



2019 TRAINING AND EDUCATION CREATIVE WRITING CONTEST

*Presented by the Marine Corps University Foundation
and Brute Krulak Center for Innovation and Creativity*

Disclaimer: The views expressed in this publication are solely those of the authors. They do not necessarily reflect the opinions of the organizations for which they work, Marine Corps University, the U.S. Marine Corps, the Department of the Navy, or the U.S. government.

FROM THE DIRECTOR

Both the Navy's 2018 "Education for Seapower" report and 2019 Commandant's Planning Guidance noted that the cognitive domain was gaining increasing importance as the realm in which the United States needed to seek an advantage against future adversaries. This was because, in a resurgent era of great power competition with multiple potential near-peer opponents, America's material advantage was rapidly shrinking. This change created a dangerous divergence from the United States' 20th-century approach to warfighting. Following the bitter experiences of large-scale casualties in the world wars, Korea, and Vietnam, the American military frequently sought wherever possible "spend things" (munitions, new technologies, etc.) in combat rather than lose people to attrition. This approach included combined arms, weapon system standoff, automation, and network centric warfare. However, today's environment no longer assures many of the conditions which allowed this philosophy to be made a tactical reality - including the potential loss of air superiority, the challenges of a denied, degraded or otherwise contested spectrum, and the increasing likelihood of operations in dense urban terrain across multiple theater flashpoints as the human and built terrain continues to change globally. Quite often, our response has been to consider how to fight absent the new "way of war" by reverting to older methods - at concurrent greater risk to our Marines.

Thus, our writing prompt for this contest asked: how do we modernize/change the training and education of future warfighters to face the realities of the evolving operating environment in order to out-think and outfight our adversaries? Our submissions

examined how to train in a contested communications environment, increasing understanding of different cultures, injecting creative writing into enlisted PME, and a host of other recommendations for securing the intellectual advantage that our senior leaders see as critical for success in the operating environment of today and tomorrow. As always, we were deeply impressed by the quality of our writers, and if their level of critical thinking is any indication, the American people should be confident that their warfighters will have a well-honed cognitive edge in any future conflict.

Valerie Jackson

Director

TEACHING HOW TO FIGHT FOR COMMUNICATIONS SUPERIORITY IN THE INFORMATION AGE

1ST PLACE ENTRY

Maj Stephanie Mafrici

The Marine Corps should be the premier service to fight in a command and control denied and degraded environment, however current Marine Corps training and education does not prioritize training for command and control in a contested communications environment. Often, command and control learning objectives are subordinate to learning kinetic actions such as machine gun employment, amphibious operations, or the ground scheme of maneuver. Due to the lack of priority, officers are trained and educated in tactics and decision-making in a completely communication denied, or alternately completely permissive, environment. Neither method teaches them how to fight for intermittent communications and regain the advantages provided by technology while recognizing the most critical components of information required for higher headquarters' decision-making during times of communication degradation. Without significant changes, future Marine leaders will find their training used against them. An adversary will force Marines into communication denied environment and then manipulate Marine leaders' bias for

action to make a decision which seemingly benefits the Marine at their level, but actually benefits the adversary on a larger scale. Without fighting for communications with adjacent and higher units within the joint force, Marines risk taking action which disadvantages the joint force as a whole. Marine Corps training and education must change to produce future officers who fight for communications in the operating environment of the information age.

Marine officer training starts at The Basic School where student lieutenants learn to decide, communicate, and act in the fog of war in the Quantico tree-line. Communication should be more than directing subordinates in a squad or platoon attack or writing orders for discussion around a sand table. Teaching lieutenants how to fight for communications requires changes to order scenarios, sand table discussions, and the field exercises.

1. Treat the tactics of the electromagnetic spectrum like machine guns and mortars. Although student lieutenants are taught the basics of the electromagnetic spectrum from the TBS S-6 officer at the start of the course, this tactical skill must be reinforced in all events by all instructors as if it were machine guns or fires throughout the period of instruction. For instructors to do this, there needs to be a publication to baseline all instructors regardless of background. In the same way non-infantry instructors use Marine Corps Warfighting Publication 3-01C, Machine Guns and Machine Gun Gunnery, to teach machine gun employment, the Marine Corps should develop a publication to explain the basics of employing the electromagnetic spectrum to facilitate communications in a denied or degraded environment.

While studying terrain models and building their plans, lieutenants place range rings for enemy AK-47s or friendly 60mm mortar fire capabilities and discuss the influence

of terrain on enemy and friendly weapon systems. Noticeably absent in planning is any discussion on communications capabilities for friendly or enemy forces, let alone how to use those capabilities to an advantage. Providing something as simple as student intel on the enemy LP/OP's communications capabilities (UHF cell phone with the locations of the in range host nation cell phone towers, or HF radio with windows of time where they communicate back to higher) will expand their thinking to how the lieutenant can affect the enemy force in the information environment. Requiring students to place electromagnetic range rings on the sand table for friendly and enemy communications, in addition to direct and indirect fire weapons, will help them visualize fighting in the invisible spectrum. Including where higher headquarters and adjacent command posts are located, how the lieutenant can communicate with them, and how those communications can be disrupted by an enemy will lead the officer to think of ways to mitigate it, and more importantly, how to regain communications when lost.

2. Change the scenario from no communications to intermittent

communications. Lieutenants at TBS struggle to understand the criticality of land navigation in the era of Global Positioning Systems, and fail to establish communications with higher or adjacent units using tactical radios in dense terrain without consequence to their tactical scenario. At times, the instructors choose terrain locations where students will gain the most learning objectives about maneuver in the offense or defense but are unable to communicate with other units. Instead of allowing separation of land tactics to happen in a forced denied communications environment, instructors should allow the students to communicate and then contest that advantage. This would change the mindset of our future leaders from “no comm, no problem I will do it on my own” to “if I do not have

comm, the enemy will gain an advantage against me, I need to fight in the degradation while fighting for comm to return.” Letting a student have a GPS for example, then taking that capability away when the enemy jams it, will force the student to lean on hard skills of land navigation while thinking about what can be done to the enemy to regain GPS. Students who walk away from TBS with the mindset of making decisions without communications become senior leaders who do not plan for intermittent communications. This leads to future staff members who cannot articulate their information requirements, and act in a vacuum when communication is denied or degraded. Bias for action cannot be an excuse for losing the advantage of sharing information required for strategic decision-making. Additional changes must be made to the education process for Marine officers at Expeditionary Warfare School and Command and Staff College to ensure the continued development of commanders and staff officers who fight for communications.

3. The Marine Corps Planning Process must include details on the fight between friendly and enemy actions against communications pathways in the electromagnetic spectrum, space, and networks. At the EWS tactical level Marine Corps Planning Process events need to include combined overlays which account for the electromagnetic spectrum over the terrain. Enemy communications capabilities to include frequencies used for radios, specific radio towers or command post positions so they can be drawn and targeted on the map along with enemy tanks and artillery battalions. Friendly assets which can conduct actions against enemy communications must be provided in the task organization. Then a common understanding how those assets can be integrated into the plan during shaping and execution. At CSC, operational level MCPP should add on to those considerations from EWS to develop a plan for fighting for local

superiority of communications pathways in the domains of space and cyberspace. This would include targeting the location of enemy satellite and network data centers and thinking through what effects are needed to provide a combined arms advantage to support operations. Cyberspace needs physical network paths to exist across, and an example enemy network laydown, with connections to other foreign nations, and potential problems with targeting internationally should be debated. Adding a network diagram with physical locations of servers would dispel the myth that cyberspace is magic and allow for planners to think about how they can target the enemy in the information environment. Instead of scenarios where the MEF becomes the main effort in a ground offensive for a CJTF against a weaker nation, the CSC scenario should place the MEF in a disadvantaged position, needing to provide C4ISR to a joint force commander from within a peer adversary's weapon engagement zone but at a technological disadvantage. This would drive operational planners to think about what information requirements are critical and must be communicated, as well as how they would do so in a contested environment.

4. Frame the problem of contested communications superiority as you would contested air or maritime superiority. Planners understand the concept of fighting for local air superiority or maritime superiority, even with other strategic assets providing support in those domains. However, when it comes to local communications capabilities, planners routinely assume higher strategic level assets will protect and assure their communications. Local communications pathways must be fought for; this principle becomes particularly important the further distributed the Navy and Marine Corps team operates. Planners can use the previously understood concept of local air or maritime superiority as a framework for understanding how to fight for communications locally

through the electromagnetic spectrum, space, and cyberspace. As Marines pride themselves on ingenuity, many creative solutions to contested communications exist. When planning for intermittent communications, many options are available to provide local communications paths fully controlled by Marines. For example, ham radio, troposcatter transmission links, free space optics, helo-balloon launched radios, and unmanned aerial systems. Additional planning is required to coordinate windows of available communications and synch those windows with operations. However, by choosing capabilities within the control of the commander and using those pathways sparingly for critical information, planners can fight in a denied and degraded communications environment.

Peer adversaries will outfight the Marine Corps if the Marine Corps continues to focus on the tactical and operational problems of maneuver without training and educating officers on the details of fighting for contested communications. Assuming Marine leaders' bias for action will make up the difference in a denied communications environment significantly underestimates the adversary and discounts the significant advantages communications provides in operations. Marine leaders need to plan for intermittent communications and synchronize actions with the joint force. Marine Corps training and education must change to produce future officers who command and control by planning, fighting, and winning in a contested communications environment against peer adversaries in today's age of information.

THE POWER OF LANGUAGE

2nd PLACE ENTRY

Major Eric S. Hovey

If you have been in the Marine Corps since 2015, chances are that you have heard of the science fiction thriller *Ghost Fleet*, and if you follow the authors on Twitter, you have likely come across the #ghostfleetmoment hashtag. These eponymous posts reference real-world events that tie-back to the novel's plotline, an imagined, future, tech-heavy conflict between the United States, Russia, and China. #Ghostfleetmoments are brief news snippets that run the gamut from vague warnings of real-life U.S. naval leaders that victory is not preordained in a naval conflict with China, to Russia's proposed development and fielding of cheap kamikaze drones for its troops.¹

My #ghostfleetmoment came during a family cross-country PCS to California in the summer of 2018; after a few days of driving we had stopped at my alma mater, the University of Illinois in Urbana-Champaign. This was mainly a practical measure – I had kept in touch with an old professor who graciously offered to host my family for a night. It was also an opportunity to reflect on my formative training and education experiences through NROTC and on how much had changed in the decade since I was a student.

¹ Maurin Picard (@MaurinPicard), "Quand la Chine tousse..." Twitter, August 29, 2018, 7:55 a.m., <https://twitter.com/MaurinPicard/status/1034816816688898051>; Jonathon D. Abolins (@jabolins), "Cheap UAVs as potential #GhostFleetMoment weapons," Twitter, February 25, 2019, 6:02 a.m., <https://twitter.com/jabolins/status/1100033327103389698>.

The university, surrounded by farm country and home to America's first experimental corn plot, had changed massively since I was a midshipman. Unsurprisingly, Follet's Bookstore had closed because it could not compete in the Amazon-era.² More jarringly, however, were the massive developments and luxury high-rises going up in the (formerly) quaint Green Street, where once just college bars and cheap restaurants had stood.³

"What was driving the construction boom?" I asked over dinner.

"China," came the reply.

I was taken aback by the suddenness and specificity of the answer, but quickly corroborated it with outside research. In a state that makes national headlines for its financial woes, Chinese students are indispensable because they literally "bring the money" to Illinois, including \$20 million for the university's business school alone, and even more for engineering.⁴ Chinese international students pay nearly twice as much in tuition as in-state students (\$31-38K per year, versus \$15.6-20.6K for in-state) and these students are the principal driver of a commensurate boom in luxury housing/apartments in the

² Don Dodson, "Follett's to Close This Spring," *News-Gazette*, March 28, 2013, https://www.news-gazette.com/news/follett-s-to-close-this-spring/article_d422a6d9-e4e4-5ce3-aec3-78d3680d356c.html.

³ "The Morrow Plots," Atlas Obscura, accessed November 30, 2019, <https://www.atlasobscura.com/places/the-morrow-plots-urbana-illinois>; Michael Berns, "Is the Champaign-Urbana Skyline Changing Too Much?" *The Champaign Room*, 13 May 2019, <https://www.thechampaignroom.com/2019/5/13/18535426/champaign-room-sunday-scaries-inevitability-of-change-in-champaign-urbana-green-street-university>; Adalberto Toledo, "Proposal for Campustown's 5th Luxury High-Rise in 10 Years Raises Eyebrows," *News-Gazette*, January 28, 2018, https://www.news-gazette.com/news/proposal-for-campustown-s-th-luxury-high-rise-in-years/article_5e9c5414-0e2f-502c-8f1a-6a2cd7c91cf5.html.

⁴ Dusty Rhodes, "Enrollment Exodus: Why So Many Chinese Students Choose That 'Cornfield' School In Illinois," *Illinois Public Media*, 24 September 2019, <https://will.illinois.edu/news/story/enrollment-exodus-why-so-many-chinese-students-choose-that-cornfield-school-in-illinois>.

downtown.⁵ The University's dependency on Chinese students for solvency was brought into stark focus when it became the first education institution in the country to take out an insurance policy against a drop in Chinese student enrollment in Fall 2018, to the tune of \$60 million dollars.⁶

As a Marine whose 2009 focus upon commissioning was the counterinsurgency fights in Iraq and Afghanistan, I was blindsided by the realization that my alma mater was now utterly dependent on the revenue of students from the United States' top strategic competitor, per the 2018 National Defense Strategy.⁷ If I were a new NROTC midshipman in 2019, how would my educational experience be different prepping for Great Power competition, knowing that my education was being subsidized by a strategic adversary?⁸

Salience of Regional Studies/Language in a Multipolar, Connected World

China's influence in the U.S. university system is just one example to illustrate a larger point that the United States is not a hegemon and that the larger international order is becoming increasingly interconnected, even as it is characterized by inter-state competition.⁹ This multipolarity is neither intrinsically good nor bad, it simply reflects the

⁵ Elizabeth Redden, "The University of China at Illinois," Inside Higher Ed, January 7, 2015, <https://www.insidehighered.com/news/2015/01/07/u-illinois-growth-number-chinese-students-has-been-dramatic>.

⁶ Ellie Bothwell, "Insuring Against Drop in Chinese Students," Inside Higher Ed, November 29, 2018, <https://www.insidehighered.com/news/2018/11/29/university-illinois-insures-itself-against-possible-drop-chinese-enrollments>.

⁷ James Mattis, *National Defense Strategy* (Washington, DC: Department of Defense, 2018), 4, <https://dod.defense.gov/Portals/1/Documents/pubs/2018-National-Defense-Strategy-Summary.pdf>; Scott W. Harold, "Managing U.S. Military-to-Military Relations with China, a Strategic Competitor in an Era of Renewed Great Power Competition," March 8, 2019, <https://www.rand.org/blog/2019/03/managing-us-military-to-military-relations-with-china-a-strategic.html>.

⁸ Nick Anderson and Susan Svrluga, "Universities Worry About Potential Loss of Chinese Students," *Washington Post*, June 3, 2019, https://www.washingtonpost.com/local/education/universities-worry-about-potential-loss-of-chinese-students/2019/06/03/567044ea-861b-11e9-98c1-e945ae5db8fb_story.html.

⁹ Mattis, *National Defense Strategy*, 1.

reality that advances in communications technology and the growth of economic competitors to the United States (namely, China) have made the global environment increasingly interconnected.¹⁰ The revamping of language/cultural studies programs is the principal educational challenge that the Marine Corps and larger DOD must address to fight and win in this interconnected, global environment.¹¹

While the DOD has taken steps to increase its ranks in science, technology, engineering, and mathematics (STEM) fields, there has not been a commensurate educational push for regional and language studies, which are increasingly important in a globalized environment.¹² This negative trend for the DOD mirrors a more troubling national academic trend, which is that only 20% of U.S. students (K-12) were enrolled in a foreign language program from 2014-2015 and that 16 states lacked any foreign language graduation requirements.¹³ The post-secondary language enrollment for U.S. students drops even further to only 8.1%.¹⁴ Even before future warfighters have the possibility of joining the U.S. military, the U.S. education system does not structurally incentivize bilingualism, writ-large. Aside from a small pay bonus for individuals who demonstrate

¹⁰ Zaeem Hassan Mehmood, "Reassessing Realities of a Multi-Polar World Order," *Modern Diplomacy*, September 3, 2019, <https://moderndiplomacy.eu/2019/09/03/reassessing-realities-of-a-multi-polar-world-order/>.

¹¹ Mathew Burrows and Roger George, "Is America Ready for a Multipolar World?" *National Interest*, January 20, 2016, <https://nationalinterest.org/feature/america-ready-multipolar-world-14964>; Mattis, *National Defense Strategy*, 2-3.

¹² White House, *STEM Education Strategic Plan* (Washington, DC: White House, 2018), <https://www.whitehouse.gov/wp-content/uploads/2018/12/STEM-Education-Strategic-Plan-2018.pdf>; "DoD Joins Forces to Invest in STEM Education," *Armed with Science*, April 28, 2015, <https://science.dodlive.mil/2015/04/28/dod-joins-forces-to-invest-in-stem-education/>.

¹³ American Councils for International Education, "The National K-12 Foreign Language Enrollment Survey Report," June 2017, 6, <https://www.americancouncils.org/sites/default/files/FLE-report-June17.pdf>.

¹⁴ "Why There's A Language Learning Gap in the United States," *WBUR*, July 16, 2018, <https://www.wbur.org/hereandnow/2018/07/16/foreign-language-gap-united-states>.

language proficiency in the Defense Language Proficiency Test (DLPT), the DOD has minimal structural incentives to encourage language fluency.¹⁵

The paucity of language instruction is a problem because foreign language skills will be in high demand for current and future conflicts. Bilingual Marines will be indispensable to the “Stand-in Forces” construct espoused in the Commandant’s Planning Guidance, because they can facilitate integration between forward deployed U.S. forces and key allies.¹⁶ In the *Marine Corps Gazette*’s 2019 MajGen Harold W. Chase prize-winning essay, “Deepening Interoperability,” Captain Eli J. Morales makes a compelling argument that Marines should “assemble and deploy an expeditionary strike group (ESG) built from the capabilities and resources of each coalition partner and ally” within the Indo-PACOM area of responsibility.¹⁷ This is an excellent idea, but its execution would implicitly require a large cadre of Marines with language and cultural skills to make the Combined Allied Expeditionary Strike Group (CAESG) a reality.¹⁸

If you are a Marine and have read to this point, you might be scratching your head and saying “Doesn’t the Marine Corps already have a program that is supposed to focus on language and culture?” and you would be right ... and wrong. MARADMIN 619/12 formally provided guidance for the Regional, Culture, and Language Familiarization (RCLF) program, which was “designed to provide the foundation for a cross-culturally competent

¹⁵ “Foreign Language Proficiency Bonus Installment Rates,” Defense Finance and Accounting Service, accessed November 30, 2019, <https://www.dfas.mil/militarymembers/payentitlements/Pay-Tables/FLPB.html>.

¹⁶ David H. Berger, “Commandant’s Planning Guidance,” July 16, 2019, 7, https://www.hqmc.marines.mil/Portals/142/Docs/%2038th%20Commandant's%20Planning%20Guidance_2019.pdf?ver=2019-07-16-200152-700.

¹⁶ Berger, “Commandant’s Planning Guidance,” 11, 12.

¹⁷ Eli J. Morales, “Deepening Interoperability,” *Marine Corps Gazette*, December 2019, <https://mca-marines.org/magazines/marine-corps-gazette/>

¹⁸ Morales, “Deepening Interoperability,” *Marine Corps Gazette*.

general purpose force (GPF) with diverse regional and cultural understanding and language capacity.”¹⁹ The Center for Advanced Cultural Operational Learning (CAOCL) runs RCLF and, on the surface, it may seem like this problem is being tackled.

However, closer inspection of the RCLF program yields some troubling findings. Confusingly, the same MARADMIN that spells out the creation of the RCLF program and developing language and cultural skills for Marines, also says “RCLF is not intended to produce [language, regional expertise, and cultural] LREC expertise.”²⁰ The MARADMIN shifts this responsibility to Foreign/Regional Area Officers (FAO/RAO), Foreign/Regional Area Staff NCOs (FAS/RAS), and crypto linguists. This represents a haphazard approach that generates issues with both data management and advocacy of critical language/cultural skills.


From a data management standpoint, CAOCL bills itself as both “the central USMC agency for Language, Regional Expertise, and Culture training” but also acknowledges that the organization “does not have a centralized data repository of LREC expertise across the Marine Corps.”²¹ Instead of a centralized data tracking system, commands looking to track language/culture training are given a dizzying menu of options (see figure 1 below) of

¹⁹ United States Marine Corps, *Implementation of the Regional, Culture, and Language Familiarization Program*, MARADMINS Number: 619/12 (Quantico, VA: United States Marine Corps, 2012), <https://www.marines.mil/News/Messages/Messages-Display/Article/895108/implementation-of-the-regional-culture-and-language-familiarization-program/>.

²⁰ ²⁰ United States Marine Corps, *Implementation of the Regional, Culture, and Language Familiarization Program*.

²¹ “CAOCL Tool Kit,” CAOCL, May 2, 2019, 2, 45, <https://www.usmcu.edu/Portals/218/CAOCL/files/LREC%20Map%2020190502.pdf?ver=2019-05-02-113316-047>.

which metrics are and are not tracked by multiple, separate databases. Moreover, the easiest data to



LREC Tracking Tools Matrix

	DRRS	MCTIMS	MCTFS		MOL	MarineNet	Command Profile	CAOCL
			ReportNet	3270				
Self-Professed Language			X	X			X	
DLPT Scores (substantiated language ability)			X	X	X			
RCLF – Assigned Region			X	X	X		X	X
RCLF – Enrollment & Completion			X	X		X		
LREC T&R Code Completion		X						
Unit MET Readiness	X							

Figure 1. CAOCL Tracking Matrix for LREC Skills²²

pull from Marine Online (MOL) relies on self-reported data on language fluency which may be inaccurate or nonexistent.²³ For example, if there was an immediate pull of Spanish speakers on MOL, a Marine with dubious fluency but who self-reported four years of high school Spanish would be flagged, but not a native speaking Marine who never had the opportunity to take the DLPT or self-report in MOL. We need a better, single-stop system for tracking LREC skills within the Marine Corps to be ready to fight and integrate with U.S. allies.

A second challenge remains the advocacy and support for the bedrock of LREC experts within the military, FAOs. Unlike the Army and Navy which allow FAOs to single-track and fill exclusively FAO billets within their primary MOS, the Marine Corps and Air Force use a dual-track model split between FAO billets and a Marine’s primary MOS.²⁴ The

²² “CAOCL Tool Kit,” CAOCL, 46.

²³ “CAOCL Tool Kit,” CAOCL, 50.

²⁴ “What Is a Foreign Area Officer FAO?” Foreign Area Officer Association, accessed October 7, 2019, <http://www.faoa.org/FAO-What-is-a-FAO>.

dual-track model makes a conscious decision to sacrifice long-term sustainment of FAO skills (especially language proficiency) under the aegis of maintaining operational relevance in a primary MOS.²⁵ While some Marines enjoy the dual-track model because they prefer their primary MOS, there is no structural support for Marines who wish to pursue a de-facto single-track career path.

The dual-track system is rigid and reflects the industrial-era manpower models critiqued in the 38th Commandant's Planning guidance (CPG); it maximizes the pool of officers competitive in their primary MOS at the expense of sustaining critical low-density skillsets in LREC skills and accommodating individual Marines' preferences.²⁶ In the current model, a senior Captain can spend one year at Naval Postgraduate School (NPS), 64 weeks learning Mandarin at the Defense Language Institute (DLI), and spend an entire year on immersion (promote to Major), only to go to a generic logistics billet in the fleet, where they lose their language fluency and relationships with embassy personnel and partner nation military members. In today's dynamic, global operating environment, the Marine Corps cannot afford to be so haphazard with its talent management.

A better model for FAOs would mimic the USMC's Defense Acquisition Corp (DAC). Currently, a Marine in an acquisitions billet is required to take additional Defense Acquisitions University (DAU) training and can attain the additional MOSs (AMOS) of 8057/8058 before deciding if they want to apply to be a full-time acquisitions officer. A

²⁵ Ché Bolden and Jon Brown, "We Have Fought in Every Clime and Place, Where We Could Take a Gun," *International Affairs – the FAO Journal* XV, no. 1 (April 2012): 23, <https://www.hqmc.marines.mil/Portals/138/Docs/PL/PLU/International%20Affairs%20Journal%20Apr12.pdf?ver=2012-09-27-144355-247>.

²⁶ David H. Berger, "Commandant's Planning Guidance," July 16, 2019, 7, https://www.hqmc.marines.mil/Portals/142/Docs/%2038th%20Commandant's%20Planning%20Guidance_2019.pdf?ver=2019-07-16-200152-700.

Marine who completes a three-year acquisitions tour can apply to be a ground/air acquisitions officer (8061/8059) as a Major and have a clear career roadmap to General/SES, or they can stay in their primary MOS and focus on standard key billets in grade to be competitive for promotion.²⁷ The Marine Corps should adopt a similar MOS structure for FAOs that creates both AMOSs and PMOSs for FAO officers. Experience-track and study-track FAOs could still earn the FAO 824X AMOS, but as Majors, they could apply for a PMOS change to FAO if they desire. This small cadre of dedicated FAOs would become the bedrock for more comprehensive LREC development and the execution of innovative, bilateral warfighting constructs like Captain Morales' CAESG.

Conclusion

Improving the data management and advocacy for language/cultural programs within the Marine Corps and larger DOD is not a silver bullet solution that will fix all of the U.S. military's challenges, but it is an essential educational modernization required for the complex operating environment. Beyond the U.S. university system, reminders of competition to a U.S.-dominated world system are increasingly prevalent. More than twice as many African students are attending Chinese universities instead of American universities, U.S. allies in Europe are adopting Chinese parts for their 5G networks over the protest of the U.S. government, and French President Emmanuel Macron decried the "brain death of NATO" on account of frustration with U.S. foreign policy.²⁸ Competing with U.S.

²⁷ "Acquisition MOS," Marine Corps Systems Command, accessed December 1, 2019, <https://www.marcorsyscom.marines.mil/Command-Staff/Acquisition-MOS/>.

²⁸ China Power Project, "Is China Both a Source and Hub for International Students?," September 26, 2017, <https://chinapower.csis.org/china-international-students/>; Aaron Mehta, "Top US General in Europe Wants to Keep China out of 5G Networks," C4ISRNET, March 6, 2019, <https://www.c4isrnet.com/itnetworks/2019/03/06/top-us-general-in-europe-wants-to-keep-china-out-of-5g-networks/>; "Monaco Rolls Out Huawei-built 5G Network in European First," *France 24*, September 7, 2019;

adversaries and integrating with allies will require a military that is as well-trained, culturally and linguistically, as possible.

Realizing the Marine Corps' endstate of making III MEF ready to "fight tonight" in the Pacific will require a focused approach on building our capacity in language/cultural fluency within the Indo-Pacific Command AO.²⁹ To naysayers who think language is of tangential consequence to military operations, consider the asymmetric information advantage WWII Marines enjoyed over the Japanese owing to their unbreakable code utilizing the Navajo language.³⁰ True, Americans have had a historic antipathy towards learning second languages, whether from the isolation of favorable geography or the tendency of second-generation immigrants to gravitate towards English, but this reticence can and must be overcome.³¹ Increasing the linguistic/cultural fluency of our military is the most critical change the DOD can take to prepare for the realities of the operating environment – it's as clear as the high-rises on Green Street.

Steven Erlanger, "Macron Says NATO Is Experiencing 'Brain Death' Because of Trump," *New York Times*, November 7, 2019, <https://www.nytimes.com/2019/11/07/world/europe/macron-nato-brain-death.html>.

²⁹ Berger, "Commandant's Planning Guidance," 3.

³⁰ Central Intelligence Agency, "Navajo Code Talkers and the Unbreakable Code," accessed December 1, 2019, <https://www.cia.gov/news-information/featured-story-archive/2008-featured-story-archive/navajo-code-talkers/>.

³¹ John Steinbeck, *America and Americans* (New York: Bonanza Books, 1966), 131.

STANDARD BEARERS AND CREATIVE WRITING

3rd PLACE ENTRY

SSgt Beau T. Curtis

The legends of the Marine Corps did not live in a vacuum. They were in proximity to other known, and even more unknown, legends. These legends were not completely ready, materially, to face the myriad of adversaries during their time. Some legends acted with discipline and rigidity, like Major John “The Hard” Hughes. Some acted in a completely unorthodox way, like then-Captain Hiram Bearss and the Samar Marines. There is no way to have a 100% readiness rates or be 100% prepared, materially, to face every single adversary at the same time, but the Marine Corps still needs to be willing, at a moment’s notice, to face any number of possible adversaries. The best course of action in any case is to awaken the power within each Marine, not empower them. To empower someone is to give them something they did not already have. Marines already have this inherent power; it just needs to be awakened. The Marine Corps needs to find and utilize Marines with power to build trust between the instructors and the institution and between the instructor and the students. Marine Corps Doctrinal Publication 1 says, “Trust is a product of confidence and familiarity.” This trust will be the Marine Corps’ greatest weapon in future fights. To prepare warfighters to out-think and out-fight any adversary is by changing how

instructors are selected and by developing a critical spirit within the students in order to not only awaken the power inside themselves but to awaken the power in others.

The Marine Corps needs to change the way we locate, close with, and develop instructors. In the recent past, the instructors were selected by random sampling. The obvious faults in this process, just like any conscript army, is the conscripted individual may lack all of the leadership traits and principles to make them successful in a learning environment. Good Marines will make Marines better. Worse Marines will drag the organization down. No trade school or college course is instructed by someone without familiarity and confidence in that subject. Currently, there is an application process. Marines volunteer to be instructors, which sounds like a good thing. In reality, this is a mix of individuals. Some individuals honestly want to be an instructor and be part of a greater legacy. Then there are those whom do not want to be an instructor, but this was seen as a lesser of two evils. Neither the instructors forcibly volunteered nor the actual volunteers have any less potential to be successful, but these same Marines will bring the same mentality they had in the fleet. Will that mentality, instilled in younger Marines, be a force for good and lead to out-thinking or out-fighting our enemy?

If the Marine Corps changes the way in which instructors are selected, those selected will be a center of gravity much earlier in their instructor career. Each school should have a quota system with Marine Expeditionary Force (MEF) representation. Each MEF, with Marine Forces Reserve, should have a mandated 20% representation in each academy. The remaining 20% will be offered to the Corps outside those MEFs and Marine Forces Reserve. Once this quota system is in place, and the numbers are worked out, the

selection process will be focused on the question, “Who does the MEF want to represent them?” This will be similar to the color guard sergeant position. These instructors will represent not only themselves, they will be the standard bearer of their parent MEF. The MEF would be responsible for identifying what values are important in an instructor, what criteria should be met, and which academy they want the instructor to go to. It would be safe to assume the commands would take ownership of this process and display more responsibility and pride in who they want to teach the Marines going to the academies. This responsibility and pride will be reflected in the individuals chosen. The students will know those chosen have the credibility and prestige to get them in front of the student. Respect will not only be given, but inherent. Similar to the selection for color sergeant, if ownership is taken by the commands, the students will directly benefit by getting instructors who have a vested interest in the Marine Corps and display the leadership traits and principles wanted out of them.

Once these instructors with a vested interest are selected, there needs to be a focus on developing a critical spirit within the students. Currently, students in the Sergeant’s School are instructed in critical thinking. Then they write five essays ranging in length from 250 to a thousand words. They are given very specific prompts with very specific instructions to write very specific thesis. They are told they *could* find more research topics and they *could* be creative. In my experience, all of this very specific instruction and plethora of “could” limits the potential for displaying or developing the very skills taught in the critical thinking class. Most of the essays could be plagiarized, because the same ideas are used in most of the essays. They are not plagiarized though. Unless they are a critical thinker, they will not see a need for going outside their comfort zone. The Marine Corps

preaches discipline and adherence to standards, but often those two things are displayed just like in these essays; they are displayed through strict conformity and lack of creative thinking. Strick conformity and lack of creative thinking is not indicative of a critical spirit and will not be key to out-thinking any enemy, but it will get the student a 95% on their essay.

The way to foster this critical spirit is by letting Marines fail. Marines should be forced to go to Professional Military Education resident courses. Marines should have every theoretical tool, they need to be successful, stacked in their brain housing group (BHG) after kicking in their brain doors. This is where failure comes in. Failure, even with its negative connotations, is not a negative thing. Failure leads to experience. Experience leads to knowledge. There was a young sergeant on the range in Stone Bay, North Carolina in 2012, who was joking around with a peer about how they had “never failed at anything because failure implies giving up.” When out of the blue, a chief warrant officer handed out a profound tool for their own BHG. This chief warrant officer said, “If you have never failed at anything, it is because you have not tried to do anything to challenge yourself.” It is with these words, which reminded were similar to words said by a drill instructor during the Crucible, this sergeant learned to overcome a fear of failure. Now, they concern themselves with the question, *Am I doing enough?* The answer to that question is: no, a Marine can never do enough. If the Marine thinks there is nothing for them to do, then the Marine needs to develop more of a critical spirit.

A critical spirit was awakened in that sergeant through a simple phrase and a recollection to an earlier statement. A critical spirit can be awakened through case studies,

guided discussions, or creative writing assignments, to list a few. Case studies and guided discussions are used in a very positive way already. Creative writing assignments need to be implemented to add another way to engage the critical thinking skills learned at the resident professional military education schools. The topic should not be limited to questions with binary answers. The students need to be given prompts with no limit to topic or ideas. By leaving the topic open, the students will need to be critical and interpret, brainstorm, and use all the skills of their critical thinking class in order to make an impactful and coherent product. The academies need to utilize this same technique. Even though most of the Marines briefed with this creative writing competition audibly moaned, they moaned because it is a daunting task that can fill someone with trepidation. This kind of feeling is realistic and this kind of assignment is tough. We need more tough and realistic training and we can achieve it through forced usage of creative writing.

The Marine Corps needs to find Marines with confidence, familiarity, and trust of the institution. 1st Battalion, 6th Marines still lives on with the nickname taken from their old commander Major Hughes, "Hard." Major Hughes was a standard bearer. The Marine Corps has a lot of them; they just need to be found. Once these standard bearers are found, trust will be established between instructor and student. A direct product of this trust will be the development of the critical spirit and skills required of future leaders and warfighters to fight any adversary. Every Marine has inherent power within them. This power is what sets them apart from the normal citizenry and from the members of the sister services. Instructors, using education, can awaken this power within their students. Those students can use these same skills to awaken the power within others. The Marine Corps can

prepare our warfighters to out-think and out-fight any enemy if it changes the way instructor selections happen and by developing the critical spirit within each Marine.

“MANNIE”

HONORABLE MENTION

Maj Brian Kerg

Lieutenant Colonel John Gallman, USMC, stared into the darkness, listening through his headset. He saw nothing, heard no one, and shivered in silence.

He lowered his monocle, saw the Russian landscape flare into white illumination. Still nothing. He winked, adding a 3D map overlay to his view, his battalion’s tentative position marked throughout the valley. Alpha company crossed the line of departure an hour ago. All on foot, emission condition zero, radio silent. No engines, no comms, no signature.

John raised the monocle, plunging back into darkness, and leaned over to his battalion operations chief. “Anything?” he asked, a hissed whisper.

Master Sergeant Karl shook his head. “Nothing sir. Alpha’s runner should have linked back up with us five mikes ago to let us know they were in the assault position.”

John swore. He eyeballed the overlay. Bravo was with him, Charlie was in reserve. Alpha should be hooking right, but he had no confirmation.

Karl leaned in. “One minute till our drop dead time. You still want us to push, or wait for word from Alpha?”

John grunted, frustrated. "I don't want us talking until we're already putting rounds on target. Signature won't matter then. But we can't walk into this fight blind."

"Their brigade might have organic sensors, but it doesn't mean they're monitoring our position," Karl offered.

"I have to risk it," John said, deciding. He clenched his jaw, opening up the battalion net. "Alpha Six, this is Jaeger Six Actual. What's your position, over?"

Flashes of light peppered the night sky, a crackle of fireworks.

"What the hell?" John muttered.

The flashes flew toward them.

"Incoming!" Karl shouted, flinging himself into the snow-covered dirt.

The earth shook, and everything went white.

Simulation Complete.

John disengaged the neuro-interface and stepped away from his kitchen table. Still disoriented, he tripped on a baseball bat, caught himself, and swore.

"Was that reaction from the simulation, or the near miss on the broken ankle?" Mannie said.

John looked around. He was alone in his kitchen. "Am I still online?"

"I am," Mannie said. "I'm in the cloud. I'm always online."

John picked up the bat and leaned it against the table. “I didn’t realize I was still connected. Hearing another voice in my head spooked me. The tech from G7 didn’t walk me through the details. He just showed me how to get started and made me sign for the kit.”

“In his defense, you did skip the tutorial,” Mannie said.

“Sounds like something the tech would say.”

“The neural interface is required for full virtual immersion,” Mannie said. “The user interface keeps you connected to me. Until you take it off or tell me to go away, I’ll be along for the ride. Would you like to know how you performed?”

“I think I already know the answer to that,” John said. A graph popped up in John’s feed, with statistical breakdown of several metrics. He saw numbers assessing his applied logic, cognitive bias vulnerability, and everything in between. John didn’t like the numbers he was seeing. He waved his hand and the graph vanished from view.

“Just because you got killed doesn’t mean you did everything wrong,” Mannie said.

“It does in my book. How’d I get shwacked?”

“Loitering munitions.”

John snorted. “The intel brief in the scenario didn’t say anything about the Russian brigade having loitering munitions.”

“But it did say they had robust means to detect all signatures typical of US maneuver units. You know already that their division had loitering munition capabilities. The two

were paired, and as soon as you were detected, the munitions were drawn to your position.”

“Like moths to a flame,” John said, marveling at the capability.

“More like networked munitions to a radio emission.”

John wrinkled his brow, waiting. Mannie said nothing.

“Are you familiar with metaphors?” John asked.

“That was a simile, but yes. Your psychological profile has you more amenable to dry wit, but I’m picking up that you’re having a hard time appreciating my attempts at humor.”

John smirked. “Sounds like something else the tech would say.”

“Let’s take a look at the bigger picture,” Mannie said, shifting gears. “You spent time in your battalion’s simulated workup on enemy electronic warfare capabilities, but you short-changed training on tactics to handle complex situations in a signature contested environment. When Alpha’s runner never showed, why not send your own runner to Alpha?”

“I was running out of time. My battalion was hanging in the wind.”

“You put them in the wind when you emitted while your position was being monitored. Also, you could have invested more in local air defense, giving you some protection from loitering munitions. You opted to attach 120mm mortar systems and max out your ammo load instead.”

“I was fighting the Russians,” John protested. “I had to hit them as hard as I could!”

“You were planning for the fight *you* wanted, not the fight your enemy prepared,”
Mannie said.

“The enemy gets a vote,” John and Mannie said in unison.

“It’s almost like you paid attention at The Basic School,” Mannie said.

“Is there a way to lower your humor settings?” John asked.

“Still,” Mannie said, sidestepping the query, “you performed better than 58% of
your peers.”

“Is that good?”

“Depends. You performed worse than 74% of your juniors.”

John’s shoulders slumped.

“This is why we train,” Mannie said.

“Dad?”

John looked up. His ten-year old son was standing in the kitchen doorway.

“What’s up, Danny-boy?” John asked.

“Who are you talking to?”

“Um... a training and education app?”

“Gross. Sounds like homework,” Danny said.

“I guess it is, kind of.”

Danny grabbed the baseball bat. "Want to play some ball?"

"After I finish my homework," John said, winking. "Same rules for me as for you."

"Fine," Danny said, rolling his eyes and grinning. "I'll be out back," he said, and ran outside.

"So I'm homework, now?" Mannie asked.

"The colonel is going to ask for my feedback tomorrow. I owe her at least two more run-throughs."

"So you want to play again?"

John grinned. "Sure. But I want a Pacific scenario this time. I'd rather sweat than freeze, even if it is all in my head."

Simulation Initiated.

John and his team spent weeks in their expeditionary advanced base. They inserted onto the island with the rest of the battalion, obvious enough for detection by Chinese satellites flying thousands of miles overhead. But when the rest of the battalion withdrew, he and his Sea Control Team stayed behind. Chinese reconnaissance assets followed the departing battalion, while John and his team established long range precision fires well inside the enemy's weapons engagement zone. Hidden under the jungle canopy with their Enhanced Naval Strike Missiles (ENSM) primed and ready, they went days without any form of communication with their higher headquarters, using low power, directional transmissions during windows when no adversary satellite footprint targeted them. The

ENSM stood by in passive receive mode, waiting for a transmission from the supported fleet commander.

It was midafternoon and sweltering hot. John was racked out, using his boonie cover to block out the sun, when the ENSM's receiver pinged. John sprang to his feet. The operator on watch, Corporal Dewitt, was feverishly jotting the message on a yellow canary.

"What's the word?" John asked, breathless.

Dewitt handed him the note. "We've got a lock on three Chinese destroyers. Order to fire is confirmed."

John and the team scrambled. They rushed to a safe distance, while John held the remote trigger in his hand. He wondered what kind of strategic events were unfolding, how the situation had come to such a drastic head. Without constant connectivity, there was no way to know. He pushed the trigger.

His missiles fired in quick succession, arcing across the sky. John watched them, admiring the precision of their flight. Then he remembered he had to move. Their position had just been compromised.

The team grabbed their packs, mounted their All-Terrain Vehicles, and drove across the beach to the other end of the island. Safely away from their first firing position, they hastily camouflaged themselves.

The island shook as counter-fire from the Chinese mainland rained down on them. John threw himself into the sand, and once again, everything went white.

Simulation Complete.

John rubbed at his temples. “Is there a scenario that doesn’t end with me getting blown up?”

“They can all end that way. You just have to do better,” Mannie said.

“Thanks, coach.”

“He is best who is trained in the severest of schools,” Mannie quoted.

“Thucydides!” John said, perking up.

“Careful, John. Someone might mistake you for a military historian.”

“I majored in military history.”

“Could have fooled me.”

John scowled. “What kind of name is Mannie, anyway? You’re an AI. Shouldn’t you have something a little more cutting edge?”

“It’s an acronym. ‘ManNIE’.”

“Of course it’s an acronym,” John said. “What’s it stand for?”

“MarineNet Intelligent Educator. MarineNet was a legacy online learning system. It was most known as a medium for annual training using the formal lecture method with no student engagement.”

“That sounds awful.”

“It was, but my program manager was strangely nostalgic about it. Let’s get back to your performance. I feel you’re avoiding your evaluation.”

“Lay it on me.” Once again, the assessment graph appeared in John’s feed.

“You weren’t half bad. You got your rounds off, likely sinking two ships and scoring a mobility kill on a third.”

“So mission accomplished?”

“Not quite. If you would have been more survivable and mobile, you could have moved to the cache your unit had one island over, and been ready to engage the next threat. It’s not sea control if you don’t control it.”

“So how could I have been more survivable?”

“ATV’s were a novel choice, but any low signature shore-to-shore connector would have done you better. A patrol boat would give you some decent legs for that archipelago, but even jet skis would have done the trick.”

“And my comparative analysis?”

“Outperformed 68% of your peers.”

“So I’m getting better!”

“The scenarios are too different to make that conclusion. But you did demonstrate a more robust cognitive analysis in your overall performance, yes. Would you like to play again?”

“Well, I’m on a roll. Give me one more.”

“The same scenario? Or something different?”

“Surprise me.”

“Don’t have to tell me twice,” Mannie said.

Simulation Initiated.

John was standing duty as the Battle Watch Captain in Second Fleet’s Maritime Operations Center. He furrowed his brow, studying the theater’s Common Operational Picture projected on the screen in front of him, when an alarm started to blare.

Petty Officer Martinez leapt to her feet. “ICBM’s inbound!”

“What’s the target? How much time to impact?” John cried.

For the third time that day, everything went white.

Simulation Complete.

John sighed. “About that humor setting...”

“You did tell me to surprise you.”

“Last time that’ll happen.”

“Are you sure? I’ve got lots of self-developed exercises. There’s a *Terminator* scenario, if you’re feeling froggy.”

“Should I be worried that the AI is designing exercises where the machines rise up and destroy humanity?”

“I’m one of the *good* machines,” Mannie said. John could almost hear it smiling.

“Would you like to play again?”

John looked out the window, saw Danny in the backyard, swinging his bat at the air.

“How much better are you supposed to make us at winning wars, Mannie?” John asked.

“Best of the best. More importantly, projections show if the total force maintains a visible three-to-one advantage in warfighting proficiency over most likely adversaries, state actors will remain deterred from great power conflict in 92% of scenarios.”

John stared at his son.

“Every day,” John said. “We’ll train every day. But now I owe my son some time. Put yourself on some whitespace in my calendar, Mannie.”

“Done. See you tomorrow. Bring your A-game.”

John slipped off the user interface.

As Mannie powered down, a final message flashed across the interface: *Mission Accomplished.*

TRAINING FOR THE FUTURE: THE NEXT STEP

Capt Walker Mills

In early 2018, Secretary of Defense James N. Mattis established the Close-Combat Lethality Task Force (CCLTF) to make generational investments in America's close-combat forces: the Army and Marine infantry, as well as reconnaissance and Special Forces units.¹ His assessment was that close combat forces, specifically the Army and Marine infantry had been neglected in recent decades and that soldiers and Marines today train in ways that would be familiar to their grandfathers. While, in other areas of the military like aviation, communications and other high-end capabilities benefited from massive investment and proliferation. This sentiment has been echoed by active-duty members of the force, with members noting that since 1945 eighty percent of America's battle casualties have been sustained by close combat forces, with the highest percentage coming from Marine infantry.² At the human level, this means that the 18-year-old rifleman from Youngstown, Ohio in 2018 is not much different from his counterparts who invaded Iraq in 2003 or even in 1991. There have been marginal improvements to his personal equipment but the way he is formed, the way he is trained is largely unchanged. Of training evolutions in the desert

¹ "Establishment of Close Combat Lethality Task Force," memorandum, Secretary of Defense, (March 6, 2018).

² Jeff Cummings, Scott Cuomo and Bob Scales, "When Dauntless Isn't Enough: The Moral Imperative for Fixing America's Close Combat Units," online, *War on the Rocks* (January 23, 2018). <https://warontherocks.com/2018/01/dauntless-isnt-enough-moral-strategic-imperative-fix-americas-close-combat-units/>.

of 29 Palms, California, one Marine wrote “...the 1985 marine would feel mostly right at home if asked to strap on his kit and fight the training scenario of 2017.”³ I had a battalion executive officer who believed that the platoons in our battalion were nearly identical to the ones he remembered leading well over a decade before. This needs to change. The Pentagon’s “Third Offset” is innovation, we need to make sure as a service that we are investing in the training and education of our Marines and sailors in a way that promises to provide continued overmatch for a generation.⁴ To make a generational investment in our close combat forces we need to fundamentally change the way we structure and resource our training to a model supported from outside of small units.

Today, military units are responsible for training themselves as they have been across almost all of history. Company commanders train their lieutenants, lieutenants train their sergeants, and sergeants train their privates. The two exceptions in the Marine Corps are formal schools – like the Infantry Officer Course or Winter Mountain Leader’s Course; and service level exercises run by outside agencies like Mountain Exercise (MTX), Integrated Training Exercise (ITX) run by the Marine Corps Training and Operations Group (MCTOG) in 29 Palms, California, or Marine Corps Combat Readiness Evaluations (MCCREs). There is no doubt that these formal schools and facilitated exercises are the gold standard for pre-deployment training and individual development. Befitting as such, they are prioritized in the training schedule and resourced appropriately by Headquarters Marine Corps but even they have become stale. But what about the rest of the time? ITX is

³ Ryan Pallas, “No More Self-Licking Ice Cream Cones: Marines Need to Train Against Realistic Adversaries,” online, *War on the Rocks* (January 12, 2018). <https://warontherocks.com/2018/01/no-self-licking-ice-cream-cones-marines-need-train-realistic-adversaries/>.

⁴ “The Defense Innovation Initiative,” memorandum, Secretary of Defense, (November, 15 2014).

only a thirty-five day exercise, a MCCRE may last a week if that and only a small portion of Marines can expect to attend a formal school during an eighteen-month pre-deployment workup. During this time, the units train themselves, generally with training facilitated by the next higher level within the battalion.

This internal training model is weak for a number of reasons. Battalions are not organized or optimized for training – the structure of the Marine infantry battalion, the rifle companies and platoons is designed for combat. If it were organized for training it would be organized differently. The leadership within the battalion is also trained for combat, not trained for training. Any leaders who have received specific training on how to train small units are in the battalion purely by chance. Though many formal courses in the Marine Corps pay lip service to the idea of ‘Train the Trainer’ and small unit training it is rarely a focus. In the three-month Infantry Officer Course only the final week focuses on building a training plan and executing live-fire training. This makes sense because the Marine Corps needs trained platoon commanders who can lead in future combat, a thus this is prioritized over training. However, the reality is that today few Marine platoons are deploying to combat zones, but every Marine platoon spends the bulk of their time training. This approach necessarily forces Marine lieutenants to ‘learn on the job’ how to conduct good training for their platoons. Obviously not impossible, this is how Marine platoons have trained for generations.

This focus on training also prevents leaders from being trained themselves. Some critics of my argument might opine that “training others develops true mastery” or something along those lines. Certainly, training others develops the skills of the trainer but

it is not the same as being trained yourself. Developing CONOPS and confirmation briefs for ranges, while they develop important skills, can in no way be construed as improving the tactical decision making of a lieutenant.

As an analog, let's consider a professional football team. While not a rifle platoon, there are similarities – episodic periods of training followed by contests, single-minded focus on success, a professional time commitment and so on. But there are less similarities in the way that the two groups train. The football team has a professional staff of trainers – who have a specific specialty, defensive line, receivers, nutrition etc., and there is a clear difference between the players and the coaches. Most of the coaches were likely players in the past, but their current position is as a professional coach, and they earned their position for their skill in coaching, not their skill at playing. The quarterback is not the coach, and the coach was not necessarily an MVP – but he was selected for his ability to coach.

We do not have this dual track system in the Marine Corps. In our institution, the quarterback is also the coach, and the team manager. Because of this, the quarterback is only able to spend a fraction of his time on the field training because of the other hats he is forced to wear. What this means for Marines is that there is a damning lack of tactical repetitions among our leaders that increase as Marines become more senior. Virtual reality and computer based learning environments may help increase the number of reps Marines can get in a tactical environment by increasing efficiency but they do not fix the underlying problem.

In my own experience of an eighteen-month pre-deployment workup and the anecdotal experiences of my peers, a platoon commander might reasonably have ten opportunities to lead his platoon in a tactical scenario during the workup. His company commander, perhaps five or six. This lack of tactical experience at the company level has been highlighted in other commentary.⁵ The battalion commander will probably have only two or three, one during the Marine Corps Combat Readiness Evaluation (MCCRE) that is the final pre-deployment certification and one during ITX. Both of these are facilitated by external agencies to the battalion – either the Regimental headquarters of MCTOG. Added together, this means that after nearly twenty years of service a Marine officer may only have twenty or so repetitions of command in a tactical scenario between his time in the fleet forces and supporting establishment. This is roughly one opportunity per year. This reality is in stark contrast to former Secretary Mattis’ drive to have troops fight “twenty-five [or more] bloodless battles...” before combat.⁶ This also means that the leaders who are evaluating and facilitating key training events may have only experienced them once or twice before.

What should be done? The Marine Corps should invest in a dedicated training cadre of active-duty, reserve, and civilian personnel to support, facilitate and evaluate training down to the platoon level. We need to recognize that significantly increasing the value of our training time and the time available to train will require agencies outside of the

⁵ Gene A. Harb, “The War Academy: Evolving the Field Grade Warrior,” *Marine Corps Gazette*, Vol. 103, No. 12 (December, 2019).

⁶ Jen Judson, “25 Bloodless Battles: Synthetic Training Will Help Prepare for Current and Future Operations,” *Defense News*, (September 5, 2018). <https://www.defensenews.com/smr/defense-news-conference/2018/09/05/25-bloodless-battles-synthetic-training-will-help-prepare-for-current-and-future-operations/>

battalion organization to facilitate training. Elite special operations units, as well as professional sports teams use this model of external support for training. It will be more expensive, and it will limit some of the traditional control commanders are used to having over their Marines and sailors, but it could result in a dramatically better trained force.

Imagine a lieutenant colonel that has just assumed command of his battalion. His first order of business is to sit down with the head of the battalion's training cadre, perhaps a retired lieutenant colonel himself. The cadre leader presents the battalion commander with three training plans for the workup – each slightly different to allow the commander to exercise some command prerogative. But the workup has already been planned and incorporates all of the lessons learned and after action reports of the last ten years of workups. The cadre knows the base, the training areas, and is ready to support the training. The commander does not have to spend his days with the operations office planning training – instead he can be executing training. His on-the-job training does not have to come at the cost of training days for his battalion. The battalion leadership can participate in the training and become trained themselves. The cadre can facilitate more company and battalion level events, more force-on-force events, and incorporate more training enablers like role players, contractors and pyrotechnics. Because of the cadre, there is more training and better training.

Another benefit of using outside support is the value that they can provide in evaluation. In battalion training, most of the evaluations are done internally, leaders evaluate the actions of their subordinates during a training event. The weakness here is that those leaders may only have executed the training event they are evaluating once or

twice before. They are probably not experts, and this limits the value of their feedback. A professional cadre would have the experience of observing tens or hundreds of similar events in the past and can do a much better job of evaluation. Also, these cadres can adhere to common standards across the Marine Corps and provide real insight to senior leaders about readiness. They could incorporate evaluation tools like film and collect and analyze larger amounts of data to compare across the force – things that are generally out of reach for an infantry battalion. A recent article in the Marine Corps Gazette highlighted the value of ‘game film’ for training events, but tellingly, the unit needed the support of multiple members of a local college football team to make this possible.⁷

If we as a Marine Corps truly want to maintain the lethality overmatch of our close combats units we need to make significant investments in the way we train our infantry at the fundamental level. We cannot simply will ourselves to “train harder” or “train smarter,” only organizational design can achieve this level of change. This is more important than new night-vision goggles or a 6.5mm rifle round. This is more significant than adding simulators or computer games into a training program or adding contractor support to a range. This proposal is for fundamental change in the way units train – a shift from primarily training themselves to being trained by others.

⁷ J.P. Carter and McEnroe, “Film Don’t Lie: Video Analysis Applied to Training,” *Marine Corps Gazette*, Vol. 103, No. 7 (July, 2019).

THE MARINE CORPS NEEDS SPECIALISTS

Capt Michael T. Hanlon

For 244 years the Marine Corps has been living up to the slogans and mottos of its own creation. “We make Marines, and we win battles” and “Every Marine is a rifleman.” But what if those two things aren’t enough anymore? Yes, every Marine is a rifleman, but for the majority of Marines they are also something else that requires even more training and technical knowledge to accomplish their mission. The days of mechanics and technicians being able to learn most of their job by reading the manual have gone away. Every new Joint Light Tactical Vehicle is run by a computer system with a sophisticated diagnostic program. Artillery Calls for Fire are not as simple as the basic three line transmission but utilize computer systems for accuracy and de-confliction. Miles of slash wire in the defense have been replaced with TAC Chat over satellites and every unit is clambering to get their own SUAS. The nature of war is enduring but the character of war is ever changing. In order to adapt to this changing character of war, the Marine Corps needs to take a hard look at the foundation of the Corps, the Marines. The actual personnel who make up the Marine Corps account for 61% of the annual budget¹. Marines are a significant investment in training, education, and resources, but in the current retention and promotion model

¹ Colonel Cook, Matt. “PPBE Process”. *CSC Resident School Lecture slides with notes*. 17 October 2016. (24 slide pages) slide 8.

they are also expendable. The average retention rate from 1998 -2008 was 27% for first term Marines, which means that 73% transitioned back to civilian life after their first contract². As technology increases, the training required to operate and maintain equipment increases. Soon the four year contract will be spent entirely conducting on-the-job training. The Marine Corps cannot afford to jettison that knowledge every year in the current fiscally constrained environment. Maneuver warfare requires the Marine Corps to be poised to exploit the initiative rather than spinning their wheels retraining rather than advancing. In order to out-think and out-fight our adversaries, the Marine Corps must institute a specialist rank because of the increasing technical requirements of the equipment; the cost effectiveness of tacit knowledge retention; and the overall improving effect it will have on Marine Corps leadership.

The creation of a specialist rank in the Marine Corps will allow the organization to better utilize and maintain new and improving technologies. It is no secret that the Marine Corps currently has an issue with material readiness. After almost 20 years fighting in Iraq and Afghanistan, the Marine Corps grew accustomed to having Field Service Representatives (FSRs) to supplement the maintenance of the equipment. As the funding slowly diminished so did the contracts for the FSRs and their tacit knowledge of the equipment. In order to reinvigorate Marine Corp readiness and be favorably positioned to maintain new equipment, specialists need to be employed. Currently an F-35B Aircraft Mechanic needs 15 weeks of training. Basic Communication Electronics Maintenance training takes 13 weeks complete. Motor Transportation (Motor T) Maintenance Training

² RAND Corporation. "Effects of Bonuses on Active Component Reenlistment Versus Prior Service Enlistment in the Selected Reserve". RAND Corporation. Santa Monica, CA. 2011.

is completed in 12 weeks. Artillery Mechanics are trained for 5 weeks.³ In contrast civilian aviation maintenance school is approximately 18-30 months of on-the-job experience or 24 months of course work.⁴ Civilian diesel technicians require approximately 19 months of training with additional on-the-job training.⁵ There's no question that the Marine Corps has perfected the art of training Marines in a shortened timeline, but how much on-the-job training is actually required to meet the training objectives to have a competent Motor T mechanic? With the increase in technology, can training really be explained by on-the-job training or by simply pointing out which technical manual to go to for answers? Creating the specialist rank allows the training to continue on its present course but that on-the-job training and tacit knowledge is maximized. Instead of repeating that learning cycle every four years it can be extended. The learning curve for new technology will be reduced as more experienced maintainers are receiving the training rather than a preponderance of new Marines.

The Marine Corps is currently operating in a fiscally constrained environment. The creation of a specialist rank will allow the Marine Corps to seek cost efficiencies and maximize their investment when it comes to specialized training. In 2002, the estimated cost of training and equipping a new Marine through MCT was estimated to be \$45,000.⁶ At that point they are only a basically trained provisional infantry Marine. Then add on the

³ United States Marine Corps. *Marine Corps Enlisted Opportunities Book*. Washington, DC: US Marine Corps, 2016.

⁴ Federal Aviation Administration. "Basic Requirements to Become an Aircraft Mechanic". March 19, 2013. <https://www.faa.gov/mechanics/become/basic/>

⁵ Lively, Stevanie. "How Long is Diesel Technician School? What Can I Expect?". *Advanced Technology Institute*. March 11, 2016. <https://www.auto.edu/blog/how-long-is-diesel-technician-school-what-can-i-expect/>

⁶ Olick, Diana. "An army of one carries a high price". *NBCNEWS.com*. October 21, 2002. <http://www.nbcnews.com/id/3072945/t/army-one-carries-high-price/>.

months of training required to be MOS trained and the months of on-the-job training. In reality the majority of technically trained Marines do not reach their full maintenance potential until they reach 3 years' time in service. While the Marine Corps has recently reduced the cost associated with FSRs, it is still buying the same basically trained Marines without the knowledge and skill retention. With 61% of the Marine Corps budget going to military personnel, the Marine Corps cannot continue to invest in training Marines only to have that knowledge lost upon their end of active service. Utilizing specialists would allow for a mechanism to retain that knowledge in a cost effective manner. Instead of spending money training a Marine from scratch, the funding could be used on continuing education in the field, or reinvested in new technologies. A non-technical field where specialists would improve cost efficiency would be in personnel and administration. The amount of time and resources lost to poor administration resulting in pay issues and rework is an absolute drain on the Marine Corps. Both personnel and administrative clerks only receive 10 weeks of training and require months of on-the-job training before they are proficient in their field. Battalion S-1 sections are responsible for so many functional areas making proficiency in each area is almost impractical with current the operational tempo. Investing in the specialist rank would result in knowledge retention, mitigating the pay losses due to administrative error. There are some jobs in the Marine Corps where allocating more people to the problem will fix it. For maintenance and administration, the quality of those Marines is just as important as the numbers. Ten partially trained mechanics will not improve your readiness as much as one fully trained and independent Marine capable of completing a prioritized task list.

The addition of a specialist rank will also be a much needed force structure shaping tool. As General Burger notes in the 2019 Commandant's Planning Guidance, "Our manpower model is based primarily on time and experience, not talent or performance or potential future performance."⁷ Another component of the promotion process is the leadership potential. Marines may have the time in grade and be proficient at their job but not the leadership potential for increased responsibility. With the current model, the only option is to promote the Marine with the hope they develop the requisite leadership ability in the future because by all other marks they meet the requirements for promotion. The Marine Corps is retaining quality Marines who are proficient but may not be ready for that next rank. Service limitations are another forcing function in this equation. If a Marine is not recommended for promotion, they will be forced out of the Marine Corps at 8 and 12 years of active service respectively for Corporal and Sergeant.⁸ These policies are necessary to maintain the smaller sized Marine Corps and do not negatively impact the majority of Marines falling into this category, but for a highly trained maintainer whose only downfall is poor leadership ability, the current process only allows for "up or out". Not only is the Marine Corps losing skilled individuals, it may also be promoting Marines beyond their leadership potential.

The initial reaction to instituting a Marine Corps specialist rank will inevitably be, "We don't need to be like the Army." The Marine Corps is a smaller force by design. With

⁷ Commandant of the Marine Corps. *Commandant's Planning Guidance: 38th Commandant of the Marine Corps*. July 2019.

⁸ Commandant of the Marine Corps. *Enlisted Active Duty Service Limits and High Year Tenure*. MARADMIN 696/18. December 14, 2018. https://www.marines.mil/News/Messages/Messages-Display/Article/1713185/enlisted-active-duty-service-limits-and-high-year-tenure/fbclid/IwAR1kKUm3FDBz--QozQ_DxG1Zn3bHToNDVXQcdIfrC1LKpqEOETw666jv9hw/

61% of the Marine Corps budget going to military personnel, the Marine Corps cannot afford to carry any dead weight and oversees the size of the force with great scrutiny. This argument has merit. In 1920 the U.S. Army instituted the specialist rank to signify competency in their field.⁹ This rank did not show leadership status; just a military capability. Since then the rank has changed. Today, the specialist rank in the Army is held by almost 25% of all soldiers and is an automatic promotion based on time in service¹⁰. Without controls in place, the specialist rank could become the dumping ground for all those service members who do not meet the requirements for promotion. But this proposal for a specialist rank is not a one size fits all for the entire Marine Corps. Only certain MOSs would be eligible for a specialist rank, those requiring extensive schooling, training, and certifications. Marines in those MOSs would be required to choose to compete for the specialist rank while still adhering to the Marine Corps standards for physical fitness, proficiency, and conduct. Incentives to becoming a specialist could be no requirement to PCS and incentive pay for achieving higher certifications beyond those established for the rank. Failure to maintain certifications would result in administrative separation. There should be three levels of specialist rank equivalent to the E-4, E-5, and E-6 pay grades and they would reside as the field organizational level of maintenance, field intermediate level of maintenance, and depot level of maintenance respectively. For MOSs that do not involve maintainers, the specialists of different ranks would reside at the battalion, regiment, and division. By enforcing these controls and holding the standard the Marine Corps not only

⁹ United States Army. *The Story of the Noncommissioned Officer Corps*. Washington, DC: US Army, 2007.

¹⁰ Department of Defense. "Active Duty Military Personnel by Rank/Grade". *DoD Personnel, Workforce Reports & Publications*. October 31, 2019. https://www.dmdc.osd.mil/appj/dwp/dwp_reports.jsp

retains critical skills but continues to maximize personnel efficiency, ultimately posturing itself to out-think and out-fight the enemy.

In the future the Marine Corps will continue to be tasked to do more with less. To put things in perspective the entire budget of the Marine Corps is roughly only 25% of either the Air Force, Army, or Navy's budget¹¹. As America's force in readiness, the Marine Corps' material readiness is just as important as the personnel readiness. The ability to out-think and out-fight potential adversaries is dependent on the Marine Corps' shrewd allocation of resources. The creation of a specialist rank will set the conditions to be better prepared for the increasing technical requirements of the equipment; seek cost effectiveness in the retention of tacit knowledge; and overall improve the quality of future enlisted leaders ensuring the Marine Corps' mission accomplishment against all future adversaries.

¹¹ Macias, Amanda. "Here is all the firepower the Pentagon is asking for in its \$718 billion budget". *CNBC*. April 26, 2019. <https://www.cnbc.com/2019/04/26/breakdown-of-718-billion-pentagon-budget-request.html>

DEVELOPING THE COGNITIVE EDGE

GySgt Daniel Best

In today's complex military environment, the days of facing a technologically inferior force is a luxury that we will not be afforded. An unintended consequence of the military superiority the Marine Corps has benefitted from in the past is a stagnant and unimaginative approach toward training. It is important to remember, "Necessity is the mother of innovation." Without a clear threat to our dominance on the battlefield to spur true innovation, we have lost an opportunity to press the advantage and outthink our next adversary. The CMC seems to agree, as in his recent planning guidance he states, "As good as we are today, we will need to be even better tomorrow." This directive may disrupt some strongly held belief that the Marine Corps is infallible but after years of innovations challenges and encouraging Marines to think, we are perfectly positioned to make corrective actions. Therefore, I believe the Marine Corps needs to "spend things" by immediately investing in current simulation technology, developing relevant tactical decision scenarios and reinvigorating the importance of junior enlisted education.

The battlespace is evolving at a rate commensurate with the advancements of modern technology, making it impractical to keep pace, rather we must better prepare the Marines and leaders to out-think and outfight our adversaries. Instead of solely focusing on

incorporating advanced weapons like the Modular Advanced Armed Robotic System, XM2010 sniper rifle, and F-22 Raptor on the battlefield the Marine Corps could invest in current simulation technology. Even compared to other services the Marine Corps capacity to host operational simulations is far from being a viable option for all Marines. As an organization, we have not even taken full advantage of available training aids that will increase the competence of every Marine. The civilian consumer market already has virtual reality simulators that can immerse a Marine in a complex situation and see how they apply the decision-making process in a semi-controlled environment. These simulators can be easily adapted to fit the unit's assigned mission while allowing small unit leaders to set parameters to structure the experience. We must become current before we can become advanced.

The Marine Corps should place the same organizational focus on developing ways to sharpen mental acuity to prepare for the complex battlefield as they do physical conditioning programs. General Krulak said, *"There is a critical need for all Marines to prepare themselves mentally and physically for the rigors of combat. Physical preparation has long been ingrained in our culture and Marines are well known for their physical conditioning. Mental preparation needs to receive the same emphasis."* As an example, there are fitness experts and even a new military occupational specialty to assist Marine in the physical domain but currently there are no cognitive experts that can provide tools or opportunities to help Marines when they are searching for guidance. Every military installation has gyms and exercise equipment, but a typical Marine would have a tough time locating a simulated virtual environment to employ and fine-tune their critical thinking skills. Just how fitness scores are tracked on evaluations, I believe to ensure

individuals take their capabilities seriously, there needs to be a way to test and track a Marine's cognitive aptitude and efforts made to improve these essential skills as a Marine and as a leader.

Modernized equipment is not the only method to improve training competency, there also needs to be a radical transformation regarding how tactical decision scenarios are developed, maintained and delivered. As an organization that is preparing for a very real pacing threat, the Marine Corps should be past the days of sitting around a dry erase board drawing stick figures or reading off a piece of paper to give our Marines a tactical scenario. This form of training drastically limits the student's ability to consider an appropriate and timely decision. How is it feasible that we have yet to find a better solution for training Marines than just relying on the same strategies that have proven successful in the past? There is no question that the decision-making development strategies used during enlisted boot camps and officer candidate school are a great way to build the foundation of cognitive fitness. The problem begins when Marines enter the Fleet Marine Force and those basic skills begin to deteriorate at a rapid pace due to a lack of sustainment or stimulus. Even if they have a leader that comprehends the importance of this type of training, there are few available resources to assist them. Once the scenarios are developed and published, there needs to be a consolidation point on either MOL/MarineNet/MCTIMS or any other frequently utilized "official" website that allows Marines of all levels to access these updates and other relevant training aids. There are several valuable but underutilized resources because they are not easily accessible.

The fight of the future is undetermined, which places a huge burden on the current force to prepare for the unknown. That is where restructuring our professional military education can bridge the gap of uncertainty to ensure we are not caught off guard. Every Marine is expected to have the mental dexterity to easily shift their mission and objectives from conducting humanitarian relief efforts to executing joint operations against a near-peer. If that premise is believed, then why does the current curriculum at the LCpl's, Cpl's and Sgt's schools not teach our Marines more about the critical skill of thinking? We should avoid the mistake of viewing the ability to think innovatively as a natural talent rather than a skill that can be taught. There is value in a Marine doing what they are told but when does the shift take place that allows them to comprehend those orders and make appropriate changes to accomplish the mission? The new update to the time in grade and time in service should mature the force but older does not mean more innovative. The current education opportunities have increased Corps wide and that is a positive, though I assume that there may be a general lack of participation that stems from a general perception that PME is more of a mandatory activity and not for personal development. That can only be changed by a restructuring of these lower-level PME schools to allow for more time and personal reflection that leads to awareness. The enlisted corps is demanding to take a larger role in the future of our beloved organization and there needs to be an equitable response to prepare them for that position.

In all levels of training throughout a Marine's career, we are subjected to the same antiquated scenarios that are used to hone our skills. Could you imagine going into battle against the modern enemy with an M1 carbine rifle? For some reason, we continue to use the same ancient forms of leadership development that Chesty Puller used when preparing

for Korea, because “it worked in the past” instead of pushing the necessity for advancements in these areas as well. If the Marine Corps has trouble defeating the next threat, it will have more to do with unprepared and underdeveloped leaders than outdated weaponry. We must act now to make the course altering decision that will not leave the tactical leaders in a catastrophic position.

BLUE EDUCATION FOR GREEN MINDS: THE IMPERATIVE TO ADD MARITIME AND NAVAL THINKING TO MARINE CORPS EDUCATION

Capt Walker Mills

The exercise was simple. Just pick where you want to land your forces on the map. It came towards the end of my time at The Basic School (TBS) when one of the indefatigable captain instructors was presenting a class on amphibious operations. We had largely finished with the course and the sense was that these last few classes were more intended to stretch our thinking than fortify basic platoon leading skills. “Where do you want to land?” The instructor asked the auditorium again. It was 1982 and we had to put 3 Commando Brigade ashore in the Falkands. Sea-control was taken for granted. Air-supremacy was assured. All we had to do was pick the beach. It was a good little thought exercise to get the class warmed up before moving on to some broad points about amphibious operations. But in retrospect it was also emblematic of a problem endemic to the Marine Corps. The Navy wasn’t part of the problem at all.

The Marine Corps likes to consider itself the ‘intellectual’ part of the military. We still pat ourselves on the back for MCDP-1 *Warfighting* and reference Secretary Mattis’ library of “over 7,000 books” as if the mere existence of those pages is an academic credential.¹ We pride ourselves in sending all of our officers through The Basic Course to learn tactical and strategic fundamentals, something no other service does. We have our own university in Quantico. But despite all of this investment and rhetoric there is nowhere junior Marine officers learn about naval and maritime strategy or tactics. This is a yawning gap of knowledge – perpetuated by our decades -long focus on counter-insurgency and operations in landlocked countries.

Our officers are not integrated with the Navy. We’ll call it the ‘Taxi Driver Mindset’ after the age-old joke that sailors are just taxi drivers for the Marines. Or in the meme version – the Uber drivers. To continue with the example of the Falklands War – it was a naval campaign, the decision on where to land cannot be separated out from the context. The culminating action on Goose Green was only the final few feet of the long slog. Young Marine officers need to understand what was behind the landings and the long march across the heath. There was naval action. The Belgrano decision. A navy and civilian flotilla. Rapid embarkation. A maritime exclusion zone. An advanced naval base at Ascension Island. Then there is the context – why are the Falklands British? They were coaling stations and whaling stations for fleets operating in the South Pacific. But unfortunately this is all lost when the only question is “what beach?”

¹ Amanda Macias, “The Extraordinary Reading Habits of Defense Secretary James Mattis,” *CNBC.com*, (September 15, 2018) <https://www.cnbc.com/2018/09/13/defense-secretary-james-mattis-extraordinary-reading-habits.html>.

And unfortunately, my experience as a junior officer has continued in much the same way as my experience at The Basic School. Aside from our chaplain and doctor I didn't encounter a naval officer in a professional setting until I had left the fleet after my first tour. And in that same amount of time I trained and exercised with soldiers from Japan, Canada and Mexico. The only time I've ever been on a U.S. Navy vessel was at TBS – for an overnight that had more in common with a Boy Scout campout than a real training event. That includes connectors and small vessels like Landing Craft Utility (LCU) and Landing Craft Air Cushion (LCAC). My experience is not unique, I can easily speak for all of the junior officers in my battalion and surely other battalions. Our Corps has at least one generation of officer who do not know the Navy we will need to fight with and through. But the problem is not so easy to diagnose as a lack of combined arms or inter-unit integration. I have participated in countless exercises with tanks, artillery, amphibious assault vehicles (never over water), and every type of aircraft the Marines poses. It is specifically a lack of *naval* integration.

So what is to be done? The Commandant himself, in his guidance has made clear that naval thought is coming to Marine Corps education near you.

“The Marine Corps will undergo an aggressive naval education program – ranging from the conceptual understanding naval theory and history down to tactical-level schools and courses – to enable our commanders and staffs across the Fleet Marine Force to quickly integrate in to naval forces and provide critical capabilities both afloat and ashore.”²

² “Commandant’s Planning Guidance,” Headquarters Marine Corps (July 2019), 10.

We have to drive naval integration in education across the board. I have more confidence that mid-grade and senior officers eventually gain familiarity with naval operations through time or perhaps simply osmosis. But it is at the junior levels that we are the most deficient.

- 1) Fix the curriculum. Junior officers, Second Lieutenants even, need to know and understand key parts of naval and maritime thinking. In his recent *War on the Rocks* piece, Commandant Berger mentioned Mahan and Corbett – Marines don't know who they are.³
- 2) Add naval officers to Marine faculties and into Marine school houses. Who better to teach naval gunfire at TBS than a real-live Surface Warfare Officer? Expose Marines to the Navy early, likewise this has the added benefit of increasing the exposure of the Marine Corps. Some communities – like Marines who commission from the Naval Academy, or pilots who are routed through the Naval Aviation pipeline already have these benefits.
- 3) Increase opportunities to send Marines to naval schools. The Navy has great opportunities for education in the Naval War College in Newport, RI and the Naval Postgraduate School in Monterey, CA. Marines already attend those schools as part of a number of programs and we should look to increase it and increase participation in other naval PME programs.

³ David Berger, "Notes on Designing the Marine Corps of the Future," *War on the Rocks* (December 5, 2019), <https://warontherocks.com/2019/12/notes-on-designing-the-marine-corps-of-the-future/>.

But we as Marines also need to take action at the individual and small unit level. First, commanders and unit leaders need to dive in so they can help direct and lead local and organic naval and maritime PME programs. The departure points are myriad – grab a book and dive in. Education can start with battles and campaigns already familiar to Marines like Guadalcanal and the Falklands but from a larger, maritime perspective. The history of Marine battles does not start in a well deck or landing craft – but in an integrated naval campaign. Or it can build off of more abstract naval history like the Battle of Jutland and Midway – blue water contests. Starting with theory is also pedagogically sound – with thinkers like Alfred Thayer Mahan, Julian Corbett, Wayne Hughes, Milan Vego or Raoul Castex. Mahan and Corbett are widely available in the public domain. Vego and the late Hughes taught at the Naval War College and Naval Postgraduate School respectively. These are thinkers and writing that is accessible to Marines. Even more approachable are periodicals – there is *Proceedings*, the magazine of the United States Naval Institute, the *Naval War College Review*, and *Center for International Maritime Security* that publish online for free. Or perhaps we need to try something more hands on, like a staff ride or battle study over water? TBS is not far from the Hampton Roads where the first ironclads clashed or from Yorktown – where Comte de Grasse’s fleet ensured victory for the Continental Army.

Adding naval thought and perspectives to our PME is value added. Looking at a problem from the landward and seaward sides are fundamentally different perspectives. And to anyone who disagrees – I urge you to take a ferry. Take a boat trip around some familiar piece of terrain and you will realize it anew. Even the fundamentals of tactics are

different at sea, the geometries are different, the culture is different.⁴ Even the truisms of Clausewitz do not always hold up at sea – and the fundamental tension between maritime and terrestrial ways of thinking is a forcing function for critical thought and innovation.

Whatever the route, the Marine Corps needs to start drinking from the proverbial naval fire hose. There is no shortage of material to incorporate into Marine PME at the junior level or ways to do it. But it needs to come institutionally and it needs to come at the individual and small unit level. Marines can't wait for naval education to seep in at Command and Staff or Joint PME and we can't wait to learn it on the job. We need it early and they need it often, it needs to be baked-in. As long as the Marine Corps continues to push decentralized decision-making and distributed operations junior officers need naval and maritime indoctrination.

⁴ Wayne P. Hughes and Robert P. Girrier, *Fleet Tactics and Naval Operations, 3rd Ed.*, Naval Institute Press (Annapolis, MD: 2018), 196-197.

MODERNIZING THE EDUCATION OF FUTURE WARFIGHTERS

Captain Eli Morales

The following speech was provided by the President of Marine Corps University

... in an alternate reality.

I am here to report that the results from our modernization experiment exceeded all of our expectations. By enhancing our partnerships with the Fleet Marine Force, addressing real world challenges in our curriculum, and modifying our student body, we eliminated the dissonance between professional military education and the challenges we face in the evolving operating environment. As the President of Marine Corps University, I will be formally requesting to make these changes permanent.

In his planning guidance, the Commandant called for an information age approach in which students are challenged with problems that they tackle as groups in order to learn from one another. He also ordered that all formal schools include a greater naval orientation to provide naval concepts, naval programs, or naval warfare. To meet the Commandant's intent, our experiment identified three changes that needed to be made within Marine Corps University: 1) Enhance our relations with the Fleet Marine Force, 2) Provide our students with real world challenges, and 3) Modify our student body so that

we can address these challenges with the appropriate stakeholders, subject matter experts, and within restricted spaces.

We began our experiment by establishing a primary focus for our experimental academic year. We decided to select our pacing threat within the Indo-Pacific Command area of responsibility. After determining a region and a primary adversary we were able to identify what units we will need to reengage with to enhance coordination and dialog. Those units were identified as Marine Forces Pacific, 7th Fleet, I MEF, III MEF, and Marine Forces Korea. Through the partnerships we established with each of these commands we identified gaps in their understanding of how to combat our pacing threat, and identified areas in which we could provide assistance by incorporating, discussing, and wargaming various portions of their operational plans in our curriculum.

To address these areas of concern we eliminated all fictitious scenarios within the participating college and schools and replaced them with real world gaps provided by our partner commands. This change required infrastructure modifications within Marine Corps University. For example, as several of you may have noticed, to gain access into Warner Hall you were required to submit a visit request and swipe a badge to move pass a turnstile. That is because Warner Hall earned its certification to operate as a secret open storage facility. Additionally students were provided access to the SIPRnet as a research and coordination tool. To facilitate coordination and dialog with our partner organizations, the college and schools were provided SIPR video teleconference assets. In addition to facilitating discussions, SIPR VTC suites were also utilized to receive classified briefings from members of the intelligence community worldwide.

By establishing Marine Corps University as a secret open storage facility, the student body required drastic changes. The School of Advance Warfighting and Command and Staff College were taught at the secret releasable to Five-Eyes level. Expeditionary Warfare School was taught at the secret releasable to Japan level. To continue maintaining relations with our partners and allies that were not in resident courses, the College of Distance Education and Training hosted online combined U.S. and international student non-resident one-year seminars for Expeditionary Warfare School and Command and Staff College. The content for all non-resident courses taught online remained at the unclassified level.

With these three changes we were able to set the conditions for our experiment. The following are three of our key findings:

1. Naval and Allied Integration

For the first time at Marine Corps University an unrestricted naval officer was assigned to each conference group in Command and Staff College and Expeditionary Warfare School. By including more surface warfare officers, aviators, flight officers, and submariners into each student body discussion, exercise, and research we were able to incorporate more elements of the Navy's Distributed Maritime Operations concept. During the conduct of planning, wargaming, and orders development, naval students were able to effectively challenge Marines' assumptions, provide relevant feedback, and assist in determining how to effectively conduct naval integration against our pacing threat.

Coupled with an increased naval presence within each cohort, the international student body within the Command and Staff College became a representation of only our

Five-Eye alliance. During our experiment Command and Staff College was represented by 32 students from Australia, Canada, United Kingdom, and New Zealand. All of our international military students arrived with secret clearances from their respective countries. Of these 32 international military students, they represented an assortment of military occupational specialties ranging from infantry, armor, signals, logistics, supply, aviation, special operations, and intelligence. Together with their U.S. Army, Navy, Air Force, and Marine Corps counterparts, the students at Command and Staff College researched, discussed, and wargamed the challenge our pacing threat poses to our EABO and Stand-in Force concept.

In contrast, the Expeditionary Warfare School, hosted 16 international military students from the Japanese Self-Defense Force. 10 were from the Maritime Self-Defense Force, 3 were from the Ground Self-Defense Force, and 3 were from the Air Self-Defense Force. Together with our Joint and Japanese counterparts, Marine Corps students addressed the difficult challenges faced with our pacing threat's aggression within the East China Sea. Most notably, the students researched and wargamed interoperability between U.S. Navy amphibious shipping and the Japanese Izumo class amphibious ships, DDG-183 Izumo and DDH-184 Kaga.

2. Innovation

By modifying our student body and providing joint and allied students' access to necessary classified materials, students were able to engage at a relevant level of reading, discussion, and understanding. Students took each assignment personally by viewing each challenge as a real-world threat when asked to produce products in support of Fleet Marine

Force units. Realizing the products they produced will be used by fellow Marines and Sailors, an innovative culture was established. The following are several of the initiatives they were able to pursue:

a. Unmanned Underwater Logistics Vessels.

One team of Command and Staff students consisting of a Marine Logistics Officer, Navy Submariner, and a British Surface Warfare Officer, researched the fielding and employment of Extra Large Unmanned Undersea Vehicles. Specifically, their research wargamed the employment of Boeing's Orca as a logistics resupply vessel for Stand-in Forces during EABO. Their findings were provided to planners at III MEF, 7th Fleet, and our five-eye allies looking to invest in naval expeditionary capabilities and capacities that support fleet operations.

b. Electronic Warfare.

A second team of Command and Staff students consisting of a Marine Cyberspace Warfare Development Officer, Navy Cyber Warfare Engineer Officer, and an Australian Cyber Warfare Officer, developed the force design for tactical level offensive and defensive cyber warfare capabilities through the collaborative efforts of a combined allied force. Their findings were provided to planners at Marine Corp Cyberspace Command, U.S. Fleet Cyber Command, and the Defence Signals Intelligence and Cyber Command of the Australian Defence Force.

c. Expeditionary Airfield Capabilities.

A team of Expeditionary Warfare School students consisting of a MAGTF Intelligence Officer, Unmanned Aircraft System MAGTF Electronic Warfare Officer, Air Support Control Officer, and Japanese F-15 Pilot, researched and developed a repository of expeditionary airfield locations for testing and evaluations purposes from the Ryukyu Islands to the southern tip of Palawan. The students wargamed each location to support an EABO environment. During their research and wargame the Marines worked alongside Imagery Analyst's from Marine Corps Intelligence Activity. The final product was posted on the Marine Knowledge Gateway as an interactive map. It was also disseminated to III MEF and the Japanese Self Defense Force for final testing and evaluation.

3. Evolving Operating Environment

Prior to this experiment, the Marine Corps University curriculum barely scratched the surface of what the challenges our peer and near-peer adversaries presented within the evolving operating environment. I am here to say that the previous dissonance between what we are doing with regard to education, and what we need to be doing based on the evolving operating environment no longer exists! With the relationships we have established between the Fleet Marine Force we are prepared to address the challenges our warfighters are facing today and tomorrow. With the relationships built, and the flexibility of our staff here at Marine Corps University, we are prepared to change our focus area during each academic year. For example, our faculty has been in contact with Marine Forces Europe and II MEF to address the adversarial challenges they face in the European Command area of responsibility. To support their efforts, next year's Expeditionary

Warfare School will be taught at the secret releasable to NATO level and host 16 of our NATO partners and allies.

These changes have precedent here at Marine Corps University. In 1934 classes at Marine Corps Schools in Quantico were halted so that the total resources of the institution were directed toward developing amphibious doctrine for the seizure and defense of advance bases. The writing of *Tentative Manual for Landing Operations* took seven months. Lieutenant General “Brute” Krulak described this time in his book *First to Fight* stating that, “For the first time the issues of air and naval gun fire support were addressed in detail. Likewise, principles of transport loading, debarkation procedures, guidance for ship-to-shore movement and the management of logistics at the beach line were treated in what must be regarded as great detail.” Upon its release, Marine Corps Schools formally adopted the *Tentative Manual* for use in training.

The time is now for Marine Corps University to provide assistance to the Fleet Marine Force to advance our warfighting doctrine. Our experiment has proven that Marine Corps University has the capacity and flexibility to address the multitude of current and future challenges within the evolving operating environment. For these reasons, I ask that these changes to Marine Corps University be made permanent.

CHECKERS AND CHESS

Carl Berger

To manage the multi-domain environment, our planning and execution needs to be able to move between tactical and operational elements seamlessly. To do this against a peer adversary, the Marine Corps needs to develop tactical decision makers who can understand the situation and make tradeoff decisions. In order to accomplish this development, the Marine needs to start their education in decision-making and continue expanding this skill through their career. Every Marine has different backgrounds, which is a strength we can use against our adversaries, so we must provide opportunities of experience to these Marines to build out their decision-making toolbox. Our diversity in the Marines is a force that is an enabler against peer adversaries.

For our tactical decision makers to operate in contested environments, we will need to know when to pivot from checkers to chess and back. In order to do this our learning strategy needs to be similar to how we operate within the battles: managing our rear, close and deep objectives. The education will be different within these elements, but each element building on the prior and building a stronger Marine. Our education will deliver for future battles as our adversaries have taken advantage of time, technology to develop new tactics and strategies. While there are no rules, our adversaries ensure that they take advantage of our ethics and morals and put us in positions to allow mistakes. We must never waver and allow our enemies this win as this goes against our warrior ethos.

The rear battle space will be the beginning of our Marines careers; either MOS school or TBS, but applying the basics in doctrine and making mistakes. We must learn the past to understand the future. Making mistakes will be important because as a young Marine, we will want to sharpen our decision making skills, form mental models on the battlefield and leading small units. Leading Marines as either a corporal or new lieutenant, reading, discussing and mentoring with more experienced noncommissioned officers and officers will help broaden experience and exponentially grow knowledge.

Biographies and podcasts help you fill in the gaps on how people succeeded and failed in the past, who they went to for answers and why. Understanding who the mentors of your mentors are is important as the ability to expand your network of decisions makers will help you add perspectives in this large world. Growing your experience with others will help you understand more about the world and support you as your travel it supporting policy and security. Expanding your tree of mentors will provide insight and analysis to consider. You must apply your diverse view to diverse perspectives so that you broaden your perspective.

Listening to how people argue, counter-argume and use data to provide a better perspective will help you understand how we operate within a space now filled with data and bytes. By growing with this, applying it to your day to day, you will see how models work, basic game theory and by controlling the inputs will generate predictable outputs or outcomes. This will allow you to see that you cannot control all variables, but the ones you can and by understanding the math of scenarios, you develop probability and outcomes to

win. Math is important in this process as it delivers the data and bytes, but human emotion is just as critical as it makes us human and can influence decisions.

Within the close battle space, rehearsals and simulations will help grow us from the small unit element to larger maneuver elements. By this time we will have had a deployment or two under our belts and see what the world is like and why we fight. We have now applied doctrine to real operations, understood why friction exists and you always need to be flexible in your plans. Leading Marines now has allowed you to develop your own style, gain a reputation and be challenged enough to remove doubt but still be humble and listen to those who offer insight.

Now that you have a foundation that is solid in tactics and doctrine, you read more about history and see that there is not much new in war, just the same applied in various forms with new technology and weapons. You see leadership is key in filling in the blanks while being confident and able to make decisions with limited information but understand that several steps ahead of your move what the enemy will do and how you can shape the engagement to your advantage, now you control the inputs. Emotions are a part of leadership and how you control yours and deal with your team's is important.

You should challenge yourself and look to go back to formal schooling, be around new groups of people who you will not agree with but learn how to argue more intelligently, research different views and perspectives. You will fall back to some of your earlier math models, but these are sound and proven, so you expand into new scenarios and simulations. Pushing yourself, learning from academics and combining with your experience will allow you to go wide and deep in understanding the perspectives of others

and gain keen insight into why they are doing what they are doing and allow you to see their moves and counter moves.

In the deep battle space, you find new technology and complexity to manage and learn that your enemies are further ahead than you are. Here machines are now talking to machines, generating new information and summarizing information for you to make faster decisions. You find that you go back to the earlier mental models you developed on the ground, leading Marines to filter through this data because it is overwhelming. Applying this data with your mental models will allow you see the future from learning the past. As if you have already been synced with machines, you are able to see farther, clearer and what the enemy will be doing. You think back to when you have played this scenario as a game, with others across the globe in front of screen in the form of zeroes and ones.

While you have created your memories and experiences as you have risen with the Corps, you think of how impactful these memories are as they are experiences and experience helps you connect the dots. What would have helped you think faster and better would be if you could get memories from others, inject their experience and by combining with yours, learn faster by speeding up time. This momentum in time allows you to have more tools within your toolbox of decisions. The larger the toolbox the better you are at leading across the multi-domain and growing threat from peers.

This singularity of machine and Marine allows you to think multiple steps ahead, see what the enemy wants, see the enemy's true weakness and allow you to formulate a strategy to wreak havoc within their center of gravity and win. This win was not just one click or one order, it was a culmination of watching the enemy, understanding them and

practicing these scenarios multiple times prior so that when this moment came, it has already been experienced and executed decisively. This will be the culmination of bytes and Marine, on the battlefield.

In order to shoot, move and communicate, the Marine must be able to think by connecting all the information maneuvering across the battlefield. To grow this muscle and strengthen it, the Marine must add additional weight of experience continually. Until we can inject experience and combine our bodies with machines, we will have to be content with simulation, rehearsal and reading to strengthen our experience. While doing this, we must learn to make better decisions and take risks. Learning now and making mistakes, we will prevent losses in the future against adversaries who do not mind loss on their side.

When we fight future battles, we will have fought that battle already, used that technology before and know what the enemy will do before they do. By knowing what the enemy will do, we will have decisive action against them and move from battle to battle. By using data, expanding our experience and the diversity of our Marine Corps, we have prepared ourselves to play various games. These games have given us models to make decisions quickly and effectively on the battlefield. When we control and understand the inputs better, we can dictate the outcome. The outcome will deliver mission accomplishment and a lasting Marine Corps.

TRAINING AND EDUCATION OF FUTURE WARFIGHTERS

Harold Hamilton

The question of how to modernize training for competitive advantage in warfighting is as old as human conflict. The Marine Corps has sought solutions from thinkers of great diversity, from the timeless philosophy of Sun Tzu, to the modern scientific approach pioneered by Col. John Boyd USAF (ret.), popularized by his Observe-Orient-Decide-Act (OODA) loop which is familiar to every basic trained Marine. As with many human questions, this one is timeless but also very specific to an epoch. The Marine Corps will find the answers by looking to the past and boldly incorporating modern breakthroughs in sciences to maximize training and education of future warfighters. The Marine Corps must begin by reviewing its own past and reinstating successful previous practices conducive to innovation. A review of past revolutions in military affairs is an appropriate start, with some concentration on relevant trends and breakthroughs in the larger society. The zeitgeist of an era in question will contain tools usable over time. Marine Corps schools are critical to cultivating and sustaining any desired change in warfighting mentality. Marine Corps schools have been at the forefront in past endeavors a prime example being creation of the definitive amphibious operations manual. The *Small Wars Manual* also represents the fruits of these approaches. The role of organizational culture must be addressed. By

weaving the lessons of the past in application to today's environment, it is apparent no successful military operated with rewards for excellence untethered to promotion and prestige within the organization. Rather than outbursts of feral demand for ideas, formalized institutional dedication to excellence brings about not the stifling of ideas but a satisfactory process of refinement resulting in ideas holistically suited to the larger mission of the organization. The result is sustained innovation and evolution rather than the seemingly random outburst-composite style currently manifest. Proper training, assignments, and career trajectories must demarcate accordingly to produce the desired results.

The first step to deciding how to modernize or change is to review the efforts of previous revolutionaries in the field. It is fun to identify when a change in tactics or the introduction of a new warfighting tool or way of thinking is introduced. What is more important is understanding what gave rise to the phenomena and how entities responded, or did not respond to the change brought about. We discuss the introduction of artillery, the use of naval engagement at Salamis and its impact on the land campaign, or the nascent idea to deliver munitions via air in isolation. The societies from which inventions spring forth are worthy of consideration. The larger society produces schools, institutions, cultures, and the political environments from which unforeseen possibilities can sprout and flourish. The United States remains competitive in this regard, technologies continue to spring forth at a pace bewildering to military planners, and even more difficult to integrate into the acquisitions or application phase. All societies leading the charge of successful innovation and integration laid the foundation organizationally for institutions to take advantage. Understandably, Americans are hampered in not being led by a monarchy or

despotic regime but the necessity of maintaining the post-World War II order and economic dominance which allows for some leeway in the fielding and use of new technologies. Barring ethically questionable enterprises, the American people are quite fine with exploitation of new technologies allowing for the continued cornucopia of consumption currently in existence. Like powers of the past, the United States must continue to be at the forefront of technological development and application. Staying at the forefront of these changes will require the training and education enterprise of the Marine Corps to maintain a cadre of competent professionals. Competency must extend beyond the parochial technical aspects of a given field. Subject matter experts in narrow fields are necessary, but what will become increasingly important is the presence of the competent generalist, in the sense of comparative capability across scientific and other domains. The importance of the 'generalist' skill set is under appreciated. Multi-domain understanding is adequate to the science of warfighting which has expanded considerably in today's environment; but possessing the scientific know-how coupled with cumulative cultural knowledge or an understanding of impact on larger policy is a daunting challenge and a problem that defies simplistic schema for evaluation.

Marine Corps Schools and training are the conduit to modernizing the changes sought to be competitive in future conflicts. Past is prologue. Books and articles are numerous enough to explain the necessity of schools to any endeavor. A return to competitive entry into schools is the answer. Not the ersatz competitiveness of selection by a board using averages derived from the arbitrary opinion of a random person, but the hard fact of the ability to pass an entrance examination. The examination should be crafted from what is expected knowledge of individuals of various grades. The answer currently

exists. If Navy Officers want to don the Fleet Marine Force badge they must pass a written exam and oral competency board comprised of information deemed necessary knowledge. Where is the certification process for Marines in the grades of O4 and E6 and above? Quickly, number of active duty infantry battalions? What components of a MEU? Which naval surface group configuration deploys with the MEU? Ask yourself honestly, how many Marines have requisite knowledge at ready command? Marine officer knowledge - should we extend this to MOS-specific knowledge? How many officers are at the forefront of what is necessary to maintain a competitive edge within their field against adversary forces? Basic knowledge, are intel professionals capable of naming strategic chokepoints in the world? Should Marines expect basics such as those from a 'supposed' intelligence professional? Shall we invoke polite declination to examine the lack of rigor in analysis? Pardon the focus on intelligence but it is only appropriate to pick on one's own field. What is the basis for half the assessments provided by your local intelligence shop? Ask for the basis of conclusions. Request the underlying logic be expatiated. Request the overarching structure and relation to possible USMC operations be made clear. It is likely you will receive blank stares. The answers to these questions start in schools and are enhanced by training. More, schools and trainings must build upon one another where individuals are accorded levels of mastery, credentials of sort used to convey capability. The utility of credentials are they are revocable and open the issuer to scrutiny. This scrutiny will assist in disrupting the check-in-the-box mentality. Also, credentialing will address the lack of competitiveness and all Marines must pass mentality currently embedded in training and education. Training must also take a major leap from the scripted to heavier reliance on freeform at the most basic level. Freeform exercises allow the greatest number of

possibilities dependent on environment. More importantly, freeform allows the Marine Corps to focus on what really matters which are the underlying thought processes leading to decisions in the fight. Imagine not being stultified by years of following checklists but being invigorated by the discovery of unforeseen possibilities. For those who immediately object, there is a place for routinized drills and rote memorization of certain facts, but these must be incorporated into a larger schema where these can be applied, not robotically but to novel situations as they arise stimulating the creative problem solving mechanism in the mind of the practitioner. Once these excellent changes are made in education and training the Marine Corps will conquer effortlessly, dominating all future conflicts, right?

Accountability is at the heart of the question. Training and Education is only one part to the equation. Even with top institutions and phenomenal cadres, how will the Marine Corps have certainty and reinforcement of desired effects? The answer lies in forms of accountability, the beginnings outlined in the idea of boards and exams for Field Grade and Staff Non-Commissioned Officers, the notion should be extended to Occupational Specialties in the form of credentialing. A broad education curriculum must be supplemented by MOS-specific education which compliments accordingly and strengthens the overall program, only then will there exist Marine professionals with the additional skills necessary for multi-domain success. The process of credentialing with broad military education will serve to validate the long learning necessary for the types of thinking and success necessary for the future operating environment. Eventually, the Marine Corps might even discover the utility in training officers for operations duty, the application of battalions even though they have not completed the institution's premier tactical infantry course. Education and Training of the future take for granted a broad scientific base of

knowledge. Future education and training must address ensuring members are solid in the necessary scientific areas in the multi-domain environment and in addition the areas of traditional concerns to commanders. As addressed by many, what good is it to understand the principles of aerodynamics without an understanding of the catastrophic consequences of bombing incorrect hamlets? Credentialing programs and screening tests for further education will test for these competencies. Training will reveal whether or not an individual leader is capable of employing different tools when appropriate. The credentialing ensures staffs able to assist a competent commander in best applications. A holistically structured apparatus is necessary to ensure the efficacy of any training and education program for the future warfighter. These competencies, which are proven, rather than subjective assessment will then justify advanced promotion and assignments based on competence. The “good old boy” network is rendered neutered by objective metrics and the institution is made better. Cynicism is reduced, morale and faith improved. A spirit of excellence is prevailed and ensconced in institutional culture.

In returning to the past, the Marine Corps will find the answers for building the future warfighter the institution desires. The suggestions outlined are not new, they are written in previous texts and are apparent when applying the recipes for success from prior eras. In summation, the Marine Corps can take the following concrete steps to modernize/change the training and education of future warfighters to face the realities of the evolving operating environment. Build a structured body of knowledge from which all Marines draw from. MCDP-1 states it established a common framework for all Marines, it is well time to adjust the framework to address modern predicaments. Second, using this body of knowledge select exceptional Marines to build this cadre, not based upon the

subjective markings of a superior which typically amounts to earnest drive but on the hard metrics of measurable success and demonstrable grasp of core concepts. The Marine Corps should elevate these individuals to key positions within commands and education environments. Third, schools should establish competitive entry requirements. Achieving revocable credentials is a first step to screening, a second process, to evaluate the individual's ability to think must be incorporated and must be as objective as possible. Finally, training must become freeform to allow for discovery and growth of the military professional. It is from training after the creation of proper foundations the institution will truly reach the apex of capability. Training will result in applicable techniques and theories to be applied in real time, returning the Marine Corps to innovative preeminence not enjoyed since during the Interwar period. The structures are in place to create this program, the next step is will and a deliberate reconfiguration with measurable milestones over a multi-year period. Extending implementation will allow for addressing misfires as they arise and for refining to address needs most effectively. Our continued competitiveness demands an overhaul, now is the time. We're already right of bang.

Endnotes

Boot, Max. *War Made New: Technology, Warfare, and the Course of History*. Gotham Books: 2006.

Epstein, David. *Range: Why Generalists Triumph in a Specialized World*. River Head Books: 2019.

Gray, Al. *Warfighting*. United States Marine Corps.

Ienaga, S. *The Pacific War 1931-1945*. Pantheon Books: 1978.

Lind, William. *Maneuver Warfare Handbook*. Westview Press: 1985. (pp 41-51)

Reid, Eric. "Put Marine Corps Officer Competence to the Test." Proceedings Vol. 145/11/1,401 November 2019.

Sowell, Thomas. Wealth, Poverty, and Politics. Basic Books: 2015. (pp 52, 55-56)

United States Marine Corps, 2019, 38th Commandant of the Marine Corps, Commandant's Planning Guidance.

Williamson, M. & Millet, A. (Eds.) Military Innovation in the Interwar Period. Cambridge University Press: 1996.

CRITICAL CHANGE REQUIRED FOR INFORMATION OPERATIONS PROFICIENCY IN THE INFORMATION ENVIRONMENT OF THE FUTURE

Capt David White

The addition of Information as the seventh warfighting function formally indicates the increasingly key role Information Operations (IO) will play in future conflicts. Recent guidance from Service chiefs also places strong emphasis upon IO. *A Cooperative Strategy for 21st Century Seapower* clearly points out that the Department of the Navy strenuously focuses upon potential contingencies and operating environments of the future.¹ The 38th *Commandant's Planning Guidance* (CPG) makes it clear that the Marine Corps must assess the future of amphibious operations through the lens of an all-domain approach in support

¹ Department of the Navy, *A Cooperative Strategy for 21st Century Seapower* (Washington, DC: Department of the Navy, 2015), <https://apps.dtic.mil/dtic/tr/fulltext/u2/a615292.pdf>

of the Fleet.² Future operations will require forces that are proficient in an information-age fight. Currently, the Marine Corps does not possess an IO talent management strategy commensurate with the growing emphasis placed upon IO. Despite much discussion concerning the information environment and the important role it will have as a legitimate maneuver space in future operating environments, efforts to build depth, organization, and proficiency into the IO community are presently falling short.³ This central issue rings particularly true with respect to IO officers. The Marine Corps needs a deliberate method of identifying, educating, training, and retaining officer talent for IO. The accession-based model used by the Defense Acquisition Workforce can be applied to designing and managing an IO primary MOS (PMOS) structure that provides sustained proficiency in this critical function.

Proficiency, and eventual mastery, is the combined result of education, training, and experience. A properly designed and managed force structure enables each of these elements to not only occur, but to endure. At present, the Marine Corps' IO community is not yet efficiently structured to fight in the information environment of the future. Its design fails to provide the level of training or education needed to cultivate sustained IO proficiency. The current IO force structure is highly composed of free military occupational specialties (FMOS) and billets which utilize Marines for a single tour of two to three years before returning them to whichever PMOS they possess. To earn the FMOSs, officers often

² David H. Berger, *Commandant's Planning Guidance 38th Commandant of the Marine Corps* (Washington, DC: Department of the Navy, 2019), <https://www.hqmc.marines.mil/Portals/142/Docs/%2038th%20Commandant%27s%20Planning%20Guidance%202019.pdf?ver=2019-07-16-200152-700>

³ Department of the Navy, *The Marine Corps Operating Concept* (Washington, DC: Department of the Navy, 2016), <https://www.mccdc.marines.mil/Portals/172/Docs/MCCDC/young/MCCDC-YH/document/final/Marine%20Corps%20Operating%20Concept%20Sept%20202016.pdf?ver=2016-09-28-083439-483>

only attend a brief classroom training session. One exception, the 8834 FMOS, requires a master's degree from the Naval Postgraduate School. Based on the current model, officers who could potentially develop higher levels of proficiency for operations in the information environment (OIE) are instead cycled back to the occupational field from whence they came.

Per the CPG, "Significant change is required to ensure we are...prepared to meet the demands of the Naval Fleet in executing current and emerging operational naval concepts."⁴ One glaring fact in support of this proposition is that the Marine Corps has yet to fully construct a force structure that trains, educates, and retains proficient IO personnel, particularly officers. From gray zone competition to combat operations, the legacy model of short rotations within the field of IO does not equip the Corps with the proficiency required to be continuously effective in the information environment. While some PMOSs are directly involved in OIE and have an acute focus on one or multiple information related capabilities (IRC), other occupational fields from which IO officers are pulled tend to possess a limited view of IO, whether in planning, training, or operations. Pulling officers from these MOSs for a rotation in an IO billet poses a risk to the development and sustainment of IO proficiency. This is not to say that officers with talent and potential for IO do not exist throughout the Corps, but that the current model for managing IO does not account for all that it should, and is therefore risky and in need of change.

Amphibious forces operating in future conflicts will have to be keenly aware of how actions in the information environment are affecting both the political and social environments in which they are operating. *A Cooperative Strategy for 21st Century Seapower*

⁴ David H. Berger, *Commandants Planning Guidance*.

details that deterring war between major powers will be increasingly crucial to maintaining global stability.⁵ Amphibious forces have been and will continue to be essential to maintaining the credible force that executes this initiative.⁶ The information environment of the future will be a highly contested, ambiguous, and volatile maneuver space that amphibious forces will have to contend with. Now more than ever, it is incumbent upon amphibious forces to “understand that controlling physical terrain is no longer a sufficient condition for battlefield success.”⁷ In this present age, the flow of information and misinformation of all forms propagates at unprecedented rates. Likewise, the technology that enables this incredibly fast and widespread flow of information is itself constantly growing in complexity and capability. This ever-growing pace allows for rapid influence of the decision making of state officials, military officials, general public, non-state actors, and so on. Because a single social media post from a government official could raise tensions between two nations to a breaking point. Or, a single action from a servicemember logged onto the internet could compromise the security of an entire military operation or exercise, leading to regional mistrust and lack of credibility. As *A Cooperative Strategy* poignantly states, “we can no longer presume to hold the information ‘high ground.’”⁸ For IO personnel, developing an understanding of the complexity and breadth of the information environment, and being able to instantaneously apply that understanding to the needs of a Marine Air Ground Task Force or other, potentially larger, unit is not so simple a task.

⁵ Department of the Navy, *A Cooperative Strategy for 21st Century Seapower*.

⁶ Department of the Navy, *A Cooperative Strategy for 21st Century Seapower*.

⁷ Department of the Navy, *The Marine Corps Operating Concept*.

⁸ Department of the Navy, *A Cooperative Strategy for 21st Century Seapower*.

A properly framed PMOS structure for IO would allow officers to build and maintain proficiency and domain expertise directly beneficial to the USMC's information warfare function. It would indeed draw from existing force structure, which the Commandant has expressed willingness to sacrifice in exchange for future capability.⁹ A structure that mimics the targeted, accession-based selection process of the Defense Acquisition Workforce would meet this need. In order to gain an acquisitions PMOS, an officer must first meet specific requirements displaying both potential and proficiency for success in that occupational field. Similarly, in the case of an IO PMOS that follows this model, Headquarters Marine Corps (HQMC) would not immediately assign officers the IO PMOS to officers at The Basic School, but rather would require they develop knowledge and experience beneficial to an IO position before transitioning to the IO PMOS. HQMC would measure gained IO experience by calculating an officer's time served in select coded billets deemed to provide experience dealing with the information related capabilities of the Marine Corps (ex. Public Affairs). Additionally, HQMC would require officers to complete an academic curriculum (largely non-resident) that would provide an education on the IRCs and their employment in amphibious operations along with doctrine and policy related to IO. Upon meeting the experience and academic requirements, officers could then apply for selection to the IO PMOS. The target population for accession to the PMOS would be O-4's who have met all requirements. Once an officer obtained the PMOS, they would serve in a staff role as the principal IO representative of their respective command.

The goal of the proposed structure is to ensure that, at a minimum, every MAGTF commander has an officer organic to their command who possesses the knowledge,

⁹ David H. Berger, *Commandants Planning Guidance*.

experience, and resources to present a complete and integrated SITREP of the information environment in which that command is currently operating and/or preparing to operate. Additionally, this officer would have the knowledge and ability to reach out to inorganic resources and coordinate their use in support of the MAGTF's IO plan. For example, an O-4 IO officer working directly for a MEU Operations Officer (OpsO) would be expected to advise the CO and OpsO on all IO matters and ensure that all IO strategy is appropriately planned and coordinated. This officer would maintain constant cognizance of what IRCs were being employed, their objectives, resource requirements, and relation to the CO's CONOPS. This officer would additionally supervise the IO planners and Technical IO officers attached to the command. The level of expertise required for such a billet is not doctrinally trained to as a part of any PMOS within the Marine Corps, nor is it something that officers executing a singular two-to-three-year tour in an FMOS could be reasonably expected to consistently achieve. Rather, such an officer should be the product of a PMOS structure which affords them multiple successive opportunities to train and operate with the IRCs. The ideal pipeline for the PMOS would yield an officer possessing a level of proficiency stemming not only from technological knowledge, but the conceptual understanding of a full combined-arms employment of the IRCs and assessment of effects within the information environment. Ideally, a successful tour with the MEU would lead to subsequent tours at higher levels of command.

By establishing a PMOS structure that exploits the Marine Corps' organic talent for operating in the information environment, the Department of the Navy will gain a significant capability for its amphibious forces. The extraordinary growth and proliferation of highly capable, multi-functional technology will cause the information environment to

become an ever more critical maneuver space. Possessing and retaining the talent base required to plan and execute IO in support of amphibious operations will enable dominance of the information environment, which will undoubtedly be key terrain for amphibious forces in the information age fight of the future. Using the Acquisitions Workforce structure as a model, a similar structure for IO can be designed that will enable the identification and continued growth and development of talented officers capable of supervising IO. The Marine Corps' requirement to skillfully operate in the information environment will only grow over time, therefore it is imperative to design a talent management strategy that ensures IO personnel are as proficient as future conflicts will require them to be.

CRITICAL CHANGE REQUIRED FOR INFORMATION OPERATIONS PROFICIENCY IN THE INFORMATION ENVIRONMENT OF THE FUTURE

Capt Kyle King

In former Secretary of Defense James Mattis' most recent work *Call Sign Chaos: Learning to Lead*, he emphasized decentralized command and control as critical to success in future conflicts, especially where distributed operations are necessary due to precision weaponry and advanced unmanned surveillance systems.¹ As America's adversaries continue to compete with us for geopolitical and military superiority, technological advances in weaponry will drive that competition. History has proven, however, that overconfidence in American technology can lead to an underestimation of the enemy. Warfighting labs and acquisition programs will continue to deliver top-notch weaponry to our warfighters, but the Marine Corps must focus on specific changes in the way we

¹ Mattis, James, *Call Sign Chaos: Learning to Lead*, (New York: Random House, 2019), 237-243.

formally train and educate our Marines to outsmart and outfight future enemies. In keeping with Secretary Mattis' insight, a renewed approach to teaching and emphasizing commander's intent to all Marines must become commonplace in the Corps' formal schools. More importantly, the Corps must instill an understanding of commander's intent and what disciplined initiative nested within that intent looks like for each rank and occupational specialty if they expect Marines at all levels to work towards outthinking our enemies.

Shortfalls in Initiative

Let's begin with commander's intent. MCDP 1 describes commander's intent as, "A device designed to help subordinates understand the larger context of their actions."² Central to this device is what the commander envisions as the end state of an operation or situation in relation to friendly forces, enemy forces, and the terrain. Commander's intent allows for flexibility in the face of the unknown, giving subordinates the freedom to make decisions and demonstrate initiative while still meeting higher's aim. Commander's intent is central to maneuver warfare and Mattis' concept of decentralized command and control. Master Gunnery Sergeant Russel Miller writes in *A Follower's Guide to Leadership*, "He [the Company Commander] did not give commander's intent to be liked; he gave it to ensure we would accomplish the mission even in his absence."³ Commander's intent drives initiative.

Tomorrow's leaders must possess unmatched levels of initiative if the Marine Corps expects to outsmart and outmaneuver tomorrow's adversaries. The battle of Ganjigal in Kunar Province, Afghanistan, in 2009 is a sobering example of an army far outmatching its

² Headquarters Marine Corps, MCDP 1 *Warfighting*, 1989, 89.

³ Miller, Russel, "A Follower's Guide to Leadership," *The Marine Gazette*, October 2019, 22-25.

adversary technologically but paralyzed by a lack of disciplined initiative and a clear commander's intent. Corporal Dakota Myer, in his account *Into the Fire*, recalled how several officers on the ill-fated patrol requested artillery and mortar fire on Taliban fighter positions only to be denied by the firebase's watch officer due to the proximity of civilian structures to target locations.⁴ Over the years conflicting strategic and operational level rules of engagement aimed at reducing civilian casualties in Afghanistan convoluted procedures for supporting troops in contact. The complexity of the fire support approval chain crushed subordinate initiative and provided minimal operational freedom within the regional commander's intent.

Armed with only legacy AK-47s, RPGs, PKM machine guns, and the element of surprise, Taliban fighters were far outmatched by U.S. and Afghan fire power, yet for the majority of the battle, American artillery and mortar tubes sat cold on the firing line. Taliban small unit leaders took the initiative and outmaneuvered U.S. and Afghan forces while U.S. forces stalled when their combined arms synchronization broke down. Attack aircraft languished on runways, reaction force commanders refused to enter the kill zone, smoke missions were denied; all tied to confusion over operating procedures and rules of engagement. A succinct commander's intent specifying the right to inherent self-defense should have clearly allowed the watch officer to demonstrate initiative in the absence of orders and prosecute the requested fire missions. In a complex and chaotic scenario where commander's intent and disciplined initiative should have turned momentum in favor of U.S. forces, strict operational command and control prevented common sense

⁴ Myer, Dakota and Bing West, *Into the Fire: A Firsthand Account of the Most Extraordinary Battle in the Afghan War*, (New York: Random House, 2012), 98-103, 110-111.

improvisation and three Marines, a Navy corpsman, and countless Afghan soldiers died that day.⁵

Let the Ganjigal experience be a lesson for how critical commander's intent is in allowing on-the-ground leaders to adapt to ever changing situations. Of course, by issuing intent commanders assume risk when allowing their subordinates to exercise on-the-spot judgment. Effective fire support during the battle may have possibly caused civilian harm. The payoff, however, often times outweighs the risk: greater operational speed, tempo, or surprise, all advantages critical to outsmarting an enemy.

Training Commanders on Intent

The most crucial group within the Marine Corps to require increased training in receiving intent and meeting it through disciplined initiative are commanders at the company and battalion level. Their rank and authority place them in positions of greater responsibility, but also allow them greater operational freedom. Exercise control groups overseeing combat readiness exercises and Integrated Training Exercises (ITX) should employ scenarios that test commander-driven initiative and provide evaluations on the results. "Captain Smith, after communication systems were jammed you held your company in place for 48 hours attempting to reestablish communication with battalion and simultaneously allowed the enemy reconnaissance platoon to escape the valley. Your commander's end state specified that all enemy forces in the corridor were to be pursued and destroyed." In this case exercise control jammed communications to evaluate how subordinate commanders would demonstrate initiative in the absence of orders. Although

⁵ Myer, 199-203.

Captain Smith fell short of the evaluators' expectations, he learned from the opportunity and walked away with a tangible example of tactical initiative to meet his commander's intent.

At the battalion and regimental level the imperative for issuing clear and achievable intent is most critical. During a Combat Readiness Exercise evaluators brief the commander the following: "LtCol Johnson, after reaching the limit of advance you identified key terrain shortly beyond that limit and rapidly moved your forces there to achieve a tactical advantage. This directly aligned with the regimental commander's desired end state that all key terrain along the axis of advance be controlled by friendly forces." At each phase in the exercise evaluators identify examples of initiative seized or lost and critique commanders on their decisions. Only through instruction, repetitive application, and evaluation can commanders improve their ability to rapidly identify opportunities for initiative that lead to tactical or operational advantages.

We often think of commander's intent necessary only to the infantry unit preparing to enter the heat of battle with chaos and uncertainty looming just over the ridgeline. In reality, all Marine Corps units have commanders and therefore require intent to function effectively. Think about the motor transportation operator transporting Marines to a specific drop-off point. Before departing with the cargo the troop commander informs the driver that the drop-off point has changed to a new location. Before committing to the new location the driver attempts to inform his or her dispatch NCO of the change. No luck. Next the platoon sergeant and platoon commander. Still no luck. Does the driver freeze and wait for approval before moving or do they depart without approval? Clear commander's intent

from the motor transportation unit's commander could preempt placing the Marine in this dilemma while wasting precious time. A clear and concise end state such as, "During this exercise all supported units are provided with timely, safe, and effective transportation, delivering them to their destinations to allow for their mission accomplishment," would have given that driver the reassurance that their initiative in the absence of orders was in line with their commander's vision.

Commander's Intent and Initiative in the School House

We'll now assume that commanders are issuing their intent flawlessly. How can Marines be taught to respond with disciplined initiative: the right initiative nested within their commander's intent, versus reckless initiative that may jeopardize success? Formal instruction at every level will better equip Marines with the tools to demonstrate what the Performance Evaluation System defines as, "Seeing what needs to be done and acting without prompting. Being creative, proactive, and decisive."⁶ Initiative needs to become more than just one of the 14 Leadership Traits; it must become a mandate for all Marines. Whether at the School of Infantry, an MOS training school, or resident PME such as Corporal's Course or the Advanced Course, disciplined initiative needs to become a learning objective for attending students. This may appear difficult to quantify as examples of initiative are as endless as one's imagination, but within specific ranks and MOS's situations reoccur enough to build specific examples from their patterns.

Beginning in entry-level training recruits should be introduced to the concept. This may appear to conflict with boot camp's mission of instilling "instant, willing obedience to

⁶ NAVMC 10835B, Section E, Item 3, 2.

orders,” into every recruit; however, commander’s intent does not take away from that time-tested trait that sets Marines apart. Instead commander’s intent spurs initiative when no specific order has been given. Leaders expect Marines to emerge from the training pipeline ready to obey any lawful order at the snap of a finger; instead we often receive Marines fearful to make decisions or take action. What junior Marine wants to be reprimanded for a mistake when seeking initiative? Yet we can begin to train Marines to analyze a purpose and end state and fill in the blanks with how to accomplish the mission.

Imagine a Senior Drill Instructor telling his recruit squad leaders the following: “The purpose of tomorrow’s inspection is to ensure that all recruits are progressing toward the full embodiment of the Marine Corps’ high standards in appearance and bearing. End state: All recruits are confident in weapons handling procedures, uniform preparation and wear, hygiene, and general military knowledge.” After that the drill instructors reduce supervision and conduct spot checks but allow the recruit leadership to accomplish the mission. Recruits up to this point have received formal training in commander’s intent and initiative; this combined with their experience in preparing for an inspection are the key components that will drive the recruits to complete the mission. There’s no question that the next day’s inspection will fall short of recruit training’s high standards. Drill instructor feedback and discussion with the recruits over met and missed intent and its direct relation to the initiative demonstrated by the platoon’s recruit leadership will ensure recruits better understand commander’s intent and disciplined initiative.

While attending the School of Infantry, students should be taught how and encouraged to demonstrate simple yet specific examples of initiative: weapons

maintenance, equipment checks, fighting position improvement, self-study, etc. These tasks may seem small but together they inculcate in the junior Marine the habit of taking action in the absence of orders.

At the NCO and SNCO education level, specific examples of commander's intent should be discussed, with instructors soliciting and affirming student led ideas on initiative that range from combat and garrison to leadership and administration. Curriculum at advanced leadership and occupational schools needs to include terminal learning objectives (TLO) on initiative and commander's intent, an example: "Given a mission and a commander's intent demonstrate initiative within the intent and the given scenario." Examples vignettes would challenge student critical thinking and problem solving. What does initiative look like for the supply specialist faced with a critical procurement request when funding or resources are low? How does the rifle squad leader demonstrate disciplined initiative when his patrol encounters a civil dispute in the local village? Should the maintenance chief cannibalize the Humvee to gain parts for another vehicle critical to the operation? Although it's impossible to cover every example, using case studies or vignettes to instill tangible examples of initiative into the minds of Marines will begin to foster habits of problem-solving and ingenuity not typically expected of them.

Looking Towards the Future

Marine Corps success in battle has always been tied to intangible traits. Albertus Catlin, commander of the 6th Marine Regiment at Belleau Wood during World War I, argued that the Marine Corps and U.S. Army received the same combat training prior to the war but traits such as esprit de corps, initiative, pride, and self-sacrifice set the Corps apart in

battle.⁷ Technology will continue to influence how battles and wars are fought but will not provide the trump card. History shows us that whether you are the watch officer, the battalion commander, a team leader, or a private; the right initiative taught, understood, and executed at every level ultimately makes the difference in outthinking and outfighting our enemies in any clime and place.

⁷ Catlin, Albertus W., *With the Help of God and a Few Marines*, (1919; repr., Nashville: The Battery Press, 2004), 17.

EDUCATION: WHO AND WHAT?

Maj Timothy Riemann

Background: *Caleb Johnson joined the Marine Corps at the after graduating from the top of his class at VMI in 1990. Because being a platoon commander was “all he ever wanted to do”, he got out after his 4-year obligation and after serving in the First Gulf War. His success in business is known across the world. He made his first million in the early days of the internet and was one of the first to recognize the lucrative effects the internet would have on commerce and business, and went on to be the founder and CEO of OmniLane. After nearly a decade, he resigned as CEO just as the company reached the “Fortune 30” status so he could peruse more “meaningful” work as the president of Treyston University in Texas. Later that same year, Mr. Johnson began his service on the MCU Board of Visitors.*

In the summer of 2019, Mr. Johnson was diagnosed with Stage IV lung cancer, given only a few months to live, and passed away in December of that same year. Leaving behind no children or wife, he made arrangements for the entirety of his estate, approximately \$273 million dollars, to be donated to the Marine Corps University through the Marine Corps University Foundