B Force’s missiles needed to put a single A Force ship/unit out of action (**staying power**)
- = the number of well-aimed missiles fired by the B Force destroyed or defeated by each A Force ship (**defensive power**)

= the targeting effectiveness of a B Force ship; $0 \leq 1$

= A Force attrition; the number of A Force ships/units out of combat from B Force’s salvo

These same inputs are reversed with the same meaning to calculate B Force attrition:

$$\Delta B = \frac{\sigma_A a_2 A - \tau_B b_3 B}{b_1}$$

These equations can be interpreted as follows: **A Force ships out of combat = (B Force offensive missiles minus B Force missiles defeated by A Force) divided by hits required to put a single A Force ship out of action.** It is important to note that the MOE captured by “ships out of combat” is not the number of ships sunk but rather the number of firepower or mission kills inflicted on the enemy force. The logic behind this MOE is that a firepower or mission kill means that the enemy combatant can no longer contribute its striking power to subsequent missile salvos. Therefore, in the short term of the engagement, the firepower or mission kill ship is no longer a threat until it is

composed of two *Arleigh Burke*-class destroyers (DDGs) and five Chinese Type 22 Missile boats, each armed with eight SSMs.⁴

The warship attributes and assumptions needed to calculate the attrition in exchange are as follows:

- The Type 22’s targeting capability is ½ that of the DDGs’.
- Both forces will fire at the same time, and both will be in range.
- The DDGs will fire four missiles per salvo, i.e., four missiles fired per DDG.
- The DDGs can shoot down four SSMs each in defense.
- The Type 22s cannot defeat any SM-2s via defensive missiles or other countermeasures.
- It takes two SM-2s hits to mission kill a Type 22.
- It takes only one Chinese SSM hit to inflict a mission kill on a DDG.
- Both sides are equally alert and trained.
- Each Type 022 will fire its entire magazine of 8 missiles in a single salvo.

In this exchange, how many DDGs will we lose, and how many Type 22s will be lost? Table 1 parses the given statement into each of the model parameters for easier compression.

Parameter	A Force (USN)	B Force (PLAN)
Ships/units (A or B)	2	5
Striking Power (a_2 or b_2)	4	8
Alertness (τ_A or τ_B)	1	1
Staying Power (a_1 or b_1)	1	2
Defensive Power (a_3 or b_3)	4	0
Targeting Effectiveness (σ_A or σ_B)	1	0.5

Table 1. Model parameters for a notional SAG engagement. (Table provided by author.)

repaired and capable of firing offensive missiles again. Furthermore, firepower or mission kills are the MOE instead of ships sunk because the amount of ordnance required to sink a ship is about two to four times more than the amount required to produce a firepower kill.³ These equations are very abstract on their own but become clearer with an example to illustrate their meaning.

For this example (with notional data), let us consider combat between the U.S. Navy and the People’s Liberation Army Navy (PLAN) surface action group (SAGs). The opposing SAGs are

So, what attrition results from this engagement according to the salvo model? Who wins this fight? Inputting our data into the model produces the following results:

$$\Delta A = \frac{(0.5)(8)(5) - (1)(4)(2)}{1} = 12$$

$$\Delta B = \frac{(1)(4)(2) - (1)(0)(5)}{2} = 4$$

Immediately we notice the high attrition experienced by the USN SAG = 12. This model output means that the

PLAN SAG can in a single salvo inflict twelve mission kills on the USN SAG. Since the U.S. Navy SAG has only two DDGs to begin with, $\Delta A = 12$ means the entire U.S. Navy SAG is out of action and that the PLAN SAG has achieved a massive mission overkill. Conversely, $\Delta A = 4$ means that of the original five PLAN Type 22s, one is still fully mission capable. What insights can we glean from this example? Where is the “so what” in this math?

Insight 1: Force Size Matters

The example above demonstrates CAPT Hughes’s adage that “numerical superiority is the force attribute that is consistently most advantageous.”⁵ As shown in this example, the technologically inferior but numerically superior PLAN SAG easily overpowers the U.S. Navy SAG. We can draw further insight from Figure 1 depicting ΔA against changes in A keeping all other factors fixed.

Figure 1 demonstrates that at $A = 3$ both SAGs are annihilated in a single salvo meaning that the engagement ends in a draw. When $A = 5$, the entire PLAN SAG is annihilated in a single salvo (with significant overkill) while no U.S. Navy ships sustain mission kills.

Insight 2: Staying Power Is Key; Ships Must Be Able to Keep Fighting after Getting Hit

In our example, the U.S. Navy DDG becomes a mission kill after only one hit while the PLAN Type 22s can keep fighting until hit twice. The DDGs’ lack of staying power is extremely disadvantageous for the U.S. Navy SAG. CAPT Hughes described staying power as the ship attribute “least affected by the particulars of a battle, including poor tactics.”⁶ What would happen if the Plan Type 22s had the same staying power as the DDGs? That is, what if $\Delta A = 1$? In that case, $\Delta A = 12$ and $\Delta A = 8$, meaning that the SAGs annihilate each other with overkill in a single salvo. Could improving the U.S. Navy SAG’s staying power alter the outcome of this engagement? Table 2 summarizes how increasing staying power reduces the attrition

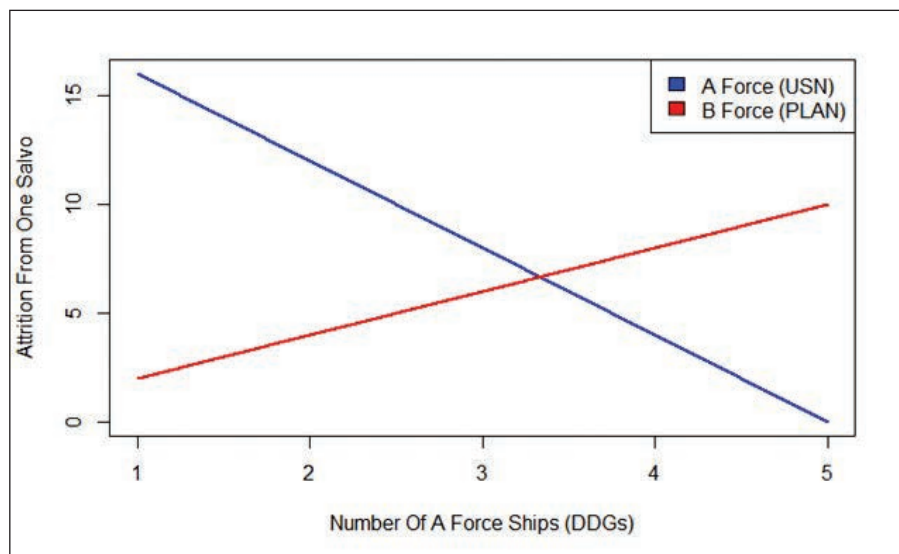


Figure 1. A Force and B Force attrition from a single salvo with varying numbers of A Force combatants and all other model parameters fixed. (Figure provided by author.)

Staying Power (a_1)	1 (base case)	2	3	4
A Force Attrition (ΔA)	12	6	4	3

Table 2. A Force attrition after a single salvo with varying levels of staying power and all other model parameters fixed. (Table provided by author.)

experienced by the U.S. Navy SAG with all other factors fixed.

Unfortunately for our U.S. Navy SAG, even quadrupling its staying power with all other factors fixed does not alter the outcome of combat in this example. This result is due to a combination of the PLAN SAG’s 5:2 numerical advantage and larger striking power. The PLAN SAG salvos so many missiles that the U.S. Navy SAG’s defenses are simply overwhelmed by the incoming

engineering solution to make ships more survivable. Staying power must be viewed as an amalgamation of ship design, damage control competency, and redundant mission systems.

Insight 3: Fire Effectively First

In our SAG example, the PLAN SAG’s targeting effectiveness was only half that of the U.S. Navy SAG’s targeting effectiveness, (i.e., $\Delta A = 1$ and $\Delta A = 0.5$). What if the PLAN SAG’s targeting

The PLAN SAG salvos so many missiles that the U.S. Navy SAG’s defenses are simply overwhelmed by the incoming fire, meaning that a PLAN hit is inevitable.

fire, meaning that a PLAN hit is inevitable. Therefore, the U.S. Navy SAG must rely on its staying power to continue fighting, which in this example is insufficient to survive a single salvo. Regrettably, staying power is hard to build into ships. There is no simple

capabilities were totally ineffective, at least initially, allowing the USN SAG to fire one salvo with no PLAN offensive salvo in kind, i.e., $\Delta A = 1$ and $\Delta A = 0$.⁷ This means that combat continues for a second round of salvos now with $A = 2$ and

B = 1 and the PLAN SAG knowing the exact location of the USN SAG (= 1). Table 3 summarizes combat if the U.S. Navy SAG can fire one salvo before it is detected by the PLAN SAG.

fort.” Naval forces are now more capable of effectively striking landbased targets than in Nelson’s time. However, naval forces still face significant challenges in effectively fighting landbased forces

Salvo	A Force (#Ships)	B Force (#Ships)	Attrition Sustained ΔA	Attrition Sustained ΔB
Salvo 1 (USN fires with no simultaneous PLAN offensive salvo)	2	5	0	4
Salvo 2 (USN and PLAN fire simultaneously)	2	1	0	4 (overkill against 1 Type 22)

Table 3. The outcome of notional combat if the U.S. Navy SAG fires one effective salvo before the PLAN SAG can return fire. (Table provided by author.)

As demonstrated by this scenario, the ability to fire first effectively dramatically changes the outcome of combat from a PLAN victory to a U.S. Navy victory with no mission casualties. This situation is analogous to the infantry tactic of initiating an ambush with a claymore or a single casualty-producing round. The effect is the same: the enemy immediately sustains losses and must respond with a fraction of their original force, thus negating initial numerical advantages.

Marines Fighting in Support of the Fleet

ADM Nelson, a British naval hero, once quipped, “A ship’s a fool to fight a

trained, organized, and equipped to engage naval surface forces. The primary factors that frustrate naval forces fighting landbased forces are target location, target classification, and accurate engagement of landbased forces by seaborne forces. Cluttered environments ashore and terrain used for cover/concealment are critical advantages for Marine NMESIS batteries and their associated sensors. If used appropriately, these advantages turn Marine NMESIS batteries into *area* targets while the opposing enemy combatants afloat remain *point* targets for the NMESIS’s missiles.

A respectable amount of combat modeling has already been conducted evaluating the efficacy of units like the

NMESIS battery during littoral operations in a contested environment. Although the mathematics gets more complicated in these models, there are still several insights Marines can glean from current research without a deep dive into differential equations. In 2007, LT Casey Mahon, USN (now CAPT Mahon), published his master’s thesis *A Littoral Combat Model for Land-Sea Missile Engagements* while working toward his degree in Operations Research at the Naval Postgraduate School. LT Mahon’s thesis described an operating environment very similar to that envisioned in 2021’s *A Concept for Stand-in Forces*. LT Mahon used a Fractional Exchange Ratio (FER) as his model’s MOE. The FER is the ratio of the fraction of seabased forces (A) destroyed to the fraction of landbased forces (B) destroyed.⁸ The FER is presented as:

$$FER = \frac{\frac{\Delta A}{A}}{\frac{\Delta B}{B}}$$

A simple interpretation of FER is that a FER value greater than one in this context means that the landbased forces will eventually win while a FER less than one means the seabased forces will eventually win. The graph depicts nine possible scenarios for combat. Green lines depict simultaneous attacks by the sea- and landbased forces, red lines depict land forces firing first, and blue lines depict seabased forces firing first. Solid weight lines depict a sea force using sophisticated and highly accurate precision-guided munition (PGM) (e.g., a Tomahawk Land Attack Munition equivalent), dashed lines a less accurate indirect fire missile (e.g., a Navalized Army Tactical Missile System equivalent), and dotted lines cannon-based naval gunfire (e.g., 5”/62 Mk 45 Mod 4 Gun System equivalent).⁹

What can we learn from LT Mahon’s work? The first and most obvious insight we gain is the importance of effectively locating targets. As shown by the red lines, the number of ships required to defeat the land force is larger if the land force can remain undetected, effectively locate the sea force, and fire first.

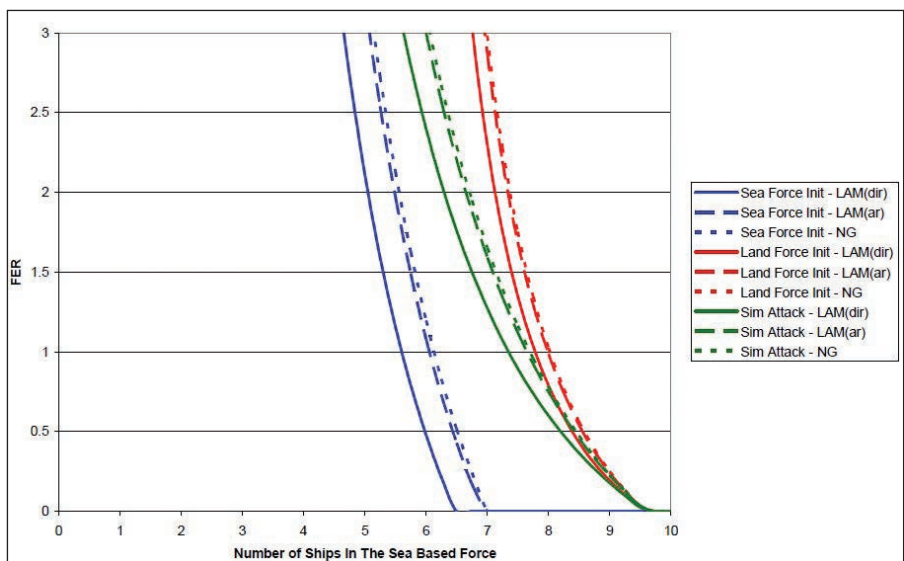


Figure 2. The FER of Mahon’s A Littoral Combat Model for Land-Sea Missile Engagements. Green lines depict simultaneous attacks by the sea and landbased forces, red lines depict land forces firing first, and blue lines depict seabased forces firing first. Line weights denote the type of munition employed by the seabased force. (Figure provided by author.)

On the contrary, if the naval force can find the land force and fire effectively first, then fewer ships are required for victory, as depicted by the blue lines. Does this phenomenon sound familiar? It should because it is the same phenomenon observed in Insight 3 of our SAG combat example. It is also exactly what is described in the “Win the Maritime Reconnaissance and Counter-Reconnaissance Battle” portion of *A Concept for Stand-in Forces*.¹⁰

What else can we learn about Marines in support of naval operations from models using salvo equations? Research concerning anti-ship missile employment, conducted by Maj Joshua Faucett in 2019 at Naval Postgraduate School, improved U.S. Navy surface combatant survivability by ten percent in simulated campaigns.¹¹ This was achieved by enabling U.S. Navy ships to carry more defensive missiles (increase in) without a loss in net striking power because Marine Corps anti-ship batteries could contribute their missiles to an offensive missile salvo. While this increase of ten percent may seem paltry, one should remember that a DDG costs two billion dollars and requires approximately a year to build under our current ship acquisition plan.¹²

Conclusion

Our Service is in a period of great transition, but many of the tactical lessons learned in previous conflicts remain relevant in our new anti-surface ship mission. Firing effectively first is critical in naval combat. Firing first effectively above all means effective scouting and counter-scouting using CAPT Hughes’ terminology. As Marines, we understand this as winning the counter-reconnaissance fight. This means making our forces hard to detect via camouflage, deception, tight operational security, and careful, disciplined use of the electromagnetic spectrum. Marine forces that can minimize their signature in the operational environment will increase their probability of firing first and effectively against enemy surface ships. Those same Marines will also have the added benefit of limiting their enemy’s counterbattery fire to less accurate area fire bombardments.

Marines that lose the counter-reconnaissance fight will be fired on first and effectively by enemy forces using PGMs.

War is a complex and chaotic activity influenced by a myriad of human, technological, and natural factors and subject to many unknowns. Salvo equations such as those proposed by CAPT Hughes or any of the authors mentioned cannot accurately predict the outcome of any given engagement

Firing effectively first is critical in naval combat.

in the real world. However, such models do provide a basis for the analysis of force structure and doctrinal concepts. In essence, these models can tell what elements of our system within our control we should focus on improving. The outputs provided by these salvo equations offer quantitative and specific (though incomplete) insights on issues requiring focused debate to enable future successful campaigns. As a service, we can use these insights to develop tactics and acquire equipment that increases our probability of victory. Hopefully, this article has provided the Marine reader with a new appreciation of the arena our Corps now finds itself competing.

Notes

1. Marine Corps Warfighting Laboratory, *Tentative Manual for Expeditionary Advanced Base Operations*, (Quantico: March 2019).

2. Wayne P. Hughes and Robert Girrier, “Modern Tactics and Operations,” in *Fleet Tactics and Naval Operations* (Annapolis: Naval Institute Press, 2018).

3. Wayne Hughes, “A Salvo Model of Warships in Missile Combat Used to Evaluate Their Staying Power,” *Naval Research Logistics* 42, no. 2 (1995).

4. Jeffery Kline, Joint Campaign Analysis Course Material “Salvo Equation Practical Application,” (paper, Naval Postgraduate School, 2022).

5. Ibid: and “Modern Tactics and Operations.”

6. “Salvo Equation Practical Application”; and “Modern Tactics and Operations.”

7. Note: when these new parameters are plugged into the salvo equations computation returns for $\Delta A = -2$. This is a non-sensical answer because negative attrition implies that the A Force gained ships. When a negative number is produced, we interpret this as $\Delta A = 0$, i.e., no A Force attrition inflicted from the salvo.

8. Casey Mahon, “A Littoral Combat Model for Land-Sea Missile Engagements,” (thesis, Naval Postgraduate School, 2007).

9. Mahon’s model requires three separate sets of salvo equations to model the different types of engagements resulting from the seabased force using highly accurate PGMs direct fire munitions, less accurate indirect fire missiles, or indirect fire by cannon-based naval gunfire. These equations are derived from Hughes’ salvo model and Lanchester’s differential equations. The classification of indirect fire versus direct fire engagements in Mahon’s work is derived from Lanchester. The use of the term direct fire by Mahon should be interpreted as a more accurate method of engagement by PGMs firing on a point target versus a less accurate method of engagement (indirect fire) by other munitions fired at an area target.

10. Department of the Navy, *A Concept for Stand-in Forces*, (Washington, DC: December 2021).

11. Joshua Faucett, “Shore-Based Anti-Ship Missile Capability and Employment Concept Exploration” (thesis, Naval Postgraduate School, 2019).

12. Congressional Research Service, *Navy DDG-51 and DDG-1000 Destroyer Programs: Background and Issues for Congress, Summary*, (Washington, DC: August 2022).



The Littoral Logistics Battalion

Multimodal transportation operators are needed in the combat logistics battalions

by Capt Michael Roeske & 1stLt Dillon Thompson

In February of 2021, Combat Logistics Battalion (CLB) 6 participated in MAGTF Warfighting Exercise 2-21. During the exercise, much emphasis was placed on ground casualty evacuation (CASEVAC) after previous iterations of Warfighting Exercise had listed this as a problem area in after-action reviews, especially when friendly assault support was unavailable to conduct air CASEVAC missions. CLB-6 had some success in this particular area by mobilizing a Role II medical treatment facility on Palletized Load System Trailers and pushing it far forward while task-organizing small motor transport teams to respond to ground CASEVAC requests from the GCE. While we had limited success in moving simulated casualties to the forward medical treatment facility, and even further back to a medical treatment facility in the rear area, this scenario caused many of us in CLB-6 to ask a question that has guided our innovation efforts ever since: *“What if we had been in the littorals, and water separated our bases?”*

Fast forward to September 2021, Marines and sailors in the recently established *Littoral Tactical Logistics Section (LTLTS)* within Motor Transport Company, CLB-6 conducted a littoral CASEVAC demonstration for the CO of 6th Mar. First Platoon was able to demonstrate their ability to rapidly put Combat Rubber Raiding Craft in the water, which was already in tow, and complete a CASEVAC to an alternate base across New River with organic capability. The CO of 6th Mar observed the demonstration and agreed that this is a capability that

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>1stLt Thompson is currently residing as the S3A Combat Logistics Battalion 6. During his time at CLB-6, he has supported multiple DFTs to EUCOM and is a certified CRRC Coxswain and USV Operator. He served as the first Officer In Charge of the Littoral Tactical Logistics Section operating in the littoral environment based on the Tentative Manual for Expeditionary Advanced Base Operations.



Sailors and Marines from Surgical Co C, 2d Med Bn, offload the Field Resuscitative Surgical System from Palletized Loading System Trailers during ITX 22-2 (Photo provided by author.)

future Marine Littoral Regiments (MLRs) will require.

In support of the current vision for Force Design, the CLB will “provide tactical logistics support to the MLR by resupplying expeditionary advanced base (EAB) sites, managing cache sites, and connecting to higher-level logistics providers.”¹ It will provide expanded

purchasing authorities, limited Role II medical forces, distribution of ammunition and fuel, and field-level maintenance—all in an operating environment characterized by littorals in the maritime domain. The CLB is not currently optimized to conduct these operations in a littoral environment because it possesses no small boats



Marines and sailors from the LTLS, Motor Transport Company, CLB-6 deliver a simulated casualty to a medical treatment facility across the water using small boats (Photo provided by author.)

or other watercraft. Manned and unmanned surface craft organic to the CLB and operated by motor transport operators will be required to conduct littoral logistics operations. Logistics units will continue to coordinate transportation for supported units, leveraging Navy connectors, assault-support aircraft, and host-nation support—but responsive and survivable distribution procedures at the tactical level must be organic to the CLB if it is to provide effective combat service support in the littorals. We believe this requires Marines in the CLB to be able to pilot manned and unmanned surface craft (read: boats). Establishing LTLS in the CLB built around Motor Transport Operators certified as small craft coxswains and unmanned surface vessel (USV) operators is a readily achievable step in the process to prepare a CLB to deploy as a Littoral Logistics Battalion.

Since the publication of the *38th Commandant's Planning Guidance*, many logisticians are thinking about alternative ways to support maneuver elements when separated by waterways. Wheeled vehicles organic to the CLB cannot swim, and Light Amphibious Warships will not be organic to the CLB, limiting responsiveness. UASs that can carry significant payloads, like the medium and large Unmanned Logistics System–Air (ULSA), are still many years from initial operating capability.² CLB 6 has incorporated the Combat Rubber Raiding Craft and the Rigid Hull Inflatable Boat (RHIB) into its portfolio of distribution procedures because of the resources available lo-

cally to get Marines licensed and borrow the equipment. These small boats piloted by motor transport operators can conduct distribution in a littoral area while connecting to higher-level logistics providers. Additionally, Marines from CLB-6 have received certifications on USVs manufactured by *Hydronalix* and have repurposed these craft for logistics payloads. When operated in tandem with other platforms, these USVs can quickly become critical distribution enablers.

The Logistic Vehicle System Replacements and Medium Tactical Vehicle Replacements will continue to be heavily relied upon to conduct ground transportation, but they are unable to get across a waterway. The future Light Amphibious Warships, similar

to current amphibious connectors, will not always be immediately available to support rapid requests. Long-Range Unmanned Surface Vessels (LRUSVs) are still in testing and, once online, these platforms will not be organic to the Combat Logistics Battalion (CLB). There remains a gap—how can a CLB in support of an MLR conduct effective surface distribution without being entirely dependent on external support? It is our argument that CLBs will need organic capabilities to conduct distribution across waterways, and the LTLS is one framework to quickly build that capability and deploy.

The Expeditionary Advanced Base Operations (EABO) handbook points out, “large ships will create heroic but short battle histories in future war ... sea control and denial capabilities will shift to smaller and more persistent and survivable platforms tactically dispersed throughout the *inside* battle space.”³ CLB-6 had the opportunity to deploy our LTLS to Sweden and Finland in 2021 and 2022 in support of exercises ARCHIPELAGO ENDEAVOUR 21, ARCHIPELAGO ENDEAVOUR 22, and FREEZING WINDS 22. The Swedes and Finns have been defending their archipelagos for centuries. In today’s battlespace, the Swedish Marines and Finnish Naval Infantry execute many EABO concepts using their combat boat 90s (CB-90s) (Swedes) and Jehu



Marines operating the M8 Watercat (Group Boat) with Finnish members of the Finnish military. (Photo provided by author.)

700s (Finnish). As with any maneuver unit, there has to be some form of responsive logistics support. To accomplish this, the Swedes use small craft called Group Boats as well as larger Logistic Support Vessels to provide sustainment as part of a logistics network made up of surface vessels needed to sustain both boats and personnel in the archipelago. The Finns create a sustainment network that feeds logistics into the archipelago from a network of mainland harbors and inlets. Both countries use their small craft for various tasks including distribution of class I, III (package and bulk), and V, along with passengers. Additionally, these craft are capable of serving as CASEVAC/MEDEVAC platforms. The Marine Corps Warfighting Lab is already promoting several concepts for boats and craft that could fill a role similar to Swedish and Finnish vessels as commercial off-the-shelf (COTS) solutions to the littoral distribution problem. While these development and procurement processes are underway, there are numerous simple and inexpensive small craft that exist within the DOD inventory that already operate within archipelagic and other littoral regions. The Combat Rubber Raiding Craft has a very limited range but can carry up to 1750 lbs or up to 10 passengers. The craft along with a crew from the CLB can carry a one-day supply of CL I for a platoon when bases are separated by water. When air is unavailable, the same platform could be used as a CASEVAC platform. RHIBs—commonly used as an insert/extract platform for special operations forces and conducting visit, board, search, and seizure missions—are larger, up to 11 meters long, platform capable of a 3200 lbs payload at a range of up to 200 miles on a single tank of fuel. Within a closely-knit archipelago, a craft with a 200-mile range may aid in building a resilient sustainment network. These boats could support areas where MLRs would be likely to establish a series of EABs operating 60 to 100 miles from each other. The RHIB manned by CLB Marines may be armed with medium or heavy machineguns, carry classes of supply, and operate in small groups to



Reckless Logistics USV built by Hydronalix employed by CLB 6. (Photo provided by author.)

sustain an EAB in concert with other bases or amphibious shipping. The craft can also turn into a CASEVAC or medical evacuation platform for transport from a role I care to a role II care with limited modification.

While the Marine Corps is investing in the LRUSV, other USV programs are readily available. The Littoral Explosive Ordnance Neutralization project is working on both USVs and Unmanned Underwater Vehicles for use in explosive ordnance detection and disposal. In addition, some of these USVs have been repurposed for testing with logistics payloads. As illustrated below, these craft can carry a small payload of supplies in their current configurations, up to fifteen km. While these payloads are small and the range may seem limited, when operated in multiples or in



Reckless USV with logistics payload. (Photo provided by author.)

tandem with other insertion platforms (such as deployment from small craft or aerial delivery from fixed or rotary-wing), these USVs can quickly become force multipliers.

Fielding these platforms begs the question: *who will operate them?* Several Marines within CLB 6 have been certified to operate these craft, including the Reckless and AMY variants, by attending training courses administered by the manufacturer, *Hydronalix*. Working with engineers from *Hydronalix*, and technicians from the EOD community associated with the Littoral Explosive Ordnance Neutralization program, we are developing a concept of employment that has formed the nucleus of, what we have named, our LTLS. The CLB 6 LTLS has already begun testing some of these USV concepts in exercises with partner nations in Europe, such as ARCHIPELAGO ENDEAVOUR 21 (Sweden), ALEXANDER THE GREAT 22 (Greece), ARCHIPELAGO ENDEAVOUR 22 (Sweden) and FREEZING WINDS 22 (Finland). This also shows the utilization of littoral concepts outside of the Indo-Pacific Theater.

The Littoral Tactical Logistics Section

The LTLS provides surface distribution procedures when landbased platforms can go no further. Once the LTLS is established, it can provide combat service support to a Littoral Combat Team at an EAB, service an AXP from a Role I to Role II care, deploy and retrieve USVs, and work with air to create multimodal distribution networks or fly into an area to provide

a local surface distribution network. By incorporating MPU5 Mobile Ad Hoc Networking radios and Android Tactical Assault Kit situational awareness suites, command and control of multiple LTLs could be accomplished from combat operations centers within the MAGTF. In CLB 6, the LTLs is resident within the Motor Transport Company. It consists of a headquarters section with a boat team, with an additional two boat crews per motor transport platoon. This creates four boat teams that may operate independently or aggregate to operate together. Each boat crew maintains USV capability, allowing boat teams to transport USVs to a release point and control them either to a destination or to a handover point with another platoon.

Motor Transport operators and mechanics form the basis of staffing the LTLs. Adding small boat operations individual training events (ITE) for MOS 3531's and funding school seats for small boat coxswain courses and small craft mechanics courses (MOS 1342) could be another important step to building a more effective littoral logistics battalion (LLB). Adding manned and unmanned surface vessels to the direct support CLB table of equipment could be the next step in the process to build the future LLB. As these concepts are developed, the manning model can be adapted within the future CLBs so that each Combat Logistics Company maintains its own LTLs, with general support teams that can connect to higher headquarters logistics providers.

The CLB 6 LTLs currently has small craft coxswains on both the Combat Rubber Raiding Craft and RHIB platforms, certified using local Marine Corps and Navy schoolhouses. These courses range from three to six weeks and are on a first-come-first-serve basis for CLBs because of the lack of an institutional requirement. The *Hydranalix* USV course is a one-week course in Arizona at their training facility and can graduate twenty students per course. Our near-term objective for the LTLs is to be able to pilot eight small craft when additional communications, safety swimmers, and medical



USVs operating with Swedish boats during Exercise ARCHipelago ENDEAVOUR 21. (Photo provided by author.)

Tentative TO/E			
COLO Section	MOS	Equipment	
1st Boat Team		CRRC/RHIB	
CHC	0432	MPU 5 Set / ATAK Device	
Compsman	HN Rate	Organic Equipment	
Radio Operator	0621	MPU 5 Set/Radio Equipment	
Rear Mechanic	3521/1342	CMTK	
USV Operator	3531	AMY X 1	
USV Operator	3531	AMY X 1	
Coxswain	3531/0314	MPU 5 Set / ATAK Device	
A/Coxswain	3531	MPU 5 Set / ATAK Device	

1st Platoon	MOS	Equipment	
Boat Team 1		CRRC/RHIB	
Coxswain	3531/0314	MPU 5 Set / ATAK Device	
A/Coxswain	3531	MPU 5 Set / ATAK Device	
USV Operator	0621	AMY X 1	
USV Operator	3531	Reckless X 1	
Boat Crew 2		CRRC/RHIB	
Coxswain	3531/0314	MPU 5 Set / ATAK Device	
A/Coxswain	3531	MPU 5 Set / ATAK Device	
USV Operator	3531	Reckless X 1	
USV Operator	3531	Reckless X 1	

2nd Platoon	MOS	Equipment	
Boat Team 2		CRRC/RHIB	
Coxswain	3531/0314	MPU 5 Set / ATAK Device	
A/Coxswain	3531	MPU 5 Set / ATAK Device	
USV Operator	0621	AMY X 1	
USV Operator	3531	Reckless X 1	
Boat Crew 2		CRRC/RHIB	
Coxswain	3531/0314	MPU 5 Set / ATAK Device	
A/Coxswain	3531	MPU 5 Set / ATAK Device	
USV Operator	3531	Reckless X 1	
USV Operator	3531	Reckless X 1	

3rd Platoon	MOS	Equipment	
Boat Team 3		CRRC/RHIB	
Coxswain	3531/0314	MPU 5 Set / ATAK Device	
A/Coxswain	3531	MPU 5 Set / ATAK Device	
USV Operator	0621	AMY X 1	
USV Operator	3531	Reckless X 1	
Boat Crew 2		CRRC/RHIB	
Coxswain	3531/0314	MPU 5 Set / ATAK Device	
A/Coxswain	3531	MPU 5 Set / ATAK Device	
USV Operator	3531	Reckless X 1	
USV Operator	3531	Reckless X 1	

Figure 1. Tentative LTLs TO&E. (Photo provided by author.)

support personnel are incorporated. The chief limiting factor to continued experimentation with this concept is the lack of organic small craft and USVs in the CLB. By providing organic small craft and USVs, the LTLs can continue to develop tactics, techniques, and procedures, train new members of boat teams, and sustain training for the Marines and sailors in the section.

Conclusions and Recommendations

As we continue to learn what will be required of the future LLB, it may be worthwhile to look at resources already available within the DOD inventory to solve the problem we know the future LLB will have—organic distribution in a littoral area. Logistic Vehicle System Replacements and Medium Tactical

Vehicle Replacements cannot conduct transportation operations in bodies of water without external support from amphibious connectors, and their numbers are reducing within the logistics battalions. Light Amphibious Warships, UAS, and LRUSVs are still many years from fully operationally capable and may not be organic to the future LLB. By adopting the LTLs into the CLBs now, we can create a framework to build a unit of employment with organic capability to fulfill its mandate to provide tactical logistics support to the MLR by resupplying EAB sites. This article argues for the fielding of *Hydranalix* USVs to CLBs for use in local training areas and during overseas exercises. Additional funding for seats in *Hydranalix's* USV training courses

in Arizona will feed an initial training pipeline. CLBs should also be fielded small craft (Combat Rubber Raiding Craft and/or RHIB) to allow the LTLs to continue to develop tactics, techniques, and procedures during local training and overseas exercises. We are also recommending additional seats for coxswain training through Marine Corps Expeditionary Operations Training Group, Expeditionary Warfare Training Group, or the Navy Maritime Expeditionary Security Force Training Center. In this way, CLBs can build up an organic capability to transition from trucks to boats in the littorals. In Fiscal Year 2023 and 2024, CLB 6 is planning to deploy a multimodal, multifunctional, tactical logistics capability (inclusive of C2, LTLs, MT, aerial delivery, small unmanned aircraft systems, engineer, contracting, health services support, etc.) in support of Marine Forces Europe exercises to experiment with and refine current

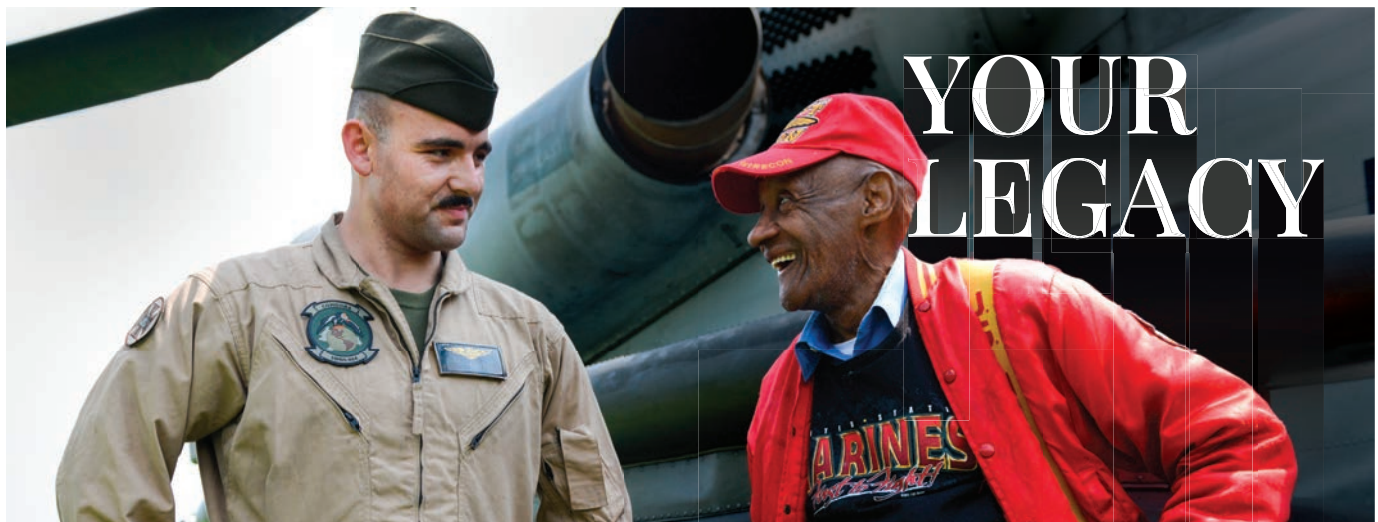
distribution and support concepts. Finally, we are convinced the MOS 3531, Motor Transport Operator, can be leveraged to receive additional qualifications and transform into a Multimodal Transportation Operator, capable of becoming certified on USVs, licensed as coxswains, and able to audibly between diverse surface distribution procedures in the littorals.

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Vertical Versatility

Aerial Scouts, EABO, and MUM-T

by 2ndLt Gabriel P. Savage

As the Marine Corps reorients itself to meet pacing threats in a future war, the structure and task organization of the force is rapidly changing. Gen Berger's *Planning Guidance* calls for sweeping changes across the MAGTF, including many to the ACE in support of Expeditionary Advanced Base Operations (EABO).¹ Anticipating a naval-based conflict in the Indo-Pacific region, Marines will use expeditionary advanced bases (EABs) as centers for the anti-access and area denial of waters to an enemy fleet inside the weapons engagement zone of friendly fires.² The exact method by which the ACE should implement EABO will be released soon in the *2021 Aviation Campaign Plan*. Therefore, it is important now more than ever to consider and deliberate on the particular employment of present and future Marine Corps platforms to enable critical capabilities for mission-essential tasks required in EABO.

Over the next few years, the ACE will see divestment from several helicopter squadrons in favor of investment in unmanned aerial systems (UAS) squadrons.³ This expansion of UAS in the fleet is overdue and will enhance the ACE's intelligence-gathering capability. As such, Marine Aviation must develop sound tactics, techniques, and procedures for their use. One vital way Marine Aviation can protect UAS while maintaining the ability to acquire and pursue targets around EABs is manned-unmanned teaming (MUM-T) in hybrid squadrons. Current tiltrotor and rotary-wing squadrons could attach UAS to their organic assets or the Marine Corps could reactivate Marine Observation Squadrons with increased strike capabilities. In the tense, time-competitive environment in which the United States operates to deter pacing

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threats and for victory in future aerial combat zones, the Marine Corps should reestablish more cost-effective, lethal observation squadrons to operate in MUM-T to ensure the successful conduct of maritime aviation functions in EABO.

The Functions of Marine Aviation in *Force Design 2030*

Marine Aviation exists to support maneuver of the GCE in war. The ACE must be able to conduct electronic warfare, offensive air support, anti-air warfare, assault support, air reconnaissance, and the control of aircraft and missiles

the critical capabilities necessary for the execution of EABO. These functions are antisubmarine warfare (ASW), surface warfare, information operations warfare, and intelligence, surveillance, and reconnaissance (ISR).

Important to realize, as intended by *Force Design 2030*, is the Marine Corps' supporting role to the Navy and return to naval heritage. There will be some mission sets the MAGTF does not have the means to execute or influence, especially in the air. Understanding this subordination with respect to the larger naval campaign is necessary for efficient command and control, mission accomplishment, and for the Corps "to stay relevant."⁵ Marine Aviation will need to pursue all six doctrinal functions while simultaneously becoming responsible for maritime functions in support of our Navy counterparts. MUM-T observation squadrons would help facilitate the Marine Corps' role in joint air

... the Marine Corps should reestablish more cost-effective, lethal observation squadrons to operate in MUM-T to ensure the successful conduct of maritime aviation functions in EABO.

to accomplish this support of the GCE. These six functions are known to all Marine Aviators, but they will not be the only roles necessary for victory in future conflicts. The *Tentative Manual for Expeditionary Advanced Base Operations* states, "these mission areas alone do not facilitate functional planning of integrated naval aviation operations in support of a maritime campaign."⁴ Marine Corps planners point to additional maritime aviation functions as

operations in support of a naval campaign and fill gaps in EABO schemes of maneuver.

Even the Commandant has written on how Marine Aviation will adapt to this decade, particularly on the conduct of ASW.⁶ After receiving forward warning from UAS platforms "with ASW sensors and sonobuoys,"⁷ Marine aircraft could launch light torpedoes and missiles against enemy submarines. A platform like the MV-22 could be per-



Marines have benefited from versatile vertical-lift platforms like helicopters throughout our history of employing expeditionary advance base. (Photo provided by author.)

fect for ASW, dropping sonobuoys and depth charges, because of its speed, carrying capacity, and mid-flight refueling capability.⁸ As for surface warfare, direct fires from attack helicopters and fighter jets could destroy enemy surface ships in similar sea control and sea denial missions. This will all be supported by Marines on EABs launching indirect fire on targets in the form of precision-guided missiles. Information operations warfare and electronic warfare will be left to the F-35 and the Navy’s EA-18G. While UAS will be tasked with ISR as a primary role in EABO, a MUM-T hybrid squadron with light helicopters and ISR as its focus could also perform ASW and surface warfare as well as air interdiction, forward air control, and insertion of special operations forces. The challenge is to determine which platforms should be combined in such a squadron—which the Marine Corps has never used before.

Light Observation Helicopters

Correspondingly, the platform the Marine Corps is missing for EABO is a light observation helicopter. Rotorcraft will be able to easily get to and from EABs when deployed from an amphibious ship like an LHA or LHD, which

can carry numerous light helicopters vice larger platforms like Ospreys or Hueys. Observation helicopters nullify the need to establish, build, or secure an airstrip for fixed-wing reconnaissance assets, or a distinct landing zone for larger helicopters. They can also deploy in large numbers operating with speed, massing combat power hastily against

any enemy threat. Light observation helicopters would allow Marine Aviation to exploit enemy gaps with friendly surfaces rapidly. As written in *Aviation Operations*, “[t]o exploit [gaps] requires flexibility and speed. The characteristics of Marine Aviation make it ideally suited to temporarily fill gaps or to create gaps where none exist.”⁹ Light observation helicopters with air-to-surface strike capabilities like the MH-6 Little Bird or the OH-6 Cayuse have been used to accomplish maneuver warfare quickly and efficiently.

Versatile helicopters translate to increased capabilities to conduct operations in the lower observable range in a battlespace, from long-range raid, non-combatant evacuation, embassy reinforcement, and tactical recovery of aircraft and personnel.¹⁰ With a small platform, the Marine Corps could insert fire teams up to a platoon size on EABs quickly without the need for a large, open field on which to land or a fleet of amphibious assault/combat vehicles. Even better, light helicopters can transport Marines to the fight in coordination with these amphibious transports to increase the operational tempo and maintain the initiative of the assault. Moreover, special operations forces could deploy on these rotorcrafts to seize key terrain on an island



Smaller helicopters are ideal for inserting direct action teams into austere locations. (Photo provided by author.)

determined to become an EAB, like the Army conducts Special Patrol Insertion/Extraction. Raiders and recon teams would provide depth for landing force commanders.

Even more, these helicopters could escort UAS in support of EABs. With UAS as dedicated ISR platforms, light helicopters could protect UAS from attack, increase the situational awareness of the squadron, and employ fires and missiles against targets the UAS acquires. Of note as well is the significantly cheaper cost the MH-6 (\$2M) and OH-6 (\$0.2M) post against the current arsenal of AH-1s (\$27M), UH-1s (\$24M), and MV-22s (\$75M). The Marine Corps has not used helicopters like this since the Korean War, but the possibilities are endless for the light observation helicopter at less than one-tenth of the price. "Creativity [has] been one of the Corps' greatest strengths over time"¹¹ and Marines will continue to do more with less.

Vulnerabilities are not absent from these platforms, however. Surface-to-air missile defense systems would eradicate a landing force deployed on helicopters, as demonstrated by the failed insertion of troops at Sinai by the Egyptians in the Yom Kippur War of 1973.¹² Simple direct-fire assets of an enemy in the defense such as small arms or crew-served weapons could take down aircraft of this size. There were 1,800 helicopters neutralized in this manner during just the first five years of the Vietnam War.¹³ It would therefore be imperative that these light helicopters be focused on aerial reconnaissance and the protection of UAS assets in their deployment in hybrid squadrons as an advanced guard to allow the main body, aerial strike force to follow and annihilate targets.

UAS and MUM-T

The future of Marine Aviation is UAS. As the War in Ukraine rages, the world has seen the lethal potential that UAS provides, from dropping munitions to operating as kamikazes on unsuspecting enemies. Their inclusion and implementation must occur in increasingly integrated phases into the fleet to facilitate UAS research and development in addition to defining the roles

they will play in support of manned aircraft, ISR, and command and control (C2). These phases require MUM-T as their principal focus to protect our larger unmanned platforms. Many military thinkers and planners view UAS as assets that should be acquired and employed as stand-alone vehicles, failing to consider how vulnerable these assets are to electronic warfare without manned protection and alternatives. If a peer or pacing threat had access to the network on which Marine UAS operates, the

MUM-T will allow ACE commanders enhanced tactical situational awareness ...

enemy could potentially exploit and disable every platform. Even though the Marine Corps has been using UAS for over 25 years, "doctrine has yet to change dramatically."¹⁴ Only six years ago, *MCRP 3-20.5, Unmanned Aircraft System Operations*, (originally *MCWP 3-42.1*) was published. MUM-T is not mentioned once.

UAS exists to support the C2 and intelligence over a battlespace so that Marines in the GCE can maneuver and fight, like the rest of Marine Aviation. On their own with these mission sets,

bulky and expensive UAS have left much to be desired. The Navy and Marine Corps' MQ-8B/C Fire Scout, for example, has had three crashes in the past year alone and each unit costs roughly \$30M.¹⁵ The Navy grounded the system after the first two mishaps but later, after its hastened revival, the platform failed again. Instead of repeatedly forcing UAS integration into the fleet as stand-alone assets, it makes more sense to employ manned aircraft with them. MUM-T will allow ACE commanders enhanced tactical situational awareness, interoperability with NATO forces, and it may uncover the in-flight problems with the medium altitude, long endurance UAS platforms the Marine Corps wants to use in EABO.¹⁶ To offset costs, perhaps the Marine Corps would even find some UAS platforms more cost-effective while conducting MUM-T and identifying critical capabilities hybrid squadrons need to conduct EABO. Currently, MUM-T does not exist at any level and that must change if Marine Aviation expects capable and secure UAS employment. The Army has been operating MUM-T since 1997 to great effect, increasing "situational awareness, survivability, and lethality."¹⁷ Although not integrated into the ACE currently, the infantry has made great strides in employing MUM-T with unmanned vehicles like the RQ-7 Shadow, RQ-14 Dragon Eye, RQ-21 Blackjack, and small quadcopters. Cheaper UAS platforms that have



UAS will require manned aircraft support to counter near-peer air defense weapons. (Photo provided by author.)

already been integrated at the squad level should continue to be bolstered for increased indirect fire potential in the battlespace as the world has observed in Ukraine. Additional UAS could even be used as protection to divert surface-to-air missiles and distract enemy engagers for the more valuable manned assets like the F-35 series aircraft. Whether it is the light observation utility helicopter paired with the MQ-8, the F-35 with a low-observable UAS, or some combination of greater than three aircraft,

Light observation helicopters and UAS fill the gap in “critical intelligence preparation of the operating environment and the battlespace awareness ...”

MUM-T must become operationally experimental to discover all the true capabilities of UAS and ISR in EABO for a naval campaign.¹⁸

Conclusion

Light observation helicopters and UAS fill the gap in “critical intelligence preparation of the operating environment and the battlespace awareness necessary to provide critical information ... to make informed decisions.”¹⁹ As the advanced party to an aviation main effort with more firepower, these two platforms could be exactly what the Marine Corps needs to execute EABO with greater situational awareness and mobility. These hybrid squadrons could be employed in swarm-like quantities that overwhelm enemy surface-to-air defenses, while costing the federal government less than one-tenth of current unit costs in the FMF, assuming budgetary stagnation. The potential for these squadrons is virtually endless. They are well-rounded, versatile, and expeditionary. By combining manned and unmanned systems, the Marine Corps magnifies its combat power, senses, maneuverability, numbers, versatility, and speed in combat to support a naval campaign. This is where Gen Berger would like the Marine Corps to be by the end of the decade and MUM-T scouting is a possible solution.

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The Main Effort of the Marine Littoral Regiment

A credible deterrent

by Maj Matthew G. Schedler & MSgt Joshua J. Stepp

In 2018, under the guidance of the *National Military Strategy* (NMS), three fundamental approaches were outlined regarding the future of the United States armed forces. These three policies were force employment, force development, and Force Design.¹ The NMS along with the *National Defense Strategy* have led to many changes in the way we fight as a Joint Force. With the end of the war in Afghanistan and the reduced presence in Iraq, the Marine Corps is looking to reshape and restructure itself with the shift to the Pacific and the inherent maritime nature of conflict in the region. The Marine Littoral Regiment's (MLR) design is part of this change. Some may argue that MLR is not a traditional MAGTF or even a MAGTF because the centerpiece is not the infantry and the lack of aircraft. Our current standard of warfighting and doctrine needs to adapt to support the NMS and this new formation.

Force Design is changing more than just structure, it is changing the way the Marine Corps thinks and fights. A notable example of this new model is that the infantry formations that form the core of the Littoral Combat Team (LCT) are not predestined to be the sole main effort of the MLR. Depending on the phase of the competition continuum and with the evolution of precision-guided munitions, other elements may be better suited to be the main effort. The MLR is a supporting effort to the naval force, not the MEF. Instead, it provides several critical capabilities to the naval force due to its unique design.² The elements such as the forward arming and refueling point (FARP) battery,

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the air control battery (ACB), and the medium-range missile (MMSL) battery all have the ability to be the main effort of the MLR due to their ability to directly support the warfare commanders within the Navy Composite Warfare Commander construct. The infantry, like the Ground Based Air Defense Battery, will be in support of those elements by providing force protection. These force protection elements will maneuver to new terrain features and secure them to allow critical capabilities the ability to enable the Joint Force without prohibitive interference.

Since introductory training, all Marines have been indoctrinated into their reason for existence—to support the Marine infantryman as “the tip of the spear.” To corroborate this mentality, Marine Aviation lives by Maj Cunningham’s, the Corps’ first aviator, quote: “only excuse for aviation in any service, is its usefulness in assisting the troops on the ground.” Leaders continually remind disenchanting Marines that they, in their own small way, are supporting the lance corporal infantryman. The Corps’ culture was developed from a focus on a landbased enemy: either in the deserts of Iraq or

on the beaches of Guadalcanal. However, the purpose of the MLR, much like the Marine Defense Battalions, is to counter a threat from the sea or air. The MLR is designed to exist within the maritime domain, contributing to sea control and performing sea denial from key maritime terrain within their assigned area of responsibility as part of a Stand-In Force across the competition continuum.³ Thus, it needs to be postured to support naval integration and freedom of navigation within critical sea lines of communication.⁴ As the primary ground formation within the Stand-In Force, the MLR seeks to establish itself during the competition phase without escalation. While this is not a new concept to the Marine Corps, it has become unfamiliar after twenty years of fighting a non-conventional force.

We require a fundamental shift in the way we perceive warfare as Marines. The MLR should not be thought of as just a traditional infantry-centric organization, the most capable weapon that can support the Joint Force in the LCT is a naval strike missile (NSM), a weapon originating from artillery. The MLR is designed to support the Joint Force’s collective kill chains and keep



Marines with 3d Littoral Anti-Air Battalion, 3d Marine Littoral Regiment, 3d MarDiv, deploy an AN/TPS-80 Ground/Air Task Oriented Radar during Exercise BOUGAINVILLE II at Kalaeloa Airfield, Hawaii, 28 October 2022. (Photo by Sgt Israel Chincio.)

pace with the threat of our adversaries.⁵ Evolving technology refined the targeting cycle and has eliminated the requirement for a human observer with unmanned aerial systems and satellites taking this critical role in the targeting cycle. Precision-guided munitions such as cruise and ballistic missiles, with ranges of hundreds of miles, have eliminated the need for the enemy to put a pilot at close range to the target to ensure effective fires.⁶ These new threat capabilities may not require an adversary to control terrain or sea lines of communication to accomplish national objectives; instead, the act of denial of battle, economic, and transportation space to friendly forces allows an adversary to complete strategic objectives.⁷ The U.S. national policies outlining our commitment to our allies in the region require our military to adapt to support deterrence within regions of strategic importance.⁸

The MLR's main effort needs to be the elements that can support the Joint Force and integration within the Navy Composite Warfare Commander. The MLR's key fires asset, the NSM, will deter threats, and when needed, defeat enemy naval surface combatants providing an area denial capability to the Maritime Component Commander.

The ACB provides sensor data building the situational awareness of naval aviation assets patrolling key maritime terrain and enabling kill chains when needed. The FARP battery extends the range of joint aviation assets, enabling friendly naval vessels to be stationed in safer waters while supporting the Maritime or Air Component Commander. The combination of these tasks makes the MLR a critical enabler to the Joint Force's anti-access/area denial system that can counter an adversary increasing aggression within regions of strategic importance to the United States.⁹

The Marine Corps infantrymen cannot be the MLR's main effort ...

The Marine Corps infantrymen cannot be the MLR's main effort in these types of operations because their weapons do not have the capability to operate outside of a force protection capacity against irregular or gray-zone forces. Furthermore, the Marine Corps is not the main effort. In an effort to support the NMS, the U.S. military has adopted

an adaptive and innovative Joint-Force capability that will enable seamless operations across multiple regions and all domains. This concept is called Expeditionary Advanced Base Operations.¹⁰ This allows Stand-In Forces to persist inside the enemy weapons engagement zone while supporting the warfare commanders within the Navy's Composite Warfare Commander, and their ability to affect targets within their respective areas of responsibility.

In the levels below armed conflict, the purpose of the MLR is to establish expeditionary advanced bases that support or enable Joint Force operations. As crisis transitions to armed conflict, the mission of the MLR is to deny the adversary's use of key maritime terrain buying time for the Joint Force, specifically the Air Force and the Navy, to arrive and assume operational control. In both levels, the infantry provides force protection in defense of vital areas, conducts actions such as maritime search and interdiction in support of host nation forces, and reconnaissance/counter reconnaissance operations.¹¹ The infantry also has the capability to conduct small-scale offensive operations to clear small pockets of enemy ground forces and raids against bases to enable the rest of the MLR to operate without prohibitive interference at the lowest tactical level. The remaining MLR elements will conduct supporting actions in direct support of the Joint Force, which is beyond the capabilities of the infantry battalion alone. This reinforces the need for a shift in our historical warfare mentality of supporting the 0311 as the main effort. The MLR provides the Joint Force critical enabling capabilities. The infantry, and their force protection capabilities at the lowest tactical level, are not considered one of these critical capabilities. Thus, the FARP battery, ACB, and the medium-range missile battery should be the MLR's main effort as key enablers in accomplishing its mission as a supporting effort to the greater joint or combined force.

As the conflict matures, the MLR still does not have the ability to shift the main effort to the infantry. Just like the MEU, the infantry element

within the MLR consists of a battalion reinforced. It is important to note that the MLR does not have the aviation assets to support the infantry like the MEU. The LAAB, the closest thing to an ACE of the MLR, consists of command, control, and communications enablers that help sense and make sense of the environment.¹² They also extend the range of aviation assets not organic nor in support of the MLR but in support of the Navy or combined forces. The MLR is a critical enabler for the Joint Force, not the main effort, it is unlikely that the Joint Force's limited assets in theater will be put into harm's way to support the MLR. The MLR was designed to excel in the enemy's weapons engagement zone, not to be defended within it.¹³

A counterargument to the concept of the infantry not being the main effort of the MLR is the Marine Corps' Title X requirement to seize and defend advanced naval bases. This article has identified a few key elements within the MLR, the ACB, the medium-range missile battery, and the FARP battery that will serve as the MLR's enablers to the Joint Force. Since the MLR is designed to establish, utilize, and then displace from vital areas such as airports, seaports, and logistical lines of communication, the challenge comes from the fact that the infantry is the only element that can seize key terrain. The rest of the MLR elements can either directly or indirectly support by denying the adversary use of key terrain. This again highlights the need for a shift in doctrine to move away from the mentality that the infantry is the main effort during offensive operations. The Marine Corps is an offensive organization. Thus, LCT could argue that they should serve as the main effort of the MLR. If this is not held as a guiding priority, then MLR will not be postured to take the fight to the enemy.

This logic is flawed. Offensively seizing terrain does not happen when the MLR is designed and planned to be inserted during the level below armed conflict.¹⁴ The MLR is not intended for forcible entry operations. Title X is also a Marine Corps requirement, not an MLR requirement. Instead,

the ground that the expeditionary advanced bases would be located on would be provided by and at the invite of a friend and ally. Instead, the main effort in lodgment operations may be the comptroller or person in control of cash that could pay for use of a basing site if the State Department has not already arranged host-nation support. In defensive operations where the primary mission is the protection of a seaport that enables the flow of friendly forces, the infantry will still not be the main effort for the MLR because of precision-guided munitions fired from hundreds of miles away.¹⁵ With this change in the enemy weapon systems, the main effort may be the ACB cueing air defense assets in general support of the Composite Warfare Commander's Air and Missile Defense Commander.¹⁶ These actions are what the MLR exists to do instead of traditional infantry-based operations.

The MLR exists to persist and thrive within the weapons engagement zone ...

The MLR exists to persist and thrive within the weapons engagement zone of our enemy to support and extend the joint or combined force's warfighting capabilities which enable the use of strategic sea and airspace. The infantry element in the MLR's LCT has limited ability to degrade enemy kill webs to support the Joint Force similar to the adjacent LAAB. However, this change to Marine Corps culture is not a total transformation. The MEF's main effort remains the Marine division as the primary warfighting element of the Marine Corps. The conversion is within the MLR, where the infantry exists to secure the next micro-terrain and provide force protection to support extensions of Marine Aviation, command and control, and surface fires, required to support the joint or combined force. As with force design, the culture of

the Marine Corps in the MLR needs to adapt to meet the next war ready to fight and win.

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A Preface to “A Better Way Forward” and Its Authors

Continued debate of the future of the Corps

by Chowder II

The Marine Corps has always adapted to meet the challenges of a changing security environment. In the past, Marines have engaged in a rigorous exchange of ideas before embarking on a new course. We have seen little evidence of a thorough and open debate leading to the adoption of *Force Design 2030* and supporting concepts. These wide-ranging concepts have provided the justification for the divestments of many current capabilities and the creation of untested, experimental organizations, and the planned acquisition of various new, unproven systems.

To fund these new capabilities, the Marine Corps pursued a “divest to invest” strategy. Force structure and equipment necessary to meet today’s threats were unwisely discarded to fund future experimental formations and weapon systems. The resulting gap in capabilities has severely reduced the Marine Corps’ readiness to respond quickly and effectively to global actors that threaten our national security today and over the next decade. We argue there is a better way forward than the course currently charted.

Our concerns about the future of the Marine Corps are not the mere musings of a group of retired Marines resistant to change. We represent Marines who retired within the past month or as long as 25 years ago. All have decades of wartime and peacetime experience. For the past seven months, we have sought to

raise the awareness of Congress, the DOD, and the American people that the Marine Corps is no longer the Nation’s premier force-in-readiness. Those unable to effectively counter the issues we raised simply label us “ill informed” or adverse to innovation and technology. We are not ill informed as our ranks include recently retired Marines, many of them very senior officers. We are pro-

We represent thousands of years of dedicated service to the Marine Corps and the Nation. Most of us have served in combat, many in multiple theaters. We also have the support of many active-duty Marines of all ranks, whose voices the Marine Corps appears not to hear. Unlike the debates over *Maneuver Warfare* in the 1980s, which were played out in the Quantico school-

We represent thousands of years of dedicated service to the Marine Corps and the Nation. Most of us have served in combat, many in multiple theaters.

ponents of innovation and technology as reflected in our Vision paper, which follows. We have loosely termed our group “Chowder II.”

Chowder II is a diverse group, whose ranks include former Commandants of the Marine Corps; combatant commanders; MEF, MEB, and MEU commanders; Marine Corps Combat Development Command commanders; Joint Force commanders; division, aircraft wing, regimental, aircraft group, battalion and squadron commanders; a number of logisticians, and staff officers who held demanding assignments at the combatant commands, Joint Staff, HQMC, and the supporting establishment. Also among our group are defense analysts and authors of joint and other Service operating concepts.

houses, the *Marine Corps Gazette* and *Leatherneck* magazines, and many other venues, active-duty Marines seem hesitant to voice their concerns. It appears they are expected to tow the party line or risk their careers. This is certainly the lesson some have drawn from the frequent use of non-disclosure agreements. Our evidence suggests that the only voices left to openly debate the future of the Marine Corps are ours and those of various independent thinkers in the media.

Like the original Chowder Society that saved the Marine Corps from institutional destruction as a military service in 1947, Chowder II is working to save the Marine Corps’ operational destruction as the Nation’s 911 force, incapable of responding to global threats across

the spectrum of conflict by becoming a shell of its former self.

To that end, we are publishing this “trilogy” of articles to raise awareness, generate discussion, and promote debate on the future of the Marine Corps. For clarity and best understanding, the articles should be read in succession. Their purpose is threefold.

First, we want to summarize our concerns with *Force Design 2030*, Expeditionary Advanced Base Operations, and *Talent Management 2030* and explain why they trouble us. We have previously expressed our concerns in over 50 articles, which have been published in outlets such as the *Washington Post*, *Wall Street Journal*, *The Hill*, *The National Interest*, *Task & Purpose*, *National Review*, *Marine Corps Gazette*, *Marine Corps Times*, and other prestigious media. Part I of the trilogy is a summary of these concerns.

Second, we want to dispute *Force Design 2030*’s unstated but implied

assumption that the Mature Precision Strike Regime has rendered maneuver impossible. We argue offensive operations win battles; that the defense, while sometimes necessary, only prolongs the fighting, most often with indeci-

**... we want to propose
an alternative vision to
Force Design 2030.**

sive results. Part II is a historical and operational justification for restoring maneuver and regaining the offensive.

Third, we want to propose an alternative vision to *Force Design 2030*. Part III is our Vision paper. Our vision is to enable global response by restoring maneuver in the age of precision munitions. By leveraging innovation and technology, we can regain the capabil-

ity for offensive operations, which will allow the Nation’s Corps of Marines to respond quickly and effectively to global crises and contingences across the spectrum of conflict.

We are publishing this Preface and the following three articles under our pseudonym, Chowder II.



THE PROFESSIONAL DEBATE CONTINUES

More of the “Chowder II” group’s counter-argument to *Force Design 2030* “A Better Way Forward” coming soon.

February, Parts I and II: “Our Concerns with *Force Design 2030*”

&

“The Problem We Ought to Be Trying to Solve: Preserving or Restoring the Ability to Maneuver in the Age of Precision Weapons”

March, Part III: “Vision 2035: Global Response in the Age of Precisions Munitions Vision 2035”

Respond and join the debate:
mca-marines.org/magazines/marine-corps-gazette

Read more on the Corps’ Future Force Design and Modernization initiatives:
mca-marines.org/force-design-resources

Warfighting Philosophy in the Information Age

Reconciling modern operating concepts with *MCDP 1*

by SSgt Joshua E. Duke

The inevitable expiration of *MCDP 1* was written into it by Gen Krulak and Gen Gray in 1997. The question is not whether *Warfighting* should be revised, but when. *MCDP 1* mandates its own revision over time “based on growing experience, advancements in theory, and the changing face of war itself.” Experiences since its publication in 1997 are exponential, along with advancements and changes in theory, technological developments, and the expansion of the modern battlefield. Now is the time to update the Marine Corps’ fundamental doctrine that dictates how Marines will continue to operate in the Information Age battlespaces of the future. The warfighting philosophy for the Marine Corps should be expanded to include operations below the violence threshold in addition to armed conflict. Marines must understand the essence of doctrinal philosophy in the context of the entire competition continuum to fully engage themselves appropriately in activities below the violence threshold in the modern age.

Philosophical Modernization

While *MCDP 1* acknowledges the competition continuum’s existence, it is written from the perspective that Marines will only become involved above the violence threshold. With the evolution of Expeditionary Advanced Base Operations (EABO) utilizing Stand-In Forces (SIF) to achieve national objectives below the violence threshold while contributing to persistent deterrence operations, modified doctrine is necessary to ensure Marines understand they will be operating consistently

“Military doctrine cannot be allowed to stagnate, especially an adaptive doctrine like maneuver warfare. Doctrine must continue to evolve based on growing experience, advancements in theory, and the changing face of war itself.”

—Gen Charles C. Krulak, 31st Commandant of the Marine Corps, in the Foreword of *MCDP 1, Warfighting*

“Like war itself, our approach to warfighting must evolve. If we cease to refine, expand, and improve our profession, we risk becoming outdated, stagnant, and defeated.”

—Gen Alfred M. Gray, 29th Commandant of the Marine Corps, in the Preface of *MCDP 1, Warfighting*

across the continuum. The first three chapters of *MCDP 1* should be modernized to include Information Age examples and terminology as well as redesigned to accurately reflect the

concept of operations across the competition continuum. The “Conduct of War” chapter is an everlasting philosophy that anchors the Marine Corps to its heritage and unmatched skill in

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warfighting, but “Combined Arms” should be updated to include examples related to Information Age combined-arms dilemmas. Explaining Operations in the Information Environment (OIE), drone attacks, long-range precision fires, electromagnetic spectrum operations, and space assets as examples of firepower that can create combined-arms dilemmas will effectively update this chapter in relation to the emerging concept of the competition continuum.

The competition continuum clarifies that all modern adversaries are in a constant state of war, either through economics, politics, OIE, or armed conflict. The primary philosophical doctrine of the Marine Corps needs to reflect this change in global adversarial relationships instead of only focusing on armed conflict. Examples used throughout the doctrine need to be modernized to make sense to Information-Age Marines. They also need to be updated to include references to new developments on the modern battlefield, including technologies and new types of centers of gravity that have emerged, such as in the Information Environment (IE). Outdated references hinder the understanding of warfighting philosophy, making Marines less likely to understand or implement the Marine Corps’ warfighting doctrine at the lowest levels.

Recent and proposed doctrinal developments reflect a major shift moving toward the intertwining of military and national resources to achieve national objectives through military actions, particularly in the conduct of EABO. This shift should be reflected in warfighting doctrine, as opposed to the current layout that separates the two and implies that military forces and actions are not intertwined within the greater national context. The *Tentative Manual for Expeditionary Advanced Base Operations* (TM-EABO) clarifies how Marine Corps units will be linked with national resources to achieve objectives, working with national, international, and non-governmental agencies for the duration of long-term EABO in littoral operating areas around the world. The traditional maneuver warfare philosophy of the Marine Corps remains flawless, and

EABO is potentially the full realization and embodiment of this philosophy as laid out in Chapter 4 of *MCDP*; however, recognition of the competition continuum requires differentiating between warfighting above and below the violence threshold.

Proposals

A primary theme that should be updated throughout *Warfighting* chapters 1–3 includes acknowledging the competition continuum to incorporate Marine Corps operations below the violence threshold, relating the different parts of warfighting philosophy to the continuum. Offense and defense have become ambiguous terms in relation to Information Age warfare. Changes in technology and doctrine, specifically littoral operations and EABO utilizing SIF, combine these together as a single continuous strategy. Every part of EABO and the associated littoral naval elements are designed specifically

accordance with strategic, operational, and tactical objectives simultaneously. Tactical-level operators can act directly to achieve strategic objectives quickly and decisively at a much higher rate than previously possible. While *MCDP 1* recognizes this possibility, it has become a probability in modern warfare, not the exception. Additionally, the two ways to impose our will on an enemy are now three. In addition to strategies of annihilation/incapacitation and erosion, there is now a warfighting strategy of deterrence through EABO using SIF in littoral areas. Deterrence can be likened to erosion, with the difference being that one is above and one below the violence threshold. When dealing with uncertainty in the context of the competition continuum, references to electromagnetic spectrum operations, cyberspace, social media, and space assets need to be mentioned, all of which can contribute to or dampen uncertainty in Information-Age warfare.

Tactical-level operators can act directly to achieve strategic objectives quickly and decisively at a much higher rate than previously possible.

to always be conducting offensive and defensive operations, particularly with regard to OIE, and electromagnetic spectrum operations. Doctrine needs to reflect the fusing of these concepts together on the modern battlefield, recognizing them as a single activity. *MCDP 1* recognizes that offense and defense must exist together, complementing each other; however, modern applications of combined offensive/defensive operations that essentially coexist within EABO should be recognized, named, and implemented into Marine Corps philosophy.

The relationship between strategic, operational, and tactical levels of engagement has also become more intertwined. War theory should be updated to reflect advancements in communications and sensors which make the distribution of the commander’s intent a necessary factor, enabling forces to act in

Warfighting philosophy must be updated to include OIE, as the IE now plays a permanent role across all battlefield domains. In preparing for war in the information age, recent changes in doctrine and global developments, including technological advances, should be recognized. EABO, SIF, littoral operations, and Force Design concepts should be added to reflect these changes. Philosophy should emphasize the inherent effects on operating environments and the IE that all training and operations now have in the global operating environments in relation to the conflict continuum. The following question also should be asked in relation to the modern world: Does technical proficiency—especially in weapons employment—still matter more than cunning or creativity, considering developments in the IE, sensor technology advancements, and the global shift toward de-

ception, counterintelligence operations, and economic and political warfare as the primary means to achieve victory across the competition continuum?

Integration of Doctrine and Philosophy

Many have criticized modern doctrinal developments, arguing change abandons tradition—from eliminating the ability of Marines to conduct maneuver warfare to the entire paradigm of Marine Corps philosophy abandoning offensive operations in favor of the defense. Tradition cannot be confused with temporal global shifts that are inevitable over time. Being a Marine is a state of mind, and no changes in operating concepts or technologies will change that. The state of mind of Marines is the only tradition that holds true throughout time. Operating concepts and technologies inevitably have an expiration date as they are implemented or invented. The world is not static, nor are American adversaries. Remaining static will inevitably result in defeat. The Marine Corps needs to continuously adapt to create new concepts to address new threats to minimize undue risk to American blood and treasure. Overmatch in the Information Age can only be achieved by continuous adaptation.

Information-Age warfare is asymmetrical, not symmetrical. Traditional Marine Corps force designs were specifically designed for symmetrical warfare conducted asymmetrically to create combined-arms dilemmas for adversaries on the battlefield. Information Age warfare will be fully asymmetrical creating more complex combined-arms dilemmas for adversaries, both on the symmetrical-warfare battlefield and inside adversarial command and control cycles, utilizing OIE. Modern operating tools and concepts create a four-dimensional battlefield with four-dimensional combined-arms dilemmas, resulting in battlefield paralysis for adversaries as they are faced with a complex combined-arms dilemma using more than just kinetic attacks. Adversary commanders under this new paradigm, faced with a multi-pronged EABO/SIF front across all domains, will be forced

to choose between which assets to lose, resulting in adversary defeat.

EABOs are the embodiment—one might even argue the fulfillment—of the concept of decentralized command, capitalizing on the greatest qualities inherent in having the authority to act down to the lowest level. With technological advances, EABO can take full advantage of this style of combat while maintaining coordination with command elements. Multiple SIF elements conducting a variety of EABO in adversary littorals will have the capacity to create more complex combined-arms dilemmas than ever achieved in history, including air support, fire support, suppression, cyberspace operations, and space-asset capabilities. Space assets will inevitably include space-to-ground attack capabilities directly coordinated by SIF on the ground to achieve effects that previously required heavy armor or indirect fires, with the smallest amount of risk ever achieved in the history of warfare. EABO can also essentially be used to implement a type of insurgency/attrition warfare against an adversary, which has shown to be one of the most effective fighting techniques in the modern world, with examples from U.S. engagements in Iraq, Afghanistan, and elsewhere, as well as more recently in the development of the Ukrainian defense operations against Russia.

The modern operating concept utilizing SIF in EABO embodies the philosophies of both maneuver warfare and combined arms. Proposed terminology, however, confuses the EABO concept. To eliminate this, EABOs should be changed to Expeditionary Advance-Based Operations, and Expeditionary Advanced Base should be changed to Expeditionary Advanced Position. EABOs are specifically designed to be mobile and temporary, without bases, in forward-operating areas consisting of non-static elements in the vicinity of a specified area of operations. This administrative fix changes the thought process to accurately explain the intent, emphasizing the correct concept within EABO, and eliminating the idea of a fixed base. The EABO concept is a strategy of offense and defense combined from start to finish, with elements of

intelligence, counterintelligence, OIE, and Information Age combined arms, designed to enable naval fleet operations, land operations, cyber operations, and air operations up to and including war—all in a more proficient way than has ever been achieved in history.

Contradictory to some beliefs, the *Force Design 2030* plan—including the implementation of SIF, EABO, and Talent Management as an overarching institutional shift in operational practice—does not reduce the abilities of the Marine Corps to act as a force-in-readiness. The implementation of the combination of these plans will result in an institutional shift in capabilities, operating concepts, and force structure, providing a force multiplier across all domains. Once complete, the Marine Corps will be a global force-in-readiness with a faster reaction time, able to conduct more effective interventions in any place in the world, with smaller forces and less risk. Forces already in rotational forward positions will enable the near-instant reaction to global events to achieve national objectives in record time. This strategy plays to all the strengths of the Marine Corps' historical traditions, maneuver warfare philosophy, and decentralized command concepts. With some minor updates to *MCDP 1*, the modern operating concepts proposed will drive the Marine Corps to the forefront of the modern battlefield, securing the institution's existence and prestige while ensuring American success in the Information Age.



Maneuver Warfare as Hypothesis

Examining the scientific foundations of our warfighting theory

by Maj Ken “Bronco” Hampshire

“Think of it in this sense. Newton’s second law of motion, $F = ma$. You know, you don’t have $F = ma$ for one country, something else for another country. $F = ma$ or $F \neq ma$! Regardless if you’re Russian, Chinese, British, American, or what!”¹

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Thus spoke John Boyd when discussing the universality of military theory, deep into his famously long “Patterns of Conflict” briefing. It is a curious statement, equating military theory with science as it does, especially in a briefing that is comprised mostly of historical case studies. Perhaps it is not so unexpected from the technically minded Boyd, who developed his maneuver warfare theory “in accordance with Gödel, Heisenberg, and the Second Law of Thermodynamics,” embracing mathematical logic, quantum mechanics, and entropy, respectively.² That Boyd used scientific theory to influence his military theory is well-established and uncontroversial. Many military theorists rely on the science of their day to guide and communicate their theory, either implicitly or through metaphor.³

The more interesting question is how to disentangle scientific theory from military theory, if indeed it even needs detangling: is the theory of maneuver warfare scientific? Put another way, what is the philosophical basis for maneuver warfare theory? After the strategic defeat in Afghanistan, ongoing calls for doctrinal rewrites, and force restructuring, it is a question that needs answering.

Current debates concerning the status of maneuver theory usually group factions into three camps. One views the theory as partially falsified by recent history, while the other two view the theory as fundamentally correct; only we have alternatively failed to correctly apply it, or we possess an inadequate understanding of its core concepts. This last camp points to lost nuance and the overlooked complexity of Boyd’s original ideas, often appealing to a “Boyd of the gaps” interpretation of his sparse writings. Here, in the underlying structure and assumptions of maneuver theory, is where scientific and military theory merge. As maneuver theory codified, *Warfighting* acknowledges the role of both art and science in war, though explicitly writes of science as only relevant to “those activities directly subject to the laws of ballistics, mechan-

ics, and like disciplines.”⁴ Others like Frans Osinga are more charitable, acknowledging a much more influential role of science on military theory in his excellent study of Boyd’s intellectual foundation: “not a small part of Boyd [sic] contribution to strategic theory may lie in exactly his introduction of the language of (then) novel scientific concepts into the study of strategy and formulation of doctrine.”⁵ The writer Marinus has recently written much about the scientific origins of maneuver theory in the pages of the *Gazette*. Less academically, it is common for Marines to talk of Force Design hypotheses and experimentation, borrowing lexicon to imbue processes with scientific credibility.

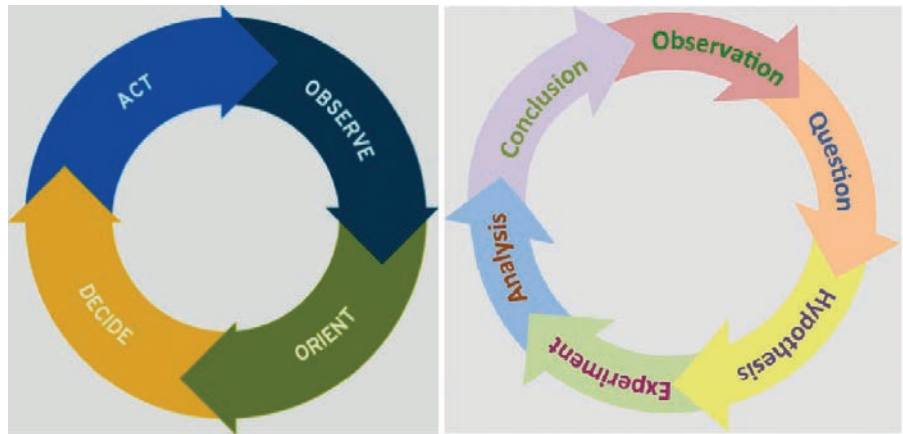
But is science just a patina overlaid upon maneuver theory, a kind of honorific bestowed upon it to make its claims more credible, less doubtful—less open to criticism? Does Boyd’s extensive use of science lend that process’ quite successful explanatory and predictive power to the maneuver theory itself? If his theory is something other than scientific, what is it? Answering these questions requires a brief introduction to some big ideas in the philosophy of science, a field with almost as many questions as answers.

Arguably the most influential conception of science—probably the dominant strain among scientists today—comes from the Austrian philosopher Karl Popper in the early twentieth century. Popper was dissatisfied with many then-apparently scientific theories such as psychoanalysis and Marxism but was impressed with Einstein’s bold light-bending prediction following his

theory of general relativity.⁶ Popper realized that for the former, observational evidence was everywhere and ready to be interpreted in light of one's preferred theory, often retrospectively to deflate criticism and maintain an undue commitment to it. In Sigmund Freud's psychoanalysis, for instance, the very same childhood experience may somehow simultaneously support evidence for two extremes of subsequent adult behavior. The central principle of this theory was "so general as to be compatible with any particular observations."⁷ Einstein's theory was different because it had explanatory power but also made quite surprising and new predictions that were specific enough to refute the theory if not observed. Thus, Popper thought that the difference between science and "pseudoscience" is that science does not proceed by confirmatory instances but rather by bold conjectures which can be falsified, exposing the theory to risk.⁸ Theories are thus perpetually tentative, and once falsified, the rational scientist should abandon the theory.

Revolutions are messy affairs because they are not entirely rational.

This picture of how science should be bothered Thomas Kuhn. Kuhn argued that Popper's rational account failed to show how science is actually done. For Kuhn, science is what scientists do, and they certainly do not abandon their theories at the first signs of trouble. Instead, they usually treat contradictory evidence as anomalies and work to account for them by tweaking the theory or otherwise resolving them. Science is also much more social than Popper supposed and generally consists of three progressive phases: normal science, crisis science, and revolutionary science.⁹ During normal science, scientists are dogmatically trained, brainwashed even, in the dominant paradigm and work within this paradigm puzzle-solving but not questioning basic underlying assumptions.¹⁰ But sometimes puzzles cannot



The similarities between the Boyd OODA loop and this general version of the scientific method are striking. (Figure provided by author.)

be solved and anomalies will not go away, which causes a period of crisis in science whereby the paradigm itself begins to be questioned rather than the contradictory evidence. Though the paradigm is now in question, it persists until a compelling alternative is available and enough scientists make the switch that a revolution occurs. Revolutions are messy affairs because they are not entirely rational. Often, scientists

cism—scientific defense in depth, as it were. One might imagine scientists falsifying in the Popperian belt while preserving the Kuhnian core. Though it seems as if Lakatos keeps the best of both worlds, he has trouble accounting for how his research programs make progress beyond suggesting that their protective belts will generate new predictions while degenerating research programs start to merely react to contradictory evidence. Then as now, the matter of exactly what counts as science remained unsettled.

Despite the chronological order presented, these conceptions are not progressively closer to a true picture of what makes science unique. The debate continues because each conception comes with its own set of limitations and contradictions. Yet, conspicuously absent from them is any kind of reference to a particular method, though the "false belief that the scientific method consists in the application of a ready-made technique" persists.¹² This belief is known as scientism: science is appropriate or even able to solve all manner of human problems.¹³ Even Boyd's DOD-ubiquitous OODA loop is a close analog to the classic "observe, hypothesize, experiment, conclude" formulation.¹⁴ But the form of science is not its substance, any more than the character of war represents its nature. Instead, science is a unique way of generating knowledge because it transforms experience "into bodies of knowledge consisting of propositions which have the dual characteristics of effective stability

switch because of social factors: youth, personal idiosyncrasies, or "accidents of history," among other reasons.¹¹ Kuhn's account of science is thus more social and less rational than Popper's, but it emphasizes how science is done, not how Popper thinks it should be done.

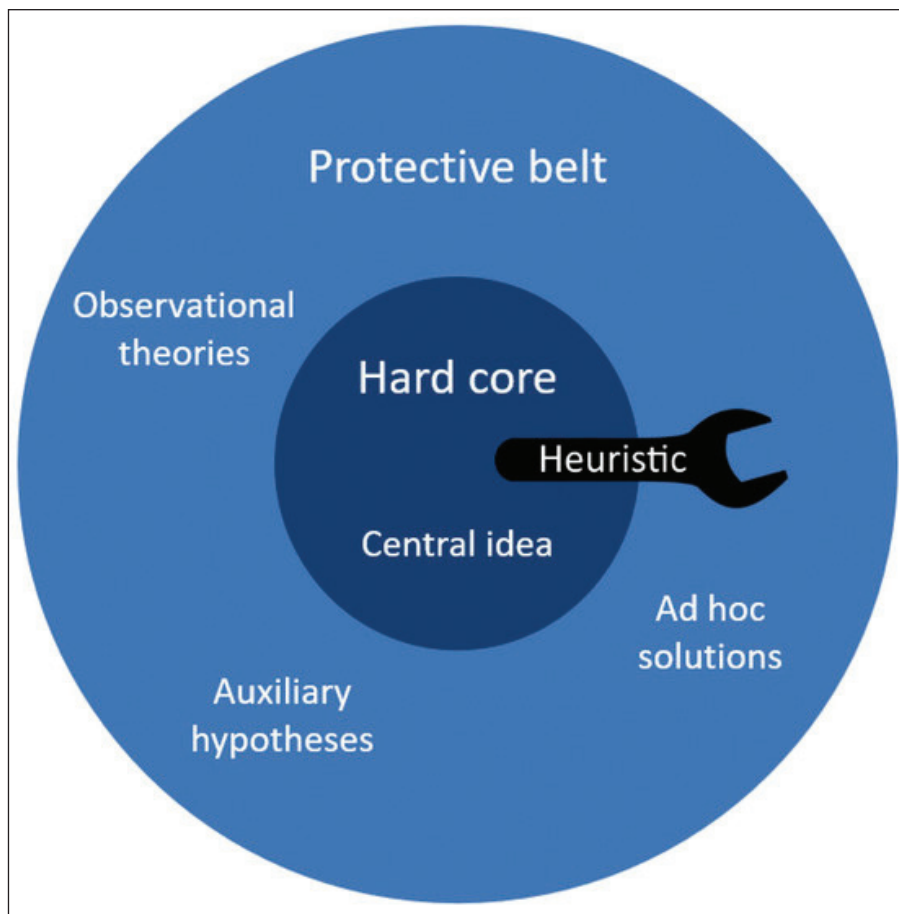
The Hungarian philosopher Imre Lakatos saw beneficial aspects of both conceptions and worked to reconcile the two into a unified picture of science. Lakatos wanted to acknowledge Kuhn's emphasis on social factors but thought an overreliance on such reduced his picture of science to "mob psychology," so it was prudent to also preserve some of its Popperian rationality. To that end, he put forth a concept of science consisting of research programs, consisting of a hard core of basic principles beyond reproach, shielded by a protective belt of claims to insulate the core from criti-

and predictive value.”¹⁵ What we value about scientific theory is not only the explanatory coherence it provides, but more critically, its potential to provide accurate predictions. What we value about military theory is the explanatory narrative it seemingly provides, but what we too often naively hope is that such narratives will also generate accurate predictions—that patterns of conflict will continue unabated into the future.

Though the debate over the essence of science continues, we accord science a special status because it seems to objectively systematize our experience, the better to understand and sometimes control nature. On the other hand, many tend to view anything that purports itself to be scientific as solved—at least tentatively—and less subject to critical examination. So, should we extend this status to maneuver theory? By the standards of Popper, Kuhn, or Lakatos, the answer has to be no.

The core prediction of maneuver theory is essentially that more rapid adaptation via faster decision cycles will increase situational awareness, causing the slower adapter to panic, become unglued, and lose coherence. This is such a general prediction that it is very difficult to falsify, which means its limited exposure to risk makes it more akin to pseudoscience than science.¹⁶ In fact, it developed in the same retrospective manner as psychoanalysis, interpreting evidence after the theory was already developed: “and those are sort of the ideas or notions [generate rapidly changing environment, inhibit enemy adaptation, etc.] I had in my mind before I dove into my historical investigation.”¹⁷ Even if we grant the theory as falsifiable, it seems to have already been falsified—at least at the strategic level. How did our faster tempo contribute to what Boyd would call a grand strategy in Afghanistan? How will it affect a more methodical or deliberate adversary—or one with great patience?

Maybe recent calls to rewrite *MCDP 1* and our recent counterinsurgency experience can be considered Kuhnian anomalies challenging the core maneuver theory paradigm. By the Kuhn model, are we in the normal period,



According to Imre Lakatos, a research program consists of a hard core and a protective belt to shield it from being too easily abandoned. The hard core of maneuver theory is that a faster decision tempo relative to an adversary induces friction and eventually causes them to become “unglued.” (Figure provided by author.)

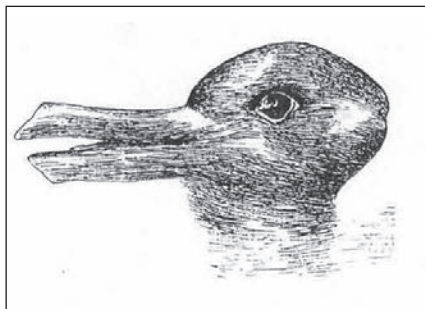
The core prediction of maneuver theory is essentially that more rapid adaptation via faster decision cycles will increase situational awareness ...

more or less all in agreement about our doctrine? Or are we in the crisis period, with anomalies and inconsistencies starting to pile up, only waiting to switch to revolutionary theory after a few more anomalies and a plausible alternative is suggested? Regardless, maneuver theory seems unscientific by Kuhn’s standard because its stagnation, cautioned against by its original proponents, suggests it lacks the special tension between acceptance and criticism that is characteristic of good science. Maneuver theory then starts to look

most like Lakatos’ science, whereby the central claim of dictating conditions through rapid decision making is the core, and any cracks therein are a result of our misapplication or insufficient comprehension of the theory—protective belts to preserve the core. Even so, the maneuver research program seems to be degenerative, responding to criticisms but not making new predictions.

To say maneuver theory is not scientific is not to say that it is not useful. The theory, like other ways of systematizing knowledge apart from science, makes

true and important contributions to our conception of war and our ability to wage it. But we should be careful to acknowledge that its underpinnings, while influenced by Boyd’s scientific emphasis, do not give it a scientific status. This distinction matters. Once we acknowledge that the theory is not scientific, we acknowledge that it is perhaps more contingent and tentative than we would otherwise believe, which should make us more willing to adjust our doctrine in light of experience. The kind of truth reserved for Newton’s second law or the Second Law of Thermodynamics cannot be said for maneuver theory. Instead, we should embrace the theory with optimistic skepticism in the spirit of scientific inquiry, open to modifying our protective belts or even replacing the paradigm with advancements in theory as suggested by Gen Krulak in the foreword to the 1997 rewrite.



Kuhn used the duck-rabbit illusion to demonstrate a paradigm shift. Depending upon context, one may see a duck, a rabbit—or both—and at different times. Boyd also emphasized orientation’s primacy relative to the other actions in his loop. (Photo provided by author.)

tural style that Boyd preferred: “This isn’t a recipe or a formula or *the* way to think about conflict. This is *a* way, and I can’t emphasize that enough.”²⁰

With that in mind, let us consider the falsified aspects, solve the puzzles, and

We can start by asking if the rapid cycling of the OODA loop truly scales across all levels of war.

What Boyd bequeathed the Marine Corps is no doubt a valuable theory, based in turn on scientific theories, but ultimately validated only through the necessarily linear nature of past analysis “collected in a millennia’s worth of recorded history.”¹⁸ This is a truism of military theory: there is scarcely a scientific way of testing it, short of war. Ironically, while strains of scientism in the DOD writ large have seeped onto maneuver theory, Boyd himself never called his theory scientific. Instead, he emphasized “theory spread over a scientific backdrop as the medium for discussion,” and seemed to use his definition of science as “a self-correcting process of observations, analyses/synthesis, hypothesis, and test,” as a way to recognize, create, and ultimately benefit from mismatches between observation and reality.¹⁹ Yet, I would argue that most of the Marine Corps has come to see it as something proven, closer to a scientific law than the “bits and pieces” con-

modify the protective belts of the theory to more closely align our doctrine with our experience. We can start by asking if the rapid cycling of the OODA loop truly scales across all levels of war.

Notes

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3. Robert P. Pellegrini, *The Links Between Science, Philosophy, and Military Theory* (Maxwell AFB: Air University Press, 1997).
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19. “A Discourse on Winning and Losing.”

20. Dan Grazier, “Patterns of Conflict: Part 1,”
YouTube, 25:11, December 7, 2015, <https://www.youtube.com/watch?v=9iiQlBaGJQA&t=6s>.



Adapt or Die

The maneuver warfare imperative *MCDP 1* ignores

by Maj Marc D. Jessup

Philosophy, not prophecy; innovative, not inviolate—*MCDP 1, Warfighting*, is a living document long past due for revision. *MCDP 1* was not written as a stone epitaph; yet, for a quarter century, that is how the Marine Corps has treated it—an exegesis to be exalted, rather than a paradigm to be parsed. The prohibition on this lapse could not be starker than the injunction in the foreword to the 1997 revision: “*Warfighting* can and should be improved. Military doctrine cannot be allowed to stagnate, especially an adaptive doctrine like maneuver warfare.”¹ Improvements are warranted and overdue.

First, *MCDP 1* needs a bold disclaimer: the publication is only a starting point for professional competence in maneuver warfare. Second, it needs a refined focus—warfighting—with expanded horizons; maneuver warfare does not apply to everything, but it applies to much more than the physical battlefield. Third, it needs a deeper appreciation of time and adaptation; time is the constant feature of all systems competition, and adaptation is the engine that underwrites successful competition.

MCDP 1 needs a bold disclaimer. Maneuver warfare is a complex and nuanced paradigm in which *MCDP 1* is neither alpha nor omega. Rather, *MCDP 1* is a foundational summary, written for simplicity and broad accessibility. This fact needs to be formalized in the publication itself as a catapult to compel centrifugal, rather than centripetal, study.² Put differently, *MCDP 1* is not a self-licking ice cream cone; the study of maneuver warfare might begin with *MCDP 1*, but to conclude there is a severe and reckless disregard for professional intellect. If maneuver warfare is truly the Marine Corps’ phi-

>Maj Jessup did not provide a bio.

losophy for winning America’s battles, then Marines ought to have a depth of professional familiarity exceeding a 45-minute read. The gravity of its subject—a *warfighting* philosophy—makes this imperative intransigent.

MCDP 1 also needs a refined focus. The present edition bizarrely suggests maneuver warfare applies to everything the Marine Corps does: “[w]hether the mission is training, procuring equipment, administration, or police call, this philosophy should apply.”³ This is wrong. Systems competition between two hostile and irreconcilable wills furiously operating complex decision-making models where proper orientation paired with superior adaptation and its

component parts of variety, rapidity, harmony, and initiative (VRHI) can induce the adversary system to collapse *is not a philosophy suited to everything*.⁴ This is an incoherent paradigm to conduct a court-martial, manage a maintenance cycle, balance a budget, pilot a promotion board, and a myriad of other military matters. If maneuver warfare applies to everything, then it applies to nothing and no one cares about it. *MCDP 1*’s institutional relevance should accord with the implacable gravity of its subject—a *warfighting* philosophy sufficient to “secure or protect national policy objectives by military force when peaceful means alone cannot.”⁵ The Marine Corps undermines the institutional relevance of maneuver warfare by rendering it a ridiculous panacea for all ills.

While *MCDP 1* needs a refined focus, it also requires a more holistic scope. The current publication retains



Is maneuver warfare only truly relevant to ground combat units at the tactical level? (Photo by LCpl Adam Montero.)

an unhealthy gaze on the physical battlefield.⁶ The overplayed and dubious dichotomy *MCDP 1* cultivates between attrition warfare and maneuver warfare⁷ is a prime example that draws the reader into a universe of *Materialschlacht*,⁸ obfuscating maneuver warfare as a “moral-mental-physical”⁹ defeat mechanism.¹⁰

MCDP 1 describes attrition warfare in purely physical terms.¹¹ Maneuver warfare is presented as its opposite, but the emphasis on the physical battlefield remains: “[f]irepower and attrition are essential elements of warfare by maneuver ... [maneuver warfare] may involve outright annihilation of enemy elements.”¹² The emphasis on the physical battlefield even carries through to the maneuver warfare examples *MCDP 1* highlights: the German invasion of France in 1940, the failure at Anzio in 1944, the breakout from Normandy in 1944, Inchon in 1950, etc.¹³ Emphasis on the physical battlefield is also prominent in Chapter 4 (“The Conduct of War”): firepower and speed are discussed in the context of the physical battlefield, shaping actions “render the enemy vulnerable to attack, facilitate the maneuver of friendly forces, and dictate the time and place for decisive battle,”¹⁴ combined arms embraces mobility and firepower in a terrestrial melee.¹⁵ None of this is wrong; maneuver warfare is entirely applicable to the physical battlefield, but its application vastly exceeds this limited arena.

This emphasis on the physical battlefield is a particularly glaring difference between John Boyd’s nuanced conception of maneuver warfare and *MCDP 1*’s blunted summary.¹⁶ Boyd believed the most efficient and effective warfighting systems will synthesize attrition warfare (exploiting kinetic means in the physical domain),¹⁷ maneuver warfare (exploiting an information differential),¹⁸ and moral warfare (severing an adversary’s internal cohesion)¹⁹ into a unified whole that will “[d]estroy [the] adversary’s moral-mental-physical harmony, produce paralysis, and collapse his will to resist.”²⁰ This holistic concept includes, but far exceeds, the physical battlefield—the opponent is not merely pitting strength against

weakness on the field of battle but rather destroying the adversary’s systemic moral, mental, and physical harmony.²¹ Put differently, Boyd expects successful warfighting systems to utilize a combination of destructive force (attrition), an escalating information differential (maneuver), and friction aimed at inciting internal alienation (moral) to “produce paralysis and collapse [the adversary system’s] will to resist.”²² While *MCDP 1* does not entirely blunder past this theme,²³ its plane of engagement is usually couched in the physical battlefield and this presents a stunted view of maneuver warfare.²⁴

Third, *MCDP 1* needs a deeper appreciation of time and adaptation. Maneuver warfare is incoherent apart from time. Time is implacably pervasive and domineering in every aspect of conflict (and even the peaceful preparation for the contingency of conflict). It “defines the limits of political and military power. It defines the possible and impossible. In short, there is no understanding warfare apart from time.”²⁵ Accordingly, time is a uniquely uniform feature of all systems competition. Yet, *MCDP 1* offers a severely undersized and elementary appreciation of time; it recognizes only one aspect of time—frequency—and demands only one application: be faster relative to the adversary.²⁶ This approach disregards the other characteristics of time—duration (the temporal span of a conflict), opportunity (“time-sensitive decision point[s]”²⁷), and sequence (“the order of events”²⁸)—and only accords advantage to a unidirectional view of frequency.²⁹ For brevity, consider just one illustration of how limited a unidirectional view of frequency is: in his book, *Fighting by Minutes*, Robert Leonhard acknowledges the advantage of high frequency (*MCDP 1*’s traditional view of tempo); however, he also persuasively illustrates how low frequency can be similarly exploited with decisive effect. Essentially, operating at a tempo beneath an adversary’s expectation precludes the adversary’s effective orientation (mirroring the impact—impaired orientation—of high frequency, only with a vastly different kind of tempo and associated systemic economy).³⁰ Leonhard cites

a variety of examples in the context of small wars to illustrate this point and concludes that the United States has normalized a frequency of conflict and has difficulty responding to adversary operations beneath this frequency.³¹ Leonhard’s studious examination of time generates dazzling illumination that adds significant depth of insight to the philosophy of maneuver warfare.

MCDP 1 also needs an explicit discussion of adaptation as the engine of systems competition and its component parts of VRHI. These components are *fundamental* to John Boyd’s conception of superior adaptation;³² however, their treatment in *MCDP 1* is oblique and glancing at best.³³ Nonetheless, these concepts underwrite much of what *MCDP 1* does explain; for example, mission tactics generate superior adaptation *because* they incorporate harmony (a commander’s intent) without jeopardizing variety, rapidity, or initiative.³⁴ While *MCDP 1*’s discussion of mission tactics and commander’s intent is excellent, it would be materially improved by direct association with the fundamentals of systems competition: adaptation and VRHI.

The success of the Marine Corps demands a warfighting philosophy characterized by reasoned adjustment, not regimented adulation. *MCDP 1* is concise, not complete. Maneuver warfare is a complex subject and *MCDP 1* must regard itself as a starting point on the path to professional competence. Further, unless the gravity of its subject is cut loose from universal applicability, its institutional relevance will remain flagging and professional study suppressed. A philosophy suitable for everything is suitable for nothing. *MCDP 1* expresses a *warfighting* philosophy, and it should be so constrained; however, it must also embrace a more holistic vision of this subject. *MCDP 1*’s undue emphasis on the physical battlefield obscures the mental-moral-physical defeat mechanism that maneuver warfare champions. Finally, proper handling of this holistic outlook cannot be sundered from a deep appreciation of time and adaptation. Time accords to maneuver warfare as gravity to physics—it is incomprehensible without it. Similarly,

adaptation and its component parts of VRHI underwrite the application of maneuver warfare and must be made prominent.

MCDP 1 is a living document; thus, these changes will not finish it, only improve it and that is precisely what *MCDP 1* demands. “*Warfighting* can and should be improved. Military doctrine cannot be allowed to stagnate, especially an adaptive doctrine like maneuver warfare.”³⁵ Put simply: perfection is a myth; all systems adapt or die; *MCDP 1* draws no exception.

Notes

1. Headquarters Marine Corps, *MCDP 1, Warfighting*, (Washington, DC: 1997), *Foreword*.
2. While *MCDP 1* does plainly command individual study of the profession of arms, it does so on general terms. See *Ibid.* Further, it does not identify its substance as a summary or mere starting point for professional competence with maneuver warfare; to the contrary, it regards its content as the warfighting philosophy of the Marine Corps, without caveat or disclaimer, and ordains internal study of the publication itself, not external exploration to obtain maneuver warfare mastery. The Foreword and Preface are particularly striking examples of this feature.
3. *Ibid.*
4. Opting for *MCDP 1*'s summary description of maneuver warfare does not improve this prognosis; consider: “[m]anuever warfare is a warfighting philosophy that seeks to shatter the enemy’s cohesion through a variety of rapid, focused, and unexpected actions which create a turbulent and rapidly deteriorating situation with which the enemy cannot cope.” *Ibid.*
5. *Ibid.*
6. See Scott H. Helminski, “No Room for Maneuver: The Reduction of Maneuver Warfare from Cognitive Approach to Physical Concept in Marine Corps Doctrine, Discourse, and Education,” (paper, U.S. Marine Corps Command and Staff College, 2017).
7. See William F. Owen, “The Manoeuvre Warfare Fraud,” *Small Wars Journal*, September 5, 2008, <https://smallwarsjournal.com/jrnl/art/the-manoeuvre-warfare-fraud#:~:text=The%20concept%20of%20Manoeuvre%20Warfare,and%20generic%20concept%20of%20operation;B.A.Friedman,“Maneuver+Warfare:+A+Defense,”+Marine+Corps+Gazette,+December+1,+2014,+https://mca-marines.org/blog/gazette/maneuver-warfare-a-defens> (“The biggest problem for maneuver warfare proponents is the simplistic maneuver versus attrition warfare dichotomy that occupies a central place in the document. There is really no such thing as attrition warfare: there has never been an attrition warfare theorist or book that proposed that attrition warfare should be utilized. Rather, attrition warfare serves as a straw man against which to compare maneuver warfare.”).
8. A German word roughly translated “material battle;” an important inclusion here since no essay on maneuver warfare is complete without some talismanic incantation of at least one German military phrase.
9. John R. Boyd, *Patterns of Conflict* (unpublished manuscript, 1987).
10. See “No Room for Maneuver;” See “Maneuver Warfare: A Defense.”
11. “Warfare by attrition pursues victory through the cumulative destruction of the enemy’s material assets ... An enemy is seen as a collection of targets to be engaged and destroyed ... the logical conclusion of attrition warfare is the eventual destruction of the enemy’s entire arsenal ... The attritionist tends to gauge progress in quantitative terms: battle damage assessments, ‘body counts,’ and terrain captured ...” etc. *MCDP 1*.
12. *Ibid.*
13. *Ibid.*
14. *Ibid.*
15. *Ibid.*
16. See “No Room for Maneuver.”
17. *Patterns of Conflict*.
18. *Ibid.*
19. *Ibid.*
20. *Ibid.*; See Frans Osinga, “‘Getting’ A Discourse on Winning and Losing: A Primer on Boyd’s ‘Theory of Intellectual Evolution,’” *Contemporary Security Policy* 34, no 3, (2013).
21. *Patterns of Conflict*, 136; “No Room for Maneuver.”
22. *Patterns of Conflict*.
23. *MCDP 1*.
24. “No Room for Maneuver.”
25. Robert R. Leonhard, *Fighting by Minutes: Time and the Art of War*, (Santa Barbara: Praeger, 1994).
26. *Ibid.*, (defining frequency as: the “pace at which things happen ... the tempo of events.”); *MCDP 1*, (“speed over time is tempo—the consistent ability to operate quickly.”).
27. *Fighting by Minutes*.
28. *Ibid.*
29. *Ibid.*; and *MCDP 1*.
30. I.E., disrupting an adversary’s orientation by operating at an incoherently low (as opposed to high) frequency, is often a more economic and efficient use of resources in comparison to high frequency which naturally is more resource intensive.
31. *Fighting by Minutes*. While Leonhard published in 1994, his conception of frequency presciently describes America’s contemporary struggle to challenge the various gray-zone activities of peer adversaries—operations exceeding international customs and the liberal order but ostensibly lingering beneath the so-called threshold of war.
32. *Patterns of Conflict*; “‘Getting’ A Discourse on Winning and Losing.”
33. For example, *MCDP 1*'s handling of mission tactics, commander’s intent, and implicit communication *approximately* grasps at harmony. See *MCDP 1*. Nonetheless, these touchpoints are largely centered on overcoming friction and uncertainty; they do not incorporate the associated components of variety, rapidity, or initiative or contemplate the VRHI quartet as collective enablers of superior adaptation. Like analysis obtains for the other components individually—variety, rapidity, and initiative receive glancing and solitary handling. At no point does *MCDP 1* explicitly tie these components together or describe their critical interplay in enabling superior adaptation.
34. See *MCDP 1*.
35. *Ibid.*

#CANCELMOLLY

A futuristic tale of operations in the information environment

by Maj Brian Kerg

Marine Corps Base Quantico, VA. 12 June 205X
LtGen Molly Spears slipped, caught herself, and swore.

Her aide-de-camp, Maj William Troy, hurried to her side. “You alright, Ma’am?”

“I’m just fine, Bill,” she said, waving the major aside, “It’s these damn pumps, and the skirt doesn’t help either. I’m just not used to wearing this stuff. I haven’t had to in years. I’ll be glad when they’re phased out next month, and we can all stick to slacks and oxfords.”

Bill grinned. “Yeah, I had to dust off the uniform regs to see how to prep your Service Alphas with the skirt instead of pants. But it’s just for the photo, ma’am. I’ve got your normal kit ready in the garment bag.”

“As long as it’s ready for the confirmation hearing,” Molly said, “And don’t go leaving your cover behind in Quantico again before we leave for DC! The senators might grill me a little harder if they see you trailing behind me with one hand on top of your head like a recruit.”

“Aye aye, Ma’am,” Bill said, smirking.

Leaving the conference room, the pair walked down the hall of Marine Corps University’s Gray Research Center, heading toward the exit. Bill stopped suddenly, riveted by a painting on the wall.

Molly stopped beside him and followed his gaze to the now familiar image.

“I knew the History Division had a combat artist paint this,” Bill said, “But

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I’ve never seen it in person.”

The painting depicted a littoral fire-fight. Under fire, Molly—then a captain—leapt from a jet ski, rifle in hand, to board a patrol boat of the People’s Armed Forces Maritime Militia. Her recon platoon followed behind her,

some on jet skis, others farther back in a rigid-hulled inflatable boat, laying down a base of covering fire. The faces of the Marines showed equal parts desperation and defiance.

Almost involuntarily, Bill glanced at the navy blue, white-striped ribbon at the



The original “Molly Marine” statue stands at Marine Corps Recruit Depot Parris Island, SC. (Photo by LCpl Michelle Brudnicki.)

top of Molly's ribbon rack, the Navy Cross she earned during the action depicted in the painting.

"I just did what any Marine would do," Molly said. "We made the best out of a bad situation, and got lucky." She strode forward and through the set of double doors leading outside. Bill hurried after her.

On the front lawn, the public affairs team stood ready beside a statue of a female Marine. Sighting the general, the team came to life, appeared a little busier, and stood a bit taller. Molly waved them at ease and stood beside the statue.

Molly sighed internally, enduring the usual exchange of formality between her and the young public affairs officer, keeping a stoic front for the benefit of the young Marines. After, the team went into action, taking photos, asking questions and recording the answers to prepare for release on the Marine Corps' official social media accounts.

"Ma'am," the public affairs officer asked, "Thank you for joining us to honor the latest anniversary of the Women's Armed Forces Integration Act. We know your time is valuable—every general is busy, especially when you've been nominated to serve as the next commandant! Can you tell us your thoughts about the importance of today's anniversary and why you're appearing in a uniform that the Corps is phasing out?"

Molly nodded. "It's no coincidence that I carry the same name as this statue, 'Molly Marine.' My parents were Marines, and they named me after her," she said, glancing at the figure.

"She honors all those women who came before her and serves as inspiration for all those who will come after. In one hand, she holds a book said to carry the history of female Marines. In her other hand, she carries a set of binoculars to look forward to the future of our Corps. Today we might consider her uniform outdated—indeed, we are

phasing out the skirt and pumps I'm wearing to bring all Marines closer to a single standard, uniforms included. But 'Molly Marine' shows us how far women have come, and how far we've

ago—deterrence failed. Deterrence by denial doesn't work when you can't present a credible threat until after the fact."

Help the Americans believe what they're already prepared to believe. There are groups on both sides of the aisle that are just waiting for the next scapegoat.

had to fight to get here." The general gestured to her own skirt with one hand and to the statue's with the other. "It's my goal to honor that legacy by standing in solidarity with Molly, one last time."

Unit 54777 (Psychological Operations), GRU, Moscow, Russia.

Col Irina Bravikova read the tweet and slowly smiled.

"Kozlov!" she called, waving over her deputy.

Maj Micah Kozlov hurried across the watch floor to Irina's desk. "Yes Ma'am?"

"We've got our opening," Irina said, pointing at her screen. "Take a look."

Micah leaned in. The tweet was from the official Marine Corps Twitter account. It featured a photo of LtGen Spears standing beside the statue of Molly Marine. Spears wore a skirt and pumps, matching those of the statue. The body of the tweet commemorated the service and legacy of women in the Marine Corps.

"Forgive me, I'm not following," Micah said.

"Right now, Marine expeditionary advanced bases only pop up when tensions rise," Irina said. "We don't care, because by then it's too late and we've already achieved our objective. It's why the Americans and the Chinese ended up in a shooting match all those years

Irina pointed an accusing finger at her computer screen. "Spears has been the chief architect of Force Design 2060. If approved, it will put Marines inside our sphere of influence, on a rotating basis, permanently. Their tagline of 'persist forward indefinitely' won't just be a tagline anymore. There are a lot of opponents to her plan, but if she gets confirmed as the next Commandant of the Marine Corps, she'll see it through to fruition."

Micah's eyes raised, understanding. "But if she doesn't get confirmed ..."

Irina nodded. "Exactly. And if we help our American friends see this photo the right way, they'll cancel Spears in a heartbeat. And her plan, tenuous as it is, will be forgotten. No Spears, no Force Design 2060."

"I'll get the team together," Micah said. "We can start rolling something out by this evening. What's our focus? Put a skeleton in her closet? The team has a few new options from the playbook they've been hoping to try."

Irina shook her head. "A gentle hand, Micah, with proven plays. Help the Americans believe what they're already prepared to believe. There are groups on both sides of the aisle that are just waiting for the next scapegoat. If we tailor the message to the fault lines, Americans will do all the hard work for us. We just need the right groups to take a closer look at Molly Spears."

Hearing before the Senate Armed Services Committee, U.S. Capitol Building, Washington, DC.

Having just parried the latest round of questions, Molly allowed herself a sigh of relief. It's going better than I expected, she thought. She stretched her legs beneath the table, filled with a new appreciation for the comfort of her slacks and oxfords.

Senator Howard Gordon lifted his tablet, adjusted his glasses, and leaned forward to read his next question. "General Spears, I'd like to talk about the future. I'm familiar with what you're proposing in Force Design 2060. But the rest of our audience might not be, and I want to ensure you have a chance to explain, personally, what you're getting after."

"Thank you, Senator," Molly said. "If you will, allow me to step to the past to help understand the future. I joined the Corps just as *Force Design 2030* was reaching maturation, and I saw firsthand what the fight was like under that model. And a lot of Marines died because we still had to 'fight to get to the fight.'" She let that hang, giving the comment extra time by taking a sip from her glass of water.

"Don't get me wrong," she continued. "It was a great model, but it was still vulnerable because we—the Marine Corps—couldn't be where we needed to be in time for it to matter. And the time when it matters is before escalation begins. Force Design 2060 isn't as revolutionary as it seems—it simply takes the force we have now and ensures it is forward deployed all the time. This will let our sensors and shooters act as an extension of the Navy's fleet, and facilitate entry of naval and joint forces into theater. And to do that, we'll trade on obsolete structure and build more Marine Littoral Regiments. This way, Marine Littoral Regiments can deploy rotationally with the same reliability as the MEU of old, ensuring we always have a deterrent presence in the littorals of our adversaries."

There were murmurs of assent from the members of the committee. Molly wanted to smile but repressed it. She sensed the room, knew she was on the cusp of success, had seen the same group momentum in the countless briefs she'd given in the past. If the conversation stayed on the rails, she'd be a shoe-in. I just might be the first female commandant after all, she thought. She thought once more of Molly Marine, and the women that had blazed the trail for her to reach this moment.

A congressional aide approached the bench, whispered into the ear of Senator Janine Rathskill, and hurried away. Rathskill raised an eyebrow, looked at her tablet, then cleared her throat.

"All this is very fascinating, general," she said. "But I think we could benefit from some clarity on how else you plan to change the Corps. Is it your intention to keep female Marines dressing differently from males? Do you want to keep female Marines 'in a box,' so to speak?"

Molly raised an eyebrow. "No, senator," she said. "Nearly all uniform requirements across the service are exactly that—uniform. The last gender-specific items, which have been optional wear at the service member's discretion for over a decade, will be phased out by month's end."

Rathskill scratched her chin. "I've got to admit, I'm a bit confused at your intentions, when you seem to be promoting the very gender divide you claim to be fighting against."

She tapped on her tablet, and it projected a holographic display of the photo that Molly took just yesterday, photoshopped to put an apron over Molly's uniform. The image was embedded in the tweet of a story from the *New York Times*, reading, "The Few, the Proud, the Feminized: The Next Commandant Will Lead the Women of the Corps Back to Domestic Slavery." Floating beside it was a feed of live tweets scrolling beside it, all negative. A common hashtag kept appearing in every tweet: #CancelMolly.

Rathskill shook her head. "Isn't Ductus Exemplo, 'lead by example,' still the motto at Officer Candidates' School?"

Molly wouldn't allow herself to rise to the bait. "Senator, you know our history as well as I do. That was the uniform the first women in the Corps were required to wear. While I agree in phasing it out and standardizing the attire of all Marines, it was perhaps the last chance I'd have to stand in solidarity with those women came before me."

Senator Walter Gray grunted from his chair. Fidgeting with his own tablet, he projected a different image, this one showing the photo of Molly through a rose-tinted filter. The picture was edited to make Molly appear small, fragile, and impossibly young to be wearing three stars on her shoulders. It was embedded in a story from *One America News Network* titled, "Every Marine A Rifle-Woman? Next Commandant to Lower Standards, Open Floodgates for Our Daughters to Lose the Next War." Again, a live feed of condemnatory tweets scrolled beside the story, carrying the hashtag #CancelMolly.

"It's no secret to my constituents," Gray wheezed, "that the Corps has been lowering standards to get more women into combat arms. Maybe that's why our little spat with China ended in a draw instead of a win for our homeland. This latest stunt just proves your nomination to be the first female commandant is nothing more than meat being tossed to the President's base. I won't abide it."

Molly clenched her teeth, biting back the easy, low blow that Senator Gray hadn't been in a position to meet a single physical standard for any military branch his entire life. I'll think it, but I won't degrade myself by saying it, she thought.

The other senators tapped at their devices, and hologram after hologram popped up, showing the accelerating churn of developing stories and interactive polls sweeping across social media, pushed by influencers, celebrities, and interest groups across the political spec-

trum. The stories, tweets, and headlines cascaded down the air in the Capitol Building, a digital waterfall of online outrage:

“The statue of Molly Marine sexualizes women and should be torn down! #CancelMolly.”

“Gen Spears will be putting our boys in skirts next. #NotMyCommandant #CancelMolly.”

“Women were not meant to fight wars. China is laughing at America today. #AmericaFirst #CancelMolly.”

“The skirt is a symbol of oppression and this ‘general’ should know better. #CancelMolly.”

Molly took a breath to steady herself, then slowly stood. Her commanding presence silenced the muttering from the senators, and they tore their eyes from the digital mudslinging and gave their attention to Molly.

She pointed first to the eagle, globe, and anchor on the lapel of her blouse. “I was with the first class of fully integrated men and women within the same platoons at Officer Candidates’ School, when gender-neutral standards were set. I exceeded every standard, and broke a few records, to earn the title, ‘Marine.’”

Next, she pointed to the jump wings and dive bubbles over her left breast pocket. “I was the first female reconnaissance officer. I exceeded every standard that was set for the job. The standard was the same for men and women.”

Her finger slid down to the navy blue, white-striped ribbon at the top of her ribbon rack. “And for actions during our ‘spat’ with China, I became the first female Marine to receive the Navy Cross.” Finally, she pointed to her Purple Heart. “And I almost died in the process.”

She let her gaze travel across the room, meeting each member of the Senate Armed Services Committee in the eye. “Unless anyone else wants to challenge

my credentials, or my commitment to our Nation, I’d like to get back to discussing how I’d plan to prepare our Corps for its next fight.”

For a moment, the room was silent. But one by one, the senator’s eyes flicked back to their tablets and feeds showing the furious digital howls of the online electorate.

Unit 54777 (Psychological Operations) GRU. Moscow, Russia.

Irina and Micah clinked glasses, shot their vodka, and laughed, slapping each other’s shoulders and backs. Behind them, their screens featured the headlines they’d conjured through the subtlest nudges of social engineering:

“Pressed on both sides, President withdraws nomination for Spears.”

“Future commandant gets #Cancelled, forced into retirement.”

“Molly Marine statue, deemed ‘an edifice to sexism,’ to be torn down.”

“Corps scraps Force Design 2060, mulls return to traditional MAGTF.”

Irina kicked off her heels, fell back into her chair, and put her feet on her desk. “We did it, Micah, we did it! We made them eat their own!”

Micah nodded, smiling. “America lost a general, and Russia is about to gain one.” He pointed at the general’s shoulder boards sitting on her desk, ready for the promotion ceremony next week. “An early ‘congratulations’ is in order, Ma’am.”

Irina waved him down. “It’s not official until I’m wearing it. Don’t jinx me.”

Micah refilled their glasses, sat down, and turned his attention back to the headlines. “I just don’t understand how they keep falling into the same trap. We’ve been running plays like this on America for decades. We build a few dummy accounts inside of divided political groups, then feed a few stories to

the angriest voices. And then it’s off to the races as they blast the message we want to send. The Americans run the influence operation for us. In fairness, we should be paying them!”

Irina shook her head. “Not on our budget, we shouldn’t.”

Micah nodded back at the screen. A news feed showed a video of a crane driving up to the statue of Molly Marine aboard Quantico, surrounded by a watching crowd.

“Do you feel bad for her, at least?” Micah asked.

“I do,” Irena said. “I even feel bad for Gen Spears. But I don’t feel guilty. We are all soldiers, fighting in our own way. If there is anyone to blame, the Americans can look to themselves. A people that won’t stand for their values don’t deserve to keep them. And if they aren’t willing to learn from their history, they don’t deserve that, either.”

Together, the two soldiers watched the feed as the crane gripped the statue, which cracked under the pressure of the crane’s jaws. The crowd gave a frenzied cheer as Molly Marine crumbled to pieces. The book and binoculars she’d held fell to the ground. They shattered into a pile of chips and erupted into a cloud of dust, which was caught by the wind, and slowly blew away into nothing.

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Accountability Against Poor Leadership

An upgrade to the current FITREP process

by Sgt Austin T. Farrell

Across the Marine Corps, Marines of all ranks and MOSs have worked with a subordinate, peer, or superior who does little to nothing if it does not directly benefit themselves. Unfortunately, there is little action that can be taken to make a command aware of this. The selfish individual can generally check off all of the boxes to be displayed as a “good Marine” when being evaluated on paper. Vice versa, some leaders do not care for the Marines under their charge and simply only do enough work to get the job done or choose tasks that will only reward them. However, these approaches to leadership go against the very ideals of what it means to be a Marine and a leader. To address these issues, the Marine Corps needs to implement a 360-degree feedback section into the existing FITREP.

In 2016, it was estimated that more than 85 percent of all Fortune 500 companies are using a 360-degree feedback process.¹ While there are vast differences between the inner workings of the Marine Corps and a Fortune 500 company, there are many lessons to be learned from highly successful companies. A 360-degree feedback system incorporates feedback from an individual’s subordinates, peers, and supervisors—all of which is anonymous. For implementation into the Marine Corps, enlisted Marines would not see a change in their evaluation system until the rank of sergeant, keeping in line with the current FITREP model. For example, if a sergeant is a squad leader, their reviewing officer would send out the evaluations to a few members of the squad, other squad leaders within

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the platoon, and then the platoon sergeant. This similar layout would then continue to the platoon sergeants, company gunnery sergeants, etc. For the evaluations of officers, it would work in the same fashion; however, it would start earlier in their career when compared to enlisted Marines. However, if a Marine is in a unique situation such as completing a special duty assignment where it is not appropriate or possible to

The questionnaire typically includes questions concerning hard skills, MOS proficiency, as well as soft skills, such as leadership and personal behavior. The questionnaire allows for both open-ended and closed-ended questions, which enables the supervisor to receive both qualitative data and quantitative insights into the Marine’s overall performance. Some closed-ended example questions could be: Does this Marine strongly embody our core values? Does this Marine exhibit strong leadership skills? Does this person have strong interpersonal skills and help everyone feel welcome? Some examples of open-ended questions could be: How well

A 360-degree feedback system incorporates feedback from an individual’s subordinates, peers, and supervisors—all of which is anonymous.

receive reliable subordinate input, the subordinate portion could be waived for that period.

Proven benefits of implementing a 360-degree feedback system include increased self-awareness, increases in confidence, increased accountability, and a culture of professional open dialogue between Marines.² This addition to the current FITREP would also allow the Marine Corps to obtain a better understanding of a leader’s impact on morale and mission accomplishment outside of the command climate setting.

The feedback is usually obtained through a questionnaire sent to the individuals assisting in the evaluation.

does this person manage their time and workload? What would you say are this Marine’s strengths? What is one thing this Marine should stop doing? What is one thing this Marine should continue to do?³ A key benefit of the open-ended questions is that it requires more of an answer than just yes or no—this assists the evaluator in obtaining a holistic picture of the Marine.

For the Marine Corps to effectively implement this type of change, the following considerations would need to be observed. First, the questions listed on the questionnaire would need to have been built from research that can extrapolate the desired information, not

just questions agreed upon by a group of leaders. Secondly, once the evaluation of a Marine is complete, like other evaluation systems currently used, the Marine should be aware of their overall standing as compared to their peer group in MOS and the entire Corps. Lastly, the questionnaire being filled out should also be concise and to the point. On average, it should take the participant no more than fifteen minutes to complete; however, the questions selected should be experimented with to ensure accurate and needed information is obtained.

The improvement of our evaluation system should not be viewed as a threat to Marines in a leadership position, it should be viewed as a progressive change to better the future of the Marine Corps. Successful implementation would foster an environment where leaders are accustomed to receiving feedback. Not all feedback is negative. Feedback is a neutral tool to better help leaders understand their strengths and weaknesses as perceived by others.

Zack Zenger, a journalist that focuses on leadership development and building strengths, has identified that when analyzing 360-degree feedback, very seldom does he encounter an executive whose personal scores are accurately in line with the score he receives from others. This disconnect that has been identified in the corporate setting exists within the Marine Corps. So often are stories told about the dog and pony shows that exist to simply check off the boxes when it comes time for an inspection or whenever the higher leadership is around. Most Marines acknowledge that this type of behavior is counterproductive, and it does not accurately inform commands of the readiness of their units. The implementation of 360-degree feedback would hold all leaders accountable for their actions, both positive and negative. For example, many units within the Marine Corps operate in a location where their command is unable to see the day-to-day behavior or climate of the workplace. This type of review system would encourage leaders to do the right thing when no one is looking because now their work ethic and behavior will be

more accurately documented. Again, this system is not meant to be a threat to leaders, in fact, this system should either reinforce good leadership practices or identify and correct poor leadership.

Good leadership will be reinforced by positive feedback from subordinates, peers, and superiors—which will inform the Marines that their methods and style of leadership are effective. In addition, the Marine being evaluated will be rewarded for their good leadership by having a good rating on their

Every organization ever created will be subject to a few bad apples.

FITREP. The poor leadership that is brought to the surface from 360-degree feedback will provide the leader with information on how they are perceived by other Marines and help them better embody the Marine Corps leadership traits. Commanders and promotion boards will also have this information on their Marines' leadership ability. This gained information can then be used by the command to assist the Marine in improving their deficiencies, and if the Marine fails to make improvements, then commands can identify these shortfalls and the lack of effort to improve. Promotion boards can then use this information to effectively hold Marines accountable for their lack of leadership and lack of effort to improve by denying them the privilege of promotion.

Every organization ever created will be subject to a few bad apples. However, an organization should do everything in its power to ensure that those bad apples are not rewarded or promoted without addressing and fixing the issues those individuals are causing to the institution they are a part of. In conclusion, the implementation of 360-degree feedback into the current FITREP is a substantial improvement from the current top-down method of evaluation. Currently, there is no effective way for higher echelons of leadership to be aware of the

shortcomings of those leaders whom they do not interact with every day. Additionally, it is a common experience for service members who decide to leave active duty express to their colleagues' issues with their leadership and a lack of accountability.⁴ Implementation of a 360-degree feedback program would give Marines the ability to inform leaders of their perceived strengths and weaknesses while also providing the entire Marine Corps with an effective method of tracking performance and leadership potential.

Notes

1. Jack Zenger, "How Effective Are Your 360-Degree Feedback Assessments?" *Forbes*, March 10, 2016, <https://www.forbes.com/sites/jackzenger/2016/03/10/how-effective-are-your-360-degree-feedback-assessments/?sh=5843e351a690>.

2. Edge Training Systems Staff, "10 Benefits of 360 Degree Feedback," *Edge Training Systems*, n.d., <https://www.edgetrainingsystems.com/360-degree-feedback-benefits>.

3. Lyssa Test, "20 Questions You Should Be Asking in 360-Degree Performance Reviews," *Lattice*, April 19, 2021, <https://lattice.com/library/20-questions-you-should-be-asking-in-360-performance-reviews>.

4. This common experience has been gathered from talking to Marines that I personally knew who decided to EAS. These Marines were stationed across the Marine Corps; however, were all within the same MOS. Still, these issues are present in more than just one MOS, as I have talked to several marines across several different MOSs and all have known numerous Marines who EAS to cite the same reason.



One Does Not Simply Operate in the Arctic

Lessons learned from a month of amphibious operations above the Arctic Circle

by LCDR Allison Pelosi, Maj Jonathan Schoepf, Capt Blake Brennan,
LT Ryan Burmeister & Capt Joshua Foster

The DOD Arctic Strategy and the Department of the Navy Arctic Blueprint states the guidance of what is expected and needed from the force to achieve strategic objectives in the Arctic. Strategically, the United States views itself as an Arctic Nation; as such, naval forces will need the ability to deter competitors and respond to regional crises. Arctic deterrence will require expeditionary forces with the ability to flexibly project power and operate within the region. The arctic enables seabased power projection from vectors outside of traditional operating areas. The Navy and the Marine Corps must maintain the capability to support amphibious operations in *any clime and place*, including the Arctic. From early April to mid-May 2022, the USS Kearsarge Amphibious Readiness Group and 22d MEU conducted operations in the air, on land, and at sea—all above the Arctic Circle. There are many unique aspects of this environment that were not fully appreciated until we operated in the environment.

Pre-deployment training is never perfect and will never holistically capture all the operational variables that will emerge on a deployment. When the ARG/MEU teams are brought together, a unique fighting force is created with the blue and green side capabilities complimenting each other, neither as powerful nor capable as they could be without the other. As the ARG/MEU team sails across multiple regions and executes various operations, lessons learned are guaranteed. As the Navy

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>>>>LT Burmeister is the Deputy Information Warfare Commander with Amphibious Squadron 6.

>>>>>Capt Forster is the Recon Company Commander attached to the 22d MEU.



The term "Arctic" means all United States and foreign territory north of the Arctic Circle and all United States territory north and west of the boundary formed by the Porcupine, Yukon, and Kuskokwim Rivers; all contiguous seas, including the Arctic Ocean and the Beaufort, Bering, and Chukchi Seas; and the Aleutian chain.

Map depicting location of the Arctic Circle. (Graphic provided by author.)

and Marine Corps team travels to the Arctic more often to strengthen alliances and reassure partner nations of our commitment, lessons learned and firsthand experiences become increasingly crucial for safe and successful execution. Listed in this article is a short synopsis of some of the more challenging to quantify lessons we wish to share with a broader audience. The lessons learned will primarily focus on the functional level, emphasizing environmental impacts, aviation operations, readiness, sustainment difficulties, and command and control (C2) considerations.

Environmental Impacts

The Arctic Circle is further north than most realize—the circle begins 140 miles north of Fairbanks, Alaska. The Arctic is a dynamic, unforgiving, austere, and unpredictable operating environment. April and May typically bring in the mental image of spring flowers blooming and temperatures rising. However, the ARG/MEU had a different spring while conducting operations in the Arctic. To paint a picture, frequent and strong low-pressure systems brought gale-force winds, freezing temperatures, seas in excess of twenty feet, rain, snow, hail, or a combination of all three in varying intensities. Even when high pressure dominated the area, it seemed short-lived and carried additional moisture into the operating area. Continuous thick fog reduced visibility to less than three-nautical miles for multiple hours. Seas averaged six to eight feet on the best days; on bad days, we were able to circumnavigate the worst of the winds and seas, but we still ended up experiencing thirteen to fourteen-foot seas. Winds were often around 20 to 25kts, with occasional bursts above 35kts. Freezing levels often began at the surface, so any visible moisture would cause ice to accumulate on the ship, the flight deck, and aircraft. The significant and irregular terrain between the mountains, fjords, and valleys made it difficult to determine if a specific area or flight route was clear of storms or low clouds. The skies were generally covered by an overcast layer which led to ceilings below the tops of the mountainous terrain surrounding the valleys. When



Marines with the 22d MEU train in Norway in March 2022. (Photo by Cpl Yvonna Guyette.)

degraded weather either developed or became visible, the aircrew was forced to turn around and fly out of the valley or fjord they were in rather than flying over the mountains surrounding them. Additionally, while one valley may be clear, the adjacent valley could have weather forming or a storm cell moving through it.

Weather is always a daily discussion, but in this environment, the importance and frequency of the coordination between the ARG/MEU grew. Weather and conditions checks had to be confirmed multiple times throughout an operating day. The ARG/MEU Meteorology and Oceanography team was not able to be self-sufficient in this environment, and outside coordination was essential. We had to bring in the 2nd and 6th Fleet Oceanographers, U.S. National Ice Center, Fleet Numerical Meteorology and Oceanography Center, the Fleet Weather Center Norfolk, Optimum Track Ship Routing team, and we leveraged local experts, when able, to ensure the safety of the force.

In the Information Age, we are accustomed to having relevant and redundant data sources at all times. The Arctic remains a data-sparse and isolated region. There are not many polar-orbiting satellites to provide constant coverage like the abundant satellite coverage that exists in the mid-latitudes. Meteorological and oceanographic sensors are few and far between in the high North.

The complex terrain, freezing temperatures, and limited ship traffic make the placement of sensors difficult, if not impractical. Additionally, forecasters and analysts are trained predominantly to the mid-latitudes; being in the Arctic requires a recalibration when taking observations and constant verification and reevaluation of synoptic features and microscale phenomena.

Forecasters should have a strong understanding of the different types of icing and atmospheric dynamics while dissecting unexpected events to understand better why something happened and how to forecast it moving forward. Forecasts models and techniques used during pre-deployment training to produce accurate forecasts were quickly invalidated in the Arctic due to the fast-changing conditions that made modeling difficult. To mitigate some of the effects, forecasters were put forward and embedded with detachments/personnel ashore, which became a critical tool to get air elements ashore and back to the ship. Patience, attention to detail, and an understanding of dynamics are needed to find the short windows of opportunity that will allow aircrew to safely and effectively execute operations.

How quickly the weather changed seemed to astonish most onboard. Although often briefed in that way, it was one thing to hear it and another to experience it. As previously stated, in less than 30 minutes, the weather might go

from unrestricted visibility to less than one nautical mile, leaving everything exposed to the weather iced over once it passed. This makes good communication between controlling stations and the ship critical to keep everyone safe. Additionally, high winds and sea states were common. Reminding the ARG/MEU team to secure for sea could not be said enough.

One of the most challenging components of the Arctic weather is the numerous sporadic cells that can span hundreds of miles. Within minutes, the environment can change from visual flight rule conditions to a complete whiteout with multiple freezing levels, at times, from the surface up. Operating from the sea compounds the degree of difficulty. The cells consist of blizzard conditions with variable winds at high velocities that differ from the prevailing winds outside the cells. Winds can radically shift, greater than 100 degrees, and increase in magnitude when passing through or in the vicinity of the cells. Maintaining a ready flight deck on a constant course while navigating the cells is problematic at best. “Chasing the winds” to sustain flight operations results in the ship constantly switching from “red deck” (not ready to receive aircraft) to “green deck,” incurring the additional risk of not being able to recover an aircraft safely on short notice.

Although unpredictable storms developed rapidly, they usually dissipated and moved on just as quickly as they developed. This led to aircrew adopting many techniques and procedures the Norwegian pilots used. One of the most important techniques adopted was that if degraded weather develops around an aircraft, aircrew just land and wait it out rather than fly through it. It did not matter where you were, Norwegian pilots shared; it is a common practice for rotary wing platforms to make a precautionary emergency landing when faced with a rapidly developing storm. On one occasion, one of the sorties, with the ironic call-sign *Tempest*, was within sight of land when a storm cell emerged. The aircraft were able to land in a field, and the crew was forced to shut down and remain overnight. What we consider a precautionary emergency

landing is a regular occurrence and is expected of all aircrew when operating within Norway.

Additionally, all aircrew flew with a precautionary emergency landing kit, which included sleeping bags, a tent, a stove, and other survival gear. These kits would allow crews to survive in the cold if unable to return to base because of weather or an emergency. Techniques and procedures such as these are something we do not teach or train to. Aircrews did not fully understand or appreciate the considerations of flying in a country with weather like the MEU experienced in Norway.



AH-1Zs with the 22d MEU conduct flight operations above the Arctic Circle in March 2022. (Photo by Cpl Yvonna Guyette.)

Aviation Operations and Readiness

One of the biggest challenges to flight operations above the Arctic Circle was the lack of darkness while conducting “night” operations during April and May. Although the sun did physically set while aircraft were conducting flight operations, the environment never fully reached the point where crews could conduct night vision device operations. This is because the sun still produced sufficient ambient light after it set behind the horizon. Had the force continued to operate above the Arctic Circle through May and June,

the environmental conditions would have reached the point where the sun would have never set at all, leading to 24 hours of daylight.

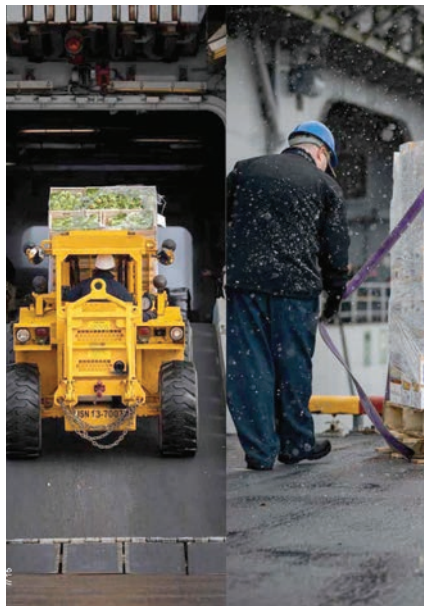
Aviation readiness was impacted due to aircrew night currency expirations. Regardless of the aircraft platform, all aircrew training and readiness manuals require some variant of night currency to maintain combat readiness at night. For ordnance-carrying aircraft, this usually means employing weapons at night. For assault support aircraft, night currency is maintained by flying and landing at night. Flight operations conducted while wearing night vision goggles are required within a set number of days to carry passengers at night, with expirations based on the particular type/model/series. For V/STOL aircraft such as the AV-8B, regular night shipboard landings are required to maintain currency to operate on a ship. *Because night flight operations never occur above the Arctic Circle during the summer, aircrew cannot execute night currency requirements.* One of the hallmarks of the U.S. military is the ability to operate at night, “we own the night,” but in the arctic, there is no night in the spring and summer. The impact on readiness is severe, given the amount of night currency required while in a deployed status. While the lapsing night currency did not immediately affect the ARG/MEU’s ability to conduct flight operations above the Arctic Circle, it did affect overall ACE readiness and the ability to conduct flight operations at night. If an ARG/MEU were to operate above the Arctic Circle for an extended period in a daytime-only environment, then get re-tasked to an area requiring night flight operations, the ACE would need to re-qualify aircrews before operations could commence. Because of this, although exceptional training can be conducted, it is essential to be aware that most night currency will eventually lapse while performing flight operations above the Arctic Circle. In any future scenario which involves flight operations within the Arctic Circle, commanders will have to seriously weigh the risk of conducting aviation combat operations against a known enemy threat in a daytime-only environment.

The magnitude and unceasing nature of the wind have a significant impact on flight operations. The wind affects nearly every aspect of ARG/MEU operations. Wind above 30 knots puts every aircraft operating at the edge of its envelope, often becoming out of limits resulting in canceled flight operations. Winds of this magnitude and duration create waves that force the ship to operate closer to shore, deviating from the intended track, impacting timelines for the ship's movement, fuel consumption, communication and satellite coverage, and follow-on operations. The flight deck secures with winds over 45 knots. With 30+ knots of wind being relatively standard and the ship's Plan of Intended Movement (PIM) assumed speed to be 15 knots, the 45-knot threshold is often reached. Personnel cannot access the flight deck to conduct aircraft maintenance or make aircraft moves in preparation for flight operations.

De-ice and anti-ice capabilities across aviation assets are a requirement to operate in the arctic during the majority of the year. Moderate to severe icing can be experienced at levels much lower than in CONUS, and the effects can be immediate and catastrophic. Naval Air Training and Operating Procedures Standardization forbid aircraft from operating in known moderate to severe icing conditions. For aircraft equipped with anti-ice/de-ice capabilities, light-to-trace icing conditions can be mitigated to a certain extent for a limited time. By in large, Marine and Navy aircraft have de-ice/anti-ice capabilities installed, with some platforms having more robust systems than others. However, depending on the homeport duty station, grooming these systems has not been a requirement for decades, with primarily 5th and 7th Fleet deployments on air-capable ships. Snow and ice accumulation on the flight deck poses another challenge. Non-skid, by design, is bumpy and does not lend itself to be shoveled easily, and chiseling away ice with shovels risks damage to the flight deck. Aircraft exhaust while spinning on deck, specifically AV-8Bs and MV-22s, whose exhaust has a downward component, is very effective at melting snow and ice. For example, on one

occasion, when the flight deck was covered with snow and ice, an AV-8B was taxied slowly from the stern to the bow in a serpentine track with the exhaust nozzles canted aft. This process proved highly effective for melting and drying. *Preserving the flight deck is a constant challenge in the arctic operating environment.*

Water temperature in the arctic requires using anti-exposure suits for aircrew and passengers. While aircrew are issued anti-exposure suits, there is a limited supply to support passenger movement within and external to the ARG/MEU. This becomes a limiting factor for transferring personnel flying to/from the ship which can negatively impact operations.



USS Kearsarge supply replenishment above the Arctic Circle—few ports could support the size requirements of the LHD. (Photo by MC3 Jesse Schwab.)

Sustainment—Logistics and Supply

Given the austere nature of arctic operations, sustainment support is much more complex than traditional hub and spoke operations experienced in previous deployments. Logistics is essential to sustain operations at sea successfully. The team worked diligently to expand onboard stores' endurance and ultimately ensure that the ship was outfitted correctly, mitigating limited resupply capacity in the arctic. Yet, even

with a concerted effort, the established logistics network is centered on operations in the Mediterranean Sea. The closets logistics cell is located in Crombie, Scotland. The Crombie Facility is growing to meet increased need, but even then, it is over 400 nautical miles to the Arctic Circle. Compare that to the Mediterranean, where established bases in Sigonella, Rota, and Souda Bay provide timely logistics support that can be routinely reached by organic aircraft.

Due to the limited nature of operations in the Arctic region, the ARG/MEU had to work closely with 6th Fleet, Fleet Logistics Center Sigonella, Defense Logistics Agency, Military Sealift Command, and allied partners. The team conducted regular engagements, proactively planned future logistics operations, prioritized movement, arrayed food, retail, and repair part stores in space and time, ensuring consistent resupply and freedom of maneuver. A key element of the support concept was the establishment of a Navy-Marine support detachment on the beach. This vital capability tracked thousands of high-priority material requirements and facilitated the expeditious distribution of all ARG/MEU cargo to the end user. An often overlooked and underappreciate accomplishment becomes significantly more complicated in the Arctic.

At the tactical level, the most significant equipment shortfall was inadequate gear and equipment to excel and operate effectively in the Arctic. The MEU relied on Unit Issue to cover some equipment shortfalls, but even with the additional gear, training days were lost to mitigate the risk to the force. To preface the shortfall, all Marines and sailors executing live-fire and non-live-fire training received a complete cold weather issue, including the Marine Corps Cold Weather Kit, GORETEX-lined inclement cold weather boots, extreme cold weather gloves and liners, and a series of layers that the Marine Corps has designated for operations in this kind of environment. The Reconnaissance Platoon recognized a few issues with the Marine Corps Cold Weather Kit. Heavy winds from the mountains across Norway created issues when trying to purify wa-



Replenishment at sea above the Arctic Circle. (Photo by MC3 Jesse Schwab.)

ter utilizing the pot and stove provided within the Marine Corps Cold Weather Kit inventory. Winds would quickly diminish the flame, and the Marines were forced to use excessive amounts of fuel to purify enough water for the team to sustain daily.

A learned and re-learned lesson is that to fight in an environment, you must first learn to live in that same environment. Norway is an extremely wet and cold environment and utterly different from the more dry-cold conditions experienced in most parts of the continental United States. While operating in the Arctic, it is essential that Marines and sailors minimize the amount of moisture created by physical movement across the environment. Moisture buildup leads to an increased risk of hypothermia which will subsequently remove the individual from the fight. As a result, Marines must bring more layers to allow them to change into dry clothes during bivouac to ensure they can effectively rest in the Arctic environment. The current layers (poly-pro base layer, grid fleece layer, GORETEX top, and bottoms) are made obsolete due to their lack of breathability, which inhibits the Marines' ability to move and operate across vast areas in the Arctic environment without creating an unnecessary risk of hypothermia and frostbite. These extra layers increase weight, increase signature and reduce

maneuverability of the Marines. One solution provided by the Norwegians is a "fishnet" wool layer that maintains body heat while balancing the release of moisture from the undergarment. During the exercise, multiple Marines were outfitted in this layer leading to increased effectiveness in the conduct of day-to-day operations.

C2: Communication and Navigation

Communications in the Arctic proved challenging for various reasons

but primarily due to weather, topography, and bureaucratic processes that enable communications. The ARG has the primary mission to get the Marines ashore. With conditions that vary drastically between units, the ARG sometimes needs to maneuver hundreds of miles to best position itself for MEU operations. However, satellite communication (SATCOM) services are allocated based on our PIM, and theaters generally require substantial lead-up time for allocating joint SATCOM services based on PIM. While the satellites and their controllers are capable of dynamic shifts to account for PIM, the bureaucratic processes that support SATCOM inhibit dynamic SATCOM shifts even if services have already been allocated for units. *SATCOM services must be as dynamic as the weather itself. Our ability to predict weather requires it, and our operations require it.* Due to the curvature of the Earth, a slight change in PIM can drastically impact the communication beam going to the ship.

We leveraged two systems aboard the MV-22B for airborne C2 during our pre-deployment training: Network on-the-Move-Airborne (NOTM-A) and AN/ASC-43 Meshed Network Manager (MNM). NOTM-A provides tactical data networking between the C2 aircraft and forward ground stations.



Establishing C2 in the Arctic Circle required high-look angles to satellites. (Photo by MC1 Tyler Thompson.)

At the same time, the MNM system integrates four Marine Corps and DOD radios to support multiple waveforms for increased communication capability between airborne, ground, and ship-board nodes. Due to the longitudinal location of where the ACE was operating, the NOTM-A system was unusable as it could not maintain a lock on the satellite constellation and suffered from repeated GPS failures with the NOTM-A antenna. The MNM system provided reliable airborne C2, but due to the extreme surrounding elevation and lack of Mobile User Objective System integration within the MNM aircraft, we were limited to short-range line-of-sight communications.

Regarding topography, amphibious forces do operations within the littorals. Off the coast of Norway, we operated between mountains and fjords. Our units often found themselves in Internet Protocol isolation or with minimal Internet Protocol services due to block zones created by this topography. Units must ensure they have redundant methods for required reports, whether HF or commercial SATCOM. SATCOM services are a requirement in the high north, especially during the winter and early spring. Weather variability is significant, and our Meteorology and Oceanography officers need the resources to accurately forecast with as many resources available to them as possible.

One of the most notable challenges the navigation team experienced was getting to planned destinations on time. Due to the dynamic nature of the weather, the ARG often had to deviate from the original plan due to high winds and seas. The Meteorology and Oceanography team recommended circumnavigating the worst weather, but this would occasionally result in additional unaccounted time being added to the scheduled movement. Additionally, scheduled training events were often canceled because of unfavorable weather and would need to be made up somewhere to maintain currency. This resulted in what felt like the ARG having to sprint from one place to the next and possibly arriving late, causing cascading impacts to planned training.

Adding extra time and backup days to the schedule is highly recommended. Add these considerations along with the fact that there are limited ports that can accommodate the size of the LHD. The issue became compounded because there were no other ports to divert to in the case weather was unfavorable, which it often was. We had to remain in the high north for an additional couple of days because the forecasted weather was unfavorable, and there was nowhere or no way around the weather.

Conclusion

The Arctic is a humbling environment that demands respect and consideration regardless of previous experi-

ence or rank. In the Arctic, everything is done for a purpose, and every action requires detailed planning. Col Paul Merida, the CO of the 22d MEU, noted:

to be of the environment, how fast it can change, and the importance of robust safety contingencies built into our operations to account for change. This is precisely why we are operating in the North and learning how to do so safely from our partners in Norway. Operating in the Arctic Circle is a challenge, but it is not impossible, and it is not beyond our skillset. It is an environment where the weather changes instantaneously, and units can experience 24 hours of sunlight or darkness depending on the time of the year. In peacetime, the weather is a major driving force for operations. We need to get to a level of comfort where we are familiar enough with the weather and



LCAC offload in Tromso, Norway. (Photo by Sgt Armando Elizalde.)

ence or rank. In the Arctic, everything is done for a purpose, and every action requires detailed planning. Col Paul Merida, the CO of the 22d MEU, noted:

operating in this part of the world is a challenge at sea, in the air, and on land. But as Marines, if we want to say we can operate in "any clime or place," we have to come up here and do it. I've never heard of an ARG-MEU team operating above the Arctic Circle, but we proved it can be done. This was a superb experience with our Norwegian Allies, and the unit-to-unit partnership was first-class.

Capt Thomas Foster, CO of the *USS Kearsarge*, concurs and adds:

We've learned many lessons operating in the high north and with the Norwegian military. At sea, we specifically experienced how respectful you have

can shift focus to a potential adversary. The environment lends itself to exceptional training, but it is an unforgiving place where the routine becomes the extreme. Being flexible and creative in our problem-solving approach will go a long way to ensuring success. When operating North of the Arctic Circle, it is imperative to hyper-focus on how the environment will affect an overall commander's combat readiness and rely heavily on subject-matter experts' established tactics, techniques, and procedures to succeed in an unfamiliar and overall unforgiving environment.



Arctic Integration

Why MARFORRES is suited to augment Marine Corps Arctic operations

by Capt Camden Geiger

Great power strategic competition in the Arctic is increasing as melting ice related to climate change makes the region more accessible. Russia views the Arctic strategically for Atlantic Ocean access and claimed natural resources, as well as access to Asian ports via the Northeast Passage. China views it strategically for natural resources and faster trade routes to Europe. Comparatively, the United States is poorly postured to counter increasing Russian and Chinese Arctic dual-use infrastructure. In April 2021, Norway announced that the U.S. military could build new facilities on Norwegian soil, a positive first step in increasing U.S. Arctic force posture. This new law, plus existing U.S. agreements to base troops in Denmark's Greenland and existing basing in Alaska, serves as a foundation from which the United States can expand its Arctic force posture.

The Marine Corps and specifically the Marine Forces Reserve (MARFORRES) should consider an expanded Arctic mission despite the region's omission from *Force Design 2030 (FD2030)*. Marine doctrinal changes focused on sea control and sea denial are a natural fit for an increasingly crowded Arctic. While the impetus of *FD2030* was to design a strategy for countering Chinese threats in the Indo-Pacific, its core components are ideally suited to Arctic operations. The Arctic, just as much as the Indo-Pacific, will need long-range fires, air defense, multi-functional unmanned systems, and the other capabilities needed for countering our adversaries' maritime gray zone strategies. The Navy's 2021 *Strategic Blueprint for the Arctic* discusses the need for a new Navy-Marine Corps approach to modernizing the future naval force and advancing U.S. interests in the Arctic

“There is no timeline, or mission, that your Marine Corps Reserve will not and cannot answer when called upon. As the Marine Corps approach to global threats continues to evolve, so must the Marine Corps Reserve.”

—LtGen David G. Bellon, Commander, Marine Forces Reserve and Marine Forces South, Testimony to U.S. Congress in June 2022

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but mentions this need fleetingly. Despite *FD2030's* focus on the Indo-Pacific, the Marine Corps must remain a global force-in-readiness for every clime and place, including the Arctic.

The Marine Corps needs to rapidly increase the integration of MARFORRES units with the active component and focus these integration efforts on the Arctic. This active-reserve integration will help train MARFORRES units on the key concepts of *FD2030*, create a deep and ready bench of reservists to augment MEUs, and create a more robust Marine Corps deterrent to potential Chinese and Russian aggression in the Arctic region.

Context and Scope of the Problem

The Arctic is experiencing climate change at a rate twice the global average.¹ The region is becoming increasingly important in global economic

and security affairs as Arctic sea ice disappears. China has stated that global warming is good because it will open new trade routes, fishing grounds, and natural resource opportunities for their economy, not to mention alternate routes of possible attacks on the United States and its allies. China, not an Arctic nation, nevertheless describes itself as a near-Arctic power and a stakeholder. China is committed to enhancing its economic and security capabilities in the Arctic and wants to use the Arctic as a Polar Silk Road. China has already established over twenty polar observation satellites for dual use in tracking global trade and U.S. military operations. Russia has added twelve airfields and sixteen deep water ports to its Arctic coastline since 2015. U.S. and NATO regional infrastructure is far inferior in number to Chinese and Russian facilities, calling into question the ability of

the United States to project power and U.S. policy into the region. The United States possesses fewer than ten Arctic installations, including U.S.-owned facilities in partner countries. The United States and NATO have been slower than China and Russia to realize the economic and security implications of the changing Arctic.

The context of the Arctic challenge also changed considerably after Russia invaded Ukraine in February 2022. NATO-Russia relations were tense before the invasion but have reached a level not seen since the height of the Cold War. The increased competitive environment and the higher risk of direct conflict between NATO and Russia because of the Russo-Ukraine War necessitates a strong U.S. and NATO response that will challenge Russian activities in every possible environment, including the Arctic. China's resolute support for Russia's invasion of Ukraine portends possible Chinese support for Russian

Arctic activities as China seeks to develop its status as a near-Arctic power. There is an additional added context of NATO expansion to include Finland and Sweden. This *choosing of sides* from two previously nominally neutral Arctic countries has the potential to upend pre-existing Arctic cooperation in favor of the United States and its allies.

Despite increased U.S. Government rhetoric about the importance of the Arctic in future U.S. strategy and security, the Arctic remains underfunded and ignored in practice. The recently released Fiscal Year 2023 Presidential defense budget request does almost nothing to address shortfalls in required Arctic technology. However, the Marine Corps and its reserve forces do not need to wait to add strategic value to U.S. posture in the Arctic.

Why MARFORRES Is the Right Fit

Further expanding MARFORRES support of the active component

to include Arctic operations builds on the increased responsibility MARFORRES has received in recent years, most notably the assignment of MARFOR SOUTH under the command of current COMMARFORRES, LtGen David G. Bellon. It would also build on a longstanding presence of reserve Marines in the region. MARFORRES has a long history of supporting the Personnel Temporary Augmentee Program in Norway, where reserve Marines conduct maintenance on the key pieces of equipment stored in Norway as part of the Marine Corps Prepositioning Program - Norway (MCPN). MARFORRES has also successfully bridged the gap in active component capabilities and operational needs by either wholly staffing or significantly contributing to SPMAGTF-Africa, SPMAGTF-Southern Command, the Black Sea Rotational Force, Task Force Southwest, and even the Unit Deployment Program-Okinawa.

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Many MARFORRES units are also good cultural fits for training in and rotating to the Arctic. The upper Midwest, Northeast, and Mountain West are home to many MARFORRES units that have become accustomed to training in cold weather conditions year in and year out. These units regularly train in cold weather conditions and are ideal selections to further expand their cold weather training repertoire by conducting Arctic missions. Mental fortitude in the execution of Arctic missions will be key, and an aspect of deployability that Marine Corps leaders must not overlook. The newly minted Army 11th Airborne Division was created in no small part to mitigate the effects negative morale was having on Army forces in Alaska, part of the Arctic. Creating a sense of identity and purpose among Arctic forces will be key to their success. Utilizing the lived experiences of reserve units from cold weather areas will make this easier.

Implementation

The Marine Corps can integrate MARFORRES into the Arctic in a few ways:

First, expand the Personnel Temporary Augmentee Program Norway mission to include multiple annual cycles instead of the one, approximately 30-day cycle currently in place. Combat arms reserve units could also be sent to annual training in Norway at the same time as Personnel Temporary Augmentee Program, expanding these long annual trainings from a maintenance-only exercise to include combat arms training with Norway and other NATO partners. The almost certain accession of Finland and Sweden to NATO, plus the increased desire to conduct training with NATO partners considering Russia’s invasion of Ukraine, means that MARFORRES units will find no shortage of willing training partners in the Arctic. The Marine Corps also would be returning to its Cold War era roots when the Marine Corps planned to conduct an amphibious left hook through Scandinavia in the event of war with the USSR.

Second, sync MARFORRES’ annual trainings to projected or expected stops

in the Arctic by any II MEF MEUs. MARFORRES units can augment II MEF units, receive beneficial training from the active component, and share the burden of conducting global operations with II MEF. MARFORRES units integrate with the active component in times of war, and it is imperative that MARFORRES and active component training exercises reflect this reality. Many MARFORRES units conduct Mountain Warfare Training and other cold weather exercises every year. What

Utilizing MARFORRES to expand the Marine Corps footprint in the Arctic is a win-win-win.

better way to utilize the investment of time and money put into these exercises than to use them as workups for Arctic rotations rather than just an effort to train to Mission Essential Tasks?

Third, create “mini-deployments” from MARFORRES units to ensure a rotating Marine presence in the Arctic. MARFORRES units have supported the Unit Deployment Program to Okinawa in the past, and a similar construct is possible in the Arctic. The ideal length of these deployments would be 60–90 days—short enough to be a significant cost saving compared to a full deployment but long enough that MARFORRES units would receive substantial benefits in training, education, and improved readiness for potential future combat operations.

Conclusion

Failure to control access to the Arctic will leave the back door into North America wide open. If the United States and the Marine Corps allow creeping Chinese and Russian infrastructure projects to continue unchecked, the United States could very well see basing, staging, and near offshoring in the Arctic, which would allow near unfettered access to U.S. shores. There is a historical relevance to this as well. Japan

did, after all, seize a few of the Aleutian Islands during World War II, the only time an Axis Power established a North American foothold in that war.

Integrating MARFORRES forces into Arctic missions will help ensure the region is not neglected by the Marine Corps or the Joint Force. Despite not receiving mention in the original *FD2030* document and only briefly mentioned in the Navy’s Arctic strategy document, the region has seen increased attention since Russia invaded Ukraine, and II MEF units have conducted high-level training with allied nations. The Marine Corps must consider the Arctic as part of its domain given the applicability of *FD2030* concepts to the region, and the stark reality that any conflict with China, *FD2030*’s focus, would likely be global in scale and potentially include conflict in the Arctic, an area of key Chinese interest. MARFORRES units have also had less opportunity to train in the concepts of *FD2030*. The Arctic is a perfect proving ground for MARFORRES units to get hands-on experience in training in and executing the core competencies expounded on in *FD2030*.

Utilizing MARFORRES to expand the Marine Corps footprint in the Arctic is a win-win-win. It creates a more useful and ready reserve component, shares the burden of responsibility for the region with II MEF, and gives the Marine Corps a presence, and a voice, in shaping U.S. force posture in a region whose defense is critical to U.S. national security interests.

Note

1. Staff, “Climate Change in the Arctic,” *National Snow And Ice Data Center*, n.d., https://nsidc.org/cryosphere/arctic-meteorology/climate_change.html.



Achieving a Decision

by Dr. Christopher R. Cummins

What are the Marine Tactical Tenets?

- Achieving a decision
- Gaining advantage
- Being faster
- Adapting
- Cooperating
- Exploiting success

Over the next six installments, we will review each tenet and how it plays out in wargaming.

The tactical tenant of *achieving a decision* is about taking decisive action to win the immediate battle and achieve something decisive beyond the current battlefield. Ideally, winning a battle leads to a victorious campaign and winning a campaign leads to winning a war.

For example, in World War II, a mostly Marine force captured Saipan, another hard fought, costly victory to capture one more island. However, it was the linchpin in Japanese Pacific Island perimeter defenses because it provided the airfields needed for B-29s to deliver a decisive bombing campaign against Japan. It also drew the Imperial Japanese Navy into the Marianas Turkey Shoot, the decisive naval-air battle where Japan's remaining carrier-based air force was decimated. Both the strategic bombing of Japan and the elimination of Japan's ability to use naval air operations shortened the end of World War II in the Pacific.

Conversely, the Germans attacked the Soviets in World War II believing they would win a decisive victory in a few weeks just as they had in France the year before. The Germans did win battle after battle in their opening campaign on the Eastern Front in World War II believing one more decisive victory would force a Soviet surrender. However, they failed to recognize the total size of Soviet forces was far beyond their intelligence estimate, and that there was no strategic objective that could win the war. The Soviets could trade space for time until the Germans were beyond their effective logistical support limit, unequipped for severe winter weather, and vulnerable to a Soviet counterattack.

To achieve a decisive outcome, the successful tactician must consider the situation at hand, what led to the current situation, and how the situation will likely proceed. He should take the opponent's perspective to see the situation from the other side, what the potential objectives and courses of action the enemy may have, and what is needed to defeat them. He is careful not to presume the enemy fights or sees things the way he does. What is important to his mission may not be the enemy's objective. His vulnerabilities may not be the same as the enemy's weaknesses.

At a tactical level, use of METT-T (mission, enemy, terrain/weather, troops/support, and time) factors may help bring

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important aspects of the situation to awareness. What is the mission objective? What are the enemy's capabilities? How do the enemy's capabilities compare with friendly forces? Is the terrain favorable to attack or defense? Is there a change in the weather coming that is favorable to either side, or provides an opportunity? Whose side is time on?

All these factors translate quickly into most wargames. Mission objectives are defined in the victory conditions: occupy certain key terrain, eliminate or render ineffective enemy forces, etc. Forces can be compared along several variables: movement capabilities, attack/defense strength, morale levels, combat support assets, supply levels or limitations, command/control mechanics, among other possibilities. A review of the Terrain Effects Chart provides information about how terrain will accelerate or reduce movement as well as strengthen or weaken combat power. Look for any differences between forces as well as differentiation in unit types. A look at the Turn Record Track and the Weather Table may provide insight into the timing of weather changes as well as the effects. Again, are there differences between the opponents? Are their differences for unit types? Finally, the factor of time plays out in wargames because either a game victory must be achieved within the course of the game, or a turning point is simulated where one side is on the defense early but is building up for a counterattack. When that turning point is reached, the attacker is now on the defense. The time factor flips.

What the tactician is seeking is a critical vulnerability. Something that will unhinge the opponent's defense or negate something the opponent needs for a successful attack. In wargaming terms, it might be a key unit like a recon unit that can ignore enemy zones of control and slip through to cut a line of supply. It might be a key hill from which an artillery unit is able to attack with a longer range and restrict access to a key crossroads or objective. Once the critical vulnerability is determined, it is time to shape the operating area to exploit the vulnerability. So that recon unit might be moved in the current turn to a position where it can slip through via two different routes the next turn. That hill might need a preliminary flanking attack to gain the additional hex from

which the hill can be attacked from two or three directions at one time.

An example of this comes from Decision Games' mini-game Little Round Top. This game focuses on the Confederate attack on 2 July attempting to roll up the Union left flank. The flank was not anchored at the time of the Confederate's reconnaissance that morning, thus General Lee sent General Longstreet to outflank and begin an oblique attack. By the time Longstreet's forces were in position to attack, Union forces had pushed forward across Plum Run into the Peach Orchard, Wheatfield, and Devil's Den, but not onto Little or Big Round Top (see Map 1).

The game's victory conditions essentially boil down to getting across Plum Run to occupy hex C which supports the planned oblique attack that would roll up the Union line to the north. Otherwise, occupying Little Round Top threatens the Baltimore Pike (the road running North/South to the east of Little Round Top) and the crossroads leading to hex A (the eastern supply path for the Union) and hex B (leading to the rear of the Union forces).

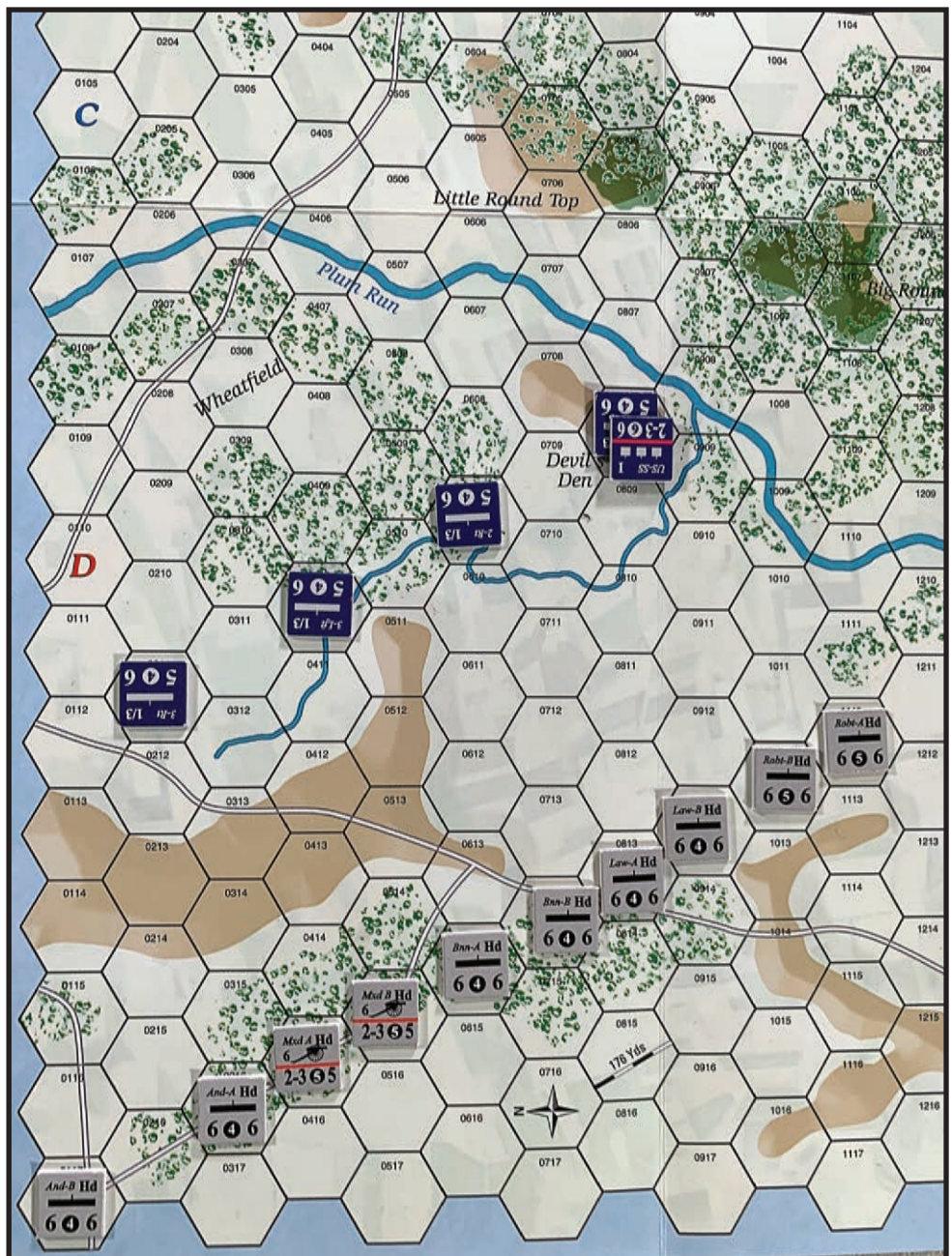
The Confederates have a strength (52-23) and numerical (10 versus 5 units) advantage at the beginning of the game. The terrain west of Plum Run favors the Confederates with hills to place their artillery for supporting attacks from Turn 1, an excellent opportunity to capture Devil's Den allowing for future placement of artillery in range of Little Round Top, and a thin Union line vulnerable to strong attacks. It is tempting to forge straight ahead, expecting to cross Plum Run and get at the victory hexes by Turn 3 or 4 (of this five-turn game).

A closer look at the terrain brings the reality that the terrain east of Plum Run favors the Union. It includes good defensive terrain including Plum Run itself, hills, and deep woods hexes (Little Round Top being one of those hexes). The terrain also channels the attacks on the victory hexes to one or two adjacent hexes. Attacking from one hex will be a coin flip at best, and two hexes, while increasing the odds, generally means the unit advancing to occupy can be counterattacked from

three hexes at better odds, allowing the Union to recapture the hex and save the day.

Because units that are adjacent to enemy units at the start of their turn can only move one hex, it is important for the Confederate to pin down the Union units as much as possible to limit their mobility. This also puts the Union on a dilemma of having to choose to attack at generally poor odds or give up the hex and retreat in their turn, also freeing up the Confederate unit to have a full move in turn.

For the Confederates to win, they need to find a way to get a three-hex attack against one of the two victory hexes. One of the possibilities is to outflank Little Round Top to the south. The difficulty is Big Round Top which slows movement through it as well as around it. The Confederates will need to

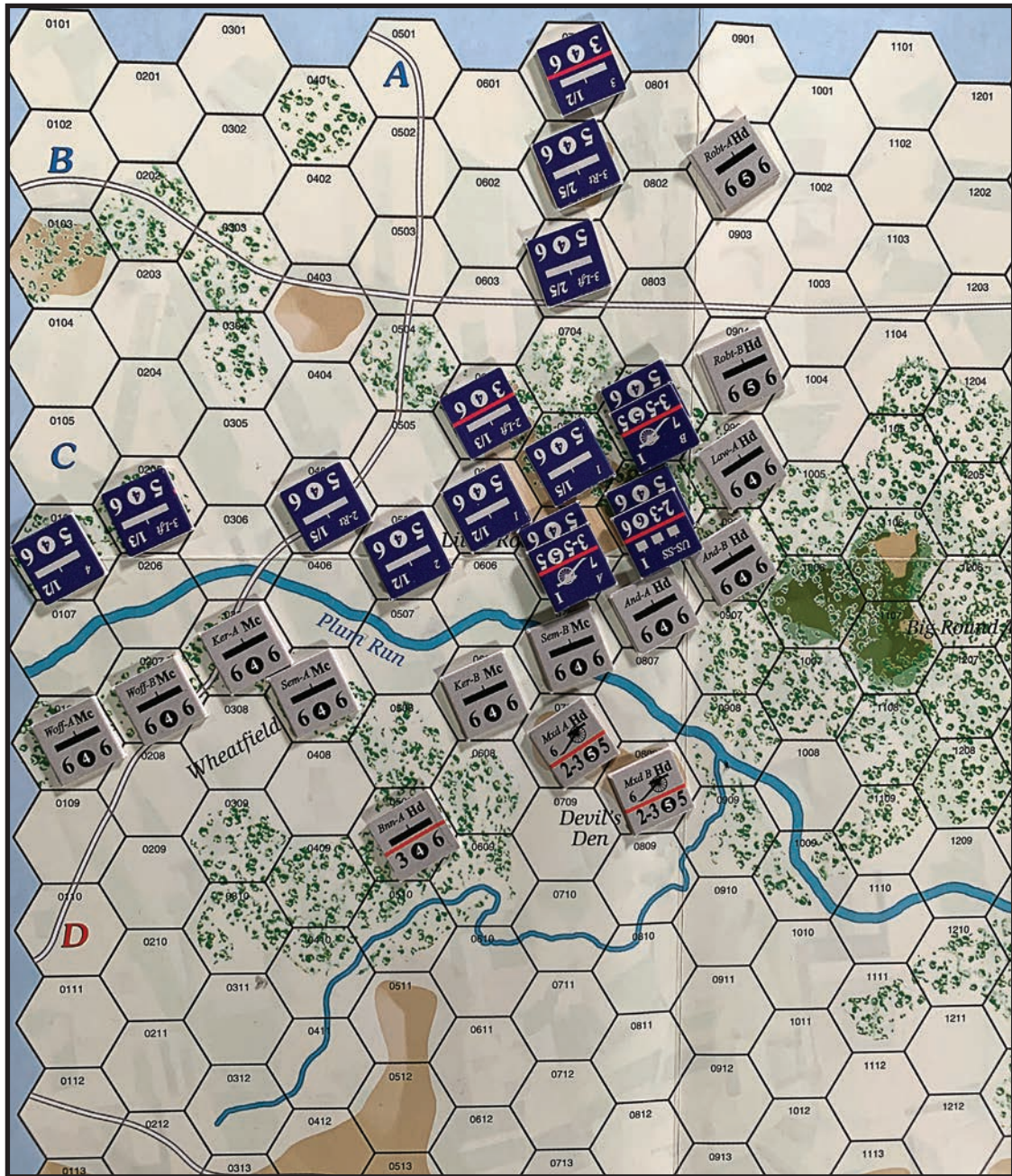


send at least four of their units on a right hook, keeping just two units to engage the Union units near the Wheatfield and use two infantry and the two artillery units to attack Devil's Den in the center of the map. Confederate reinforcements, entering from hex E, will secure the Wheatfield and threaten hex C. Confederate artillery will take positions on the hill adjacent to Devil's Den and one other to support attacks on Little Round Top. The flanking units will get into position to attack Little Round Top or hexes adjacent to Little Round Top.

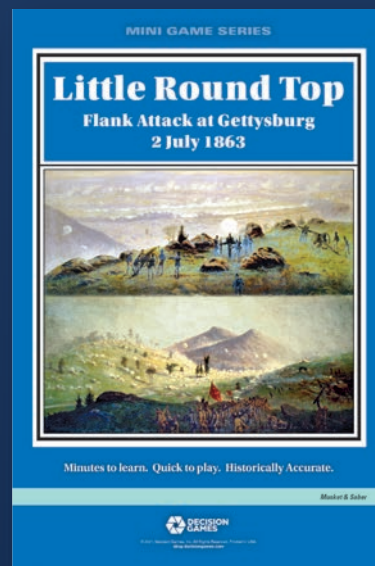
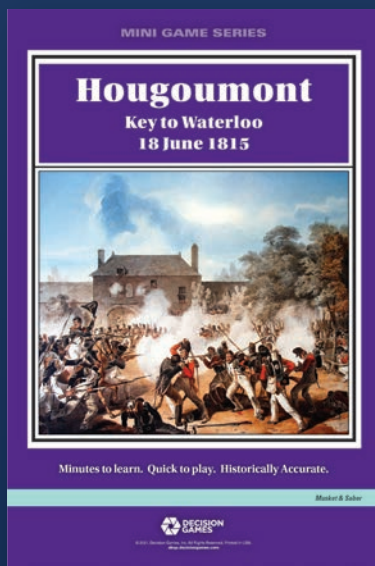
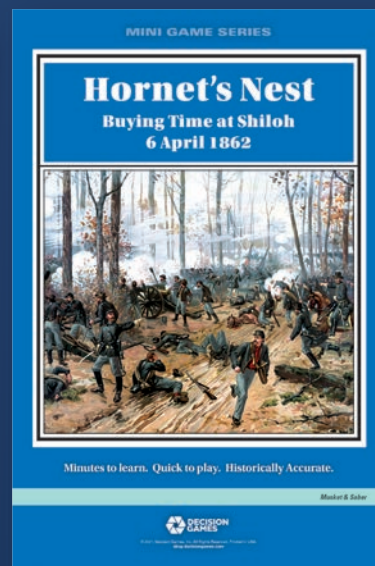
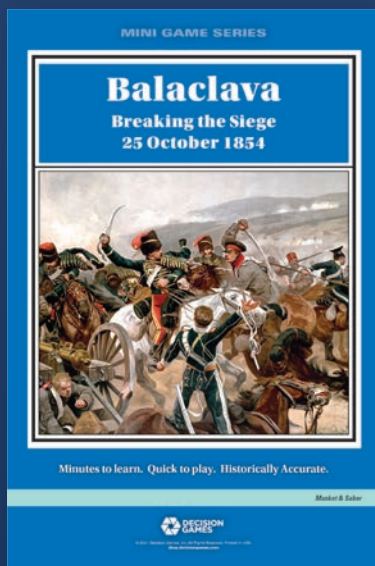
Ideally, an attack goes in on Little Round Top on Turn 4 to dislodge the defenders and take the hex along with a secondary attack to secure a third or fourth adjacent hex

(See Map 2). If both attacks succeed, defending against the Union counterattack should be successful. If one succeeds, the Union is still forced to counterattack and potentially be thrown back making for an easier final Turn 5 attack. If neither succeeds, the Union may still be forced to counterattack in their turn and may be forced back, again setting up an easier Turn 5 final attack.

In this example, choosing a frontal attack will likely cause more losses to the Union than the Confederates, however it likely will not result in a decisive victory. A flanking maneuver provides the opportunity to achieve a decision by occupying key terrain that will unhinge the Union strategic position.



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Fixing Marine Corps Aviation

by Maj Jack Long, PhD

Marine aviation has a problem. It is unable to maintain a cohort of pilots with the training and skills to win in combat against a peer competitor. This is a direct result of pilots being unrestricted officers and being forced to compete for promotion, retention, advanced schooling, and other postings with other MOSs while on a very different career track, which detracts from their flying skills.

More so than any other officer MOS, pilots are technical specialists whose skillset is tightly attuned to the job they perform. Unlike other officers, they cannot easily flit from one billet to another and maintain both currency and proficiency in their primary MOS; however, they have levied on them the same requirements for schooling and B-billets as other unrestricted officers. This is unfair to them, detrimental to the Marine Corps, and has created numerous problems with training, maintaining, and retaining quality aviators. To rectify this, pilots should primarily be warrant officers, with a select few moving on to become limited duty officers (LDOs) or unrestricted officers.

Career Track

Instead of beginning their career as unrestricted second lieutenants, pilots should enter the Marine Corps on a warrant officer track. Following Officer Candidate School, they should attend The Basic School with ground MOS lieutenants (Basic Officer Course, not the Warrant Officer Course), go to flight school to get their wings, then to the Fleet Replacement Squadron to get their type rating. Promotion to CWO2 should be dependent on winging and CWO3 upon qualifying in their aircraft. Once at their squadrons, promotion to CWO4 and CWO5 should be based on competitive selection based on flying proficiency, qualifications, and ability to instruct. Promotion to CWO6 (a new rank) should be reserved only for the most highly qualified aviator instructors.

Like other restricted officers, CWO pilots would be limited to serving in billets that require their technical expertise—flying and instructing. The CWO career track would be for pilots who just want to and do not want to do a B-billet as recruiters, MLG air officers, or attend advanced resident schools. These pilots can remain CWOs and stay in flying squadrons (fleet and training squadrons).

For pilots wanting to expand their responsibilities, they can apply to become LDOs. LDO pilots would be planners

>Maj Long is a Reservist assigned to the IMA detachment at the Office of Naval Research, where he is Deputy to the Chief AI Officer of the Navy. He has a PhD in Nanoengineering from Johns Hopkins and an MBA from Oxford. On active duty, he deployed five times to Operation IRAQI FREEDOM and Operation ENDURING FREEDOM and once on the 15th MEU. He was formerly a consultant at McKinsey in the Washington, DC, office and currently works as a consultant in the defense industry.

and aviation experts, serving in non-flying billets requiring aviation expertise (ground unit air officers, joint tactical air controllers, higher headquarters staff roles, etc.). In their time away from the wing, they would only be assigned to billets requiring aviation expertise. At the wing, they would serve in flying units and limited leadership and planning roles (squadron/group S-3s and key wing staff billets).

Pilots desiring broader responsibility across a more traditional Marine officer career can apply to become unrestricted Marine Aviation officers. Award of this MOS (and designation as an unrestricted officer) would allow them to be assigned to any 75XX or 8006 billet in the Corps or across the wider Joint DOD. Appointment as the commanding or executive officer of an aviation unit would be limited to unrestricted officers.

The transition from CWO to LDO would be available towards the end of a pilot's first fleet tour, roughly around the five-year time-in-service mark. Applications would be no different from other transitions to LDO: a board would select the most qualified candidates based on the needs of the Corps. There would be no limit on the number of times a pilot could apply for transition to LDO, though a requirement that their first LDO rank is captain would limit the desirability of transitioning later in a career.

Eligibility to transition from LDO to unrestricted officer would start when an LDO captain is looked at by a promotion board for major. Officers desiring to make this transition would indicate their desire to do so. Those successfully selected for major would then be screened at the same time for transition to unrestricted officer. Majors not selected for transition could continue to apply each year for transition up until they are in zone for selection to lieutenant colonel.

And while certain billets would be limited to LDOs or unrestricted aviators, certain advanced designation/quali-

fifications, such as weapons and tactics instructor (WTI), should be limited to those pilots who spend the most time at fleet or training squadrons. Making unrestricted officers into WTIs who subsequently spend very little time flying does not provide the return on investment required for the Marine Corps to keep pace with peer adversaries. Providing advanced training to CWO pilots ensures that those who will spend the majority of their careers at squadrons are our most capable pilots. WTIs, as the Corps' premier in-the-cockpit instructors, should have the most—and most recent—flying experience. For those that want to be expert fliers, this would be a clear incentive to stay CWOs and LDOs. (Pay will be the same, with higher aviation incentive pay making up for the lower base pay of a CWO with the same time in service.)

With CWOs focused on flying, and LDOs focused on planning and integrating aviation into the MAGTF, unrestricted officer pilots can expect to focus on running and leading aviation units as executive officers and COs without the additional burden of also having to be the squadron's expert instructor. Marine officers leading O-5, O-6, and general officer-level commands have a broad range of experience that transcends the unit's specific mission. They are not expected to be that unit's SME. It should be the same with aviation units.

The Payoff

This realignment of rank to responsibility for Marine Aviators would expand career options and help alleviate career challenges experienced by pilots such as:

- Lack of currency and proficiency in senior squadron instructors, nearly all of whom have to re-up when returning from non-flying B-billets.
- A compressed timeline compared to non-aviation officers to ensure certain wickets have been hit before unrestricted officer promotion board.
- Loss of experienced aviators to alternate careers due to a lack of fleet flying time.

The Marine Corps has strong traditions that do not easily change based on the fads of the day. This is as it should be for the world's most lethal fighting force. But this does not mean we can remain impervious to change. Any organization that wishes to remain the best at what it does decade after decade must change and continue to adapt itself to the challenges of the day. Realigning our rank structure is critical to maintaining the lethality of our Corps in the coming decades.



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“Vincere!”

reviewed by Mr. Chuck Melson

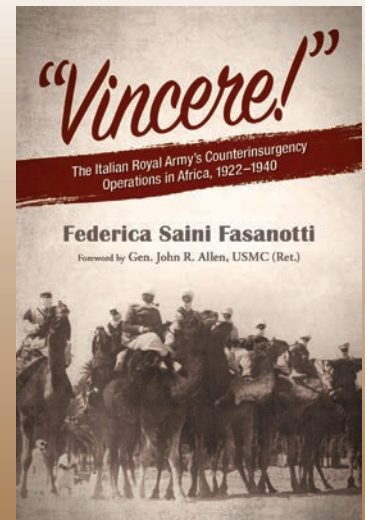
Most military historians are familiar with the colonial history of Spain, France, Italy, and Great Britain on the North African littoral (along with the Belgian Congo, as well as Germany and Portugal in Southwest and Southeast Africa). This recent work considers in detail the experience of one of these participants as it appears from 80 years of retrospection. With a title that can be read as conquest or victory, this book deals with the timely topic of low-intensity conflict in Africa in the first part of the 20th century by a European power: Italy’s Royal Army in Libya and Ethiopia (or the Kingdom of Abyssinia). These were campaigns fought to pacify the coastal regions and interior. It is not a surprise that with the Global War on Terrorism and the Long War success that something is familiar in these colonial campaigns fought within the same locations, terrain, and populations as today. While tactics, techniques, or procedures might be similar, the policy and strategic goals are very different as well as the actual results of the conflicts.

The study divides logically into two stand-alone parts, the 1922–1931 campaign in Libya and the 1936–1940 campaign in Ethiopia. Introductions and conclusions provide context for each, as well as sections of acronyms, glossaries, personalities, and notes to support the narrative. The well-written narrative also provides after-action lessons that are of interest to current efforts in the region. One theme from these campaigns is that the army and air force units that conducted initial offensive operations had to be replaced by locally raised forces for subsequent pacification and occupation duties. This required leaders with language and cross-cultural skills to prepare for a long com-

>Mr. Melson is the former U.S. Marine Corps Chief Historian and editor of The German Army Guerilla Warfare Pocket Manual (Casemate, 2019).

mitment to their assigned theater. In both campaigns, firm defensive bases and mobile columns were used in conjunction with rudimentary mechanization and air support that matured as the campaigns continued. An experience similar to the Marines in the Small-Wars Era.

Based on ten years of study in Italian archives and on the ground, the author provides original insights that will be of interest to those responsible for these regions at present. U.S. Secretary of Defense Gen James Mattis (Ret) and Gen John R. Allen (Ret) support this view, with a great deal of experience in the area that is under discussion. The fact that this provoked their interest can be useful in this review as an example of applied history as a practical tool for policy or especially tactics, procedures, and techniques that continue to plague those who have to operate in the real world. Marines might recall that assistant naval attaché to Rome, then colonel, later lieutenant general, Pedro de Valle, wrote *Roman Eagles over Ethiopia* (1940) after observing one of these same conflicts. The Corps’ History Division sent a copy to the Marine who was then Commander in Chief of U.S. Central Command! One conclusion from this experience for de Valle was the recognized need for combined arms at the division level rather than the existing specialization of arms in separate formations. A question that arises from this study is if there was continuity with Italian occupation and pacification policies



“VINCERE!": The Italian Royal Army's Counterinsurgency Operations in Africa, 1922–1940. By Federica Saini Fasanotti. Annapolis, MD: U.S. Naval Institute, 2020.

ISBN: 978-1-68247-428-0,
224 pp.

during World War II, which saw political and military forces in Albania, in southern France, along the Dalmatian Coast, and Greece. This would make an interesting discussion along with a comparison to German methods in these same locations and the Soviet Union. How much of the excesses in these campaigns originated from colonial practices?

Saini Fasanotti earned a PhD at the University of Milan and is a senior visiting fellow at the Brookings Institution, Washington, DC. She researched the topic for the Italian Army General Staff and produced five books on military topics. Translated from Italian by Sylwia Zawadzka, there are some anomalies, for example, the title as victory or conquest and the term staff used for either personnel or command functions. This is not a problem if one is aware of the context used for the text.



Les Paras De La Waffen-SS

reviewed by Mr. Chuck Melson

The World War II German *SS-Fallschirmjaeger Battalion 500* (later redesignated *600*) is a relatively obscure subject. A battalion of *Waffen* or armed-SS paratroopers, it was established in the fall of 1943 to carry out special operations. It eventually became part of the special force under SS-LtCol Otto Skorzeny. It serves as a case study for special operations and units that follows the “super-soldier” arc of implementation for special purposes yielding to more general-purpose employment as high-grade infantry. This has been documented previously with the story of the British Commandos, Marine Raiders, and Army Rangers.

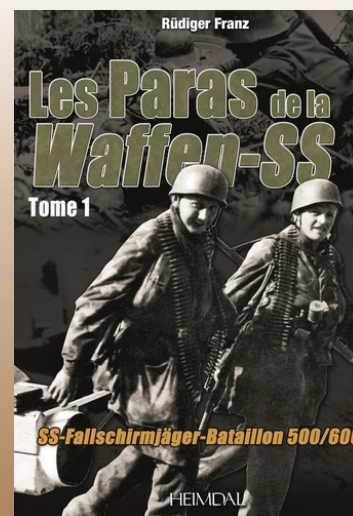
The challenge for a reviewer is to ask an American audience: why they should study a book written in French by a German author? It is one of three planned volumes about the story of the subject unit of which only the first book is under review. The first volume (*Tome 1. “Capturer Tito!”*) is devoted to actions against Josip Broz Tito and his partisans in Yugoslavia, the second is about the fighting in the Baltic States, and the third focuses on actions in Hungary, the Ardennes, and Oder bridgehead. Also recognized is the fact that the Allies at Nuremberg defined the *Schutzstaffel* as a whole as a criminal organization.

The SS-high command felt it needed a unit for direct action in September 1944, based in part on the airborne rescue of Benito Mussolini from captivity by German *Luftwaffe* paratroopers with SS involvement. Enlisted strength was drawn from existing armed-SS elements and those in a status of criminal probation who were allowed to redeem their “honor” in

>Mr. Melson’s bio is on page 109.

combat. Trained in Hungary and Yugoslavia, it first deployed with Army Group F against Tito using parachutes and gliders. After which it was reconstituted and put into action in Kurland, Lithuania, as regular infantry. Then assigned to the SS-special forces under Skorzeny, it was used in Budapest in a coup to sustain Hungary’s compliance with Hitler’s political demands. In December 1944, it was part of a Battle of the Bulge infiltration effort in Allied uniforms. By January 1945, it again served as conventional infantry on the Vistula and Oder River bridgehead. Its survivors surrendered to the Americans in April 1945.

The book under discussion was selected because of my previous work on Operation *Roesselsprung* (Knight’s Move), the operation to kill, capture, or disrupt the command staff of the Yugoslav partisan forces on 25 May 1944 at Drvar in Bosnia and Herzegovina. The original interest in this came from a staff study on the employment of a Marine Force Reconnaissance Company in a direct-action role. The eventual result was a journal article and battle study for the Marine Corps University. The action is one of the most notorious but least understood during the Southeast Theater campaign. The origins of the parachute battalion as a punitive unit, its high losses, and failure to eliminate Tito made it seem a failure. However, it succeeded in disrupting the partisan command, caused the Allies to move Tito from Yugoslavia to Italy, and was



LES PARAS DE LA WAFFEN-SS: SS-Fallschirmjaeger-Bataillon 500/600. By Ruediger W.A. Franz, translated from German into French by Paul Cherrier. Bayeux: Editions Heimdal, 2018.

ISBN: 978-2-84048-406-6
260 pp.

unsuccessful in part only because of the delayed efforts of supporting units surrounding the objective.

The book is very well illustrated by high-quality contemporary and more current photographs, aircraft profiles, maps, and reproduced documents. This provides its main value for English speakers, for whom the text might otherwise be limited to high school French. Accounts of the action in English are available in several editions with Osprey’s *Knight’s Move*, *After the Battle*, and my own *Operation Knight’s Move* (Marine Corps University Press, 2011).

The author, Ruediger Franz is a historian, a Federal Republic of Germany paratrooper, and an Air Force veteran. He amassed this large amount of photographic and documentary material to tell the story of this minor military unit to a broader audience. With this, he has exceeded expectations with detail and texture of interest to the general reader or military specialist.



Reckoning

reviewed by Col Andrew Finlayson (Ret)

This book by Neal Thompson should be on the required reading list of anyone interested in the truth about the Vietnam War. Marines who fought in that war as well as those who have fought in more recent wars will find his analysis both well-reasoned and informative. Some may even find it inflammatory since it makes a very powerful case against the civilian leadership of our Nation during the period of the Cold War.

He puts the Vietnam War into the context of the political and geo-strategic imperatives of the Cold War, providing clarity and honesty about the decisions made by our “leaders” from the close of World War II to the Fall of the Soviet Empire. As a Vietnam War veteran and distinguished lawyer who has studied the war for decades, Thompson brings his highly trained legal mind and logical approach to analyze the motivations of American political leaders during the Cold War and how those motivations resulted in disaster in South Vietnam. In addition, he exposes how the same motivations that produced the Vietnam War could be found in every military action our Nation has embarked on since the end of the Cold War.

His book is well-researched, richly footnoted, and compelling, and his lucid prose style makes for a highly readable and informative presentation. It is broad in scope, yet he provides ample detail to support his arguments.

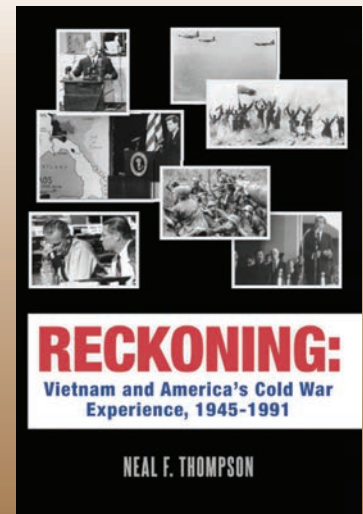
I was especially impressed with his analysis in Chapter 13, “The Unwinable War,” where he utterly destroys the orthodox mantra that there was no way to win the Vietnam War. He lays out in exquisite detail how there was a clear plan for winning the war by cutting the Ho Chi Minh Trail in Southern Laos and how the per-

>Col Finlayson was an Infantry Officer who served 34 months in South Vietnam during the Vietnam War. He is the author of several books, articles, and papers on the war, and he is the recipient of the CIA's prestigious Studies in Intelligence Award.

nicious and foolish adherence to the 1962 Geneva Accords on the Neutrality of Laos and Cambodia by President Johnson's administration made this option impossible until it was too late to implement. His argument on this topic is strengthened by the words of the North Vietnamese.

Equally impressive is Thompson's takedown of what he labels the “war crimes industry,” the endless cascade of war crimes allegations by the anti-war left that served to demonize an entire generation of veterans. With a detailed analysis of various books and media presentations, he demonstrates clearly that the veterans identified therein are not who they claim to be and that the war crimes alleged are demonstrably false. In fact, when the facts and figures regarding day-to-day operations in Vietnam are compared to that of the operations in Korea and World War II, it becomes clear that the men who fought in Vietnam were as honorable and decent as any generation of American veterans.

Thompson also poses a rather unique argument and one that I have never seen before in print: that had the Democratic Party won the 1968 presidential election, the war might not have been lost. He is critical of both political parties, providing evidence that both parties were more influenced by domestic political concerns than the geo-strategic realities they were confronted with. Many readers will be surprised by his comparison of



RECKONING: Vietnam and America's Cold War Experience, 1945–1991. By Neal F. Thompson. Charlevoix, MI: Charlevoix Books, 2020.

ISBN: 9780615622729
578 pp.

the actions taken to trigger President Trump's impeachment with those taken by other former presidents—making the case that they often did things that were far more egregious than the actions taken by President Trump. He cites several actions taken by Presidents Truman, Kennedy, and Johnson that, given the controlling standards and law, should have triggered impeachment proceedings.

In Thompson's final chapter, he sums up his basic argument, which is the military disasters our Nation suffered during the Cold War and since were highly predictable and the natural result of domestic political considerations. In this sense, his argument is rather unique, and some readers will find it unsettling or even inflammatory. However, Thompson's book is not a polemic, it is a rich and detailed history of the Vietnam War in the context of Cold War political decisions. It is a cautionary tale that military readers should take note of.



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The Board of Governors of the Marine Corps Association has given the authority to approve manuscripts for publication to the editor and the Editorial Advisory Panel. Editorial Advisory Panel members are listed on the *Gazette's* masthead in each issue. The panel, which normally meets as required, represents a cross section of Marines by professional interest, experience, age, rank, and gender. The panel judges all writing contests. A simple majority rules in its decisions. Material submitted for publication is accepted or rejected based on the assessment of the editor. The *Gazette* welcomes material in the following categories:

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- **Letters:** Limit to 300 words or less and DOUBLE SPACE. Email submissions to gazette@mca-marines.org are preferred. As in most magazines, letters to the editor are an important clue as to how well or poorly ideas are being received. Letters are an excellent way to correct factual mistakes, reinforce ideas, outline opposing points of view, identify problems, and suggest factors or important considerations that have been overlooked in previous *Gazette* articles. The best letters are sharply focused on one or two specific points.
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- **Book Reviews:** Prefer 300 to 750 words and DOUBLE SPACED. Book reviews should answer the question: "This book is worth a Marine's time to read because..." Please be sure to include the book's author, publisher (including city), year of publication, number of pages, and the cost of the book.

Timeline: We aim to respond to your submission within 45 days; please do not query until that time has passed. If your submission is accepted for publication, please keep in mind that we schedule our line-up four to six months in advance, that we align our subject matter to specific monthly themes, and that we have limited space available. Therefore, it is not possible to provide a specific date of publication. However, we will do our best to publish your article as soon as possible, and the Senior Editor will contact you once your article is slated. If you prefer to have your article published online, please let us know upon its acceptance.

Writing Tips: The best advice is to write the way you speak, and then have someone else read your first draft for clarity. Write to a broad audience: *Gazette* readers are active and veteran Marines of all ranks and friends of the Corps. Start with a thesis statement, and put the main idea up front. Then organize your thoughts and introduce facts and validated assumptions that support (prove) your thesis. Cut out excess words. Short is better than long. Avoid abbreviations and acronyms as much as possible.

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Camp Lejeune Water Justice Act of 2022



Did you serve, live or work at Marine Corps Base Camp Lejeune, North Carolina between August 1953 and December 1987?

Significant compensation may be available!

Drinking water sources at Camp Lejeune were found contaminated with benzene, trichloroethylene (TCE), tetrachloroethylene, or perchloroethylene (PCE), and vinyl chloride (VC) from routine water testing in 1982. All of these chemicals are known to be carcinogenic or harmful to humans, and should never be consumed.



Adverse health conditions associated with such contaminated water include:

- Esophageal Cancer
- Breast Cancer
- Kidney Cancer
- Lung Cancer
- Bladder Cancer
- Multiple Myeloma
- Leukemia
- Renal Toxicity
- Non-Hodgkin's Lymphoma
- Myelodysplastic Syndromes
- Hepatic Steatosis
- Scleroderma
- Miscarriage
- Female Infertility
- Parkinson's Disease

CALL NOW to speak with an attorney within 24 hours to determine claim eligibility. All calls are free and confidential.

Our Camp Lejeune legal team is led by a Marine.

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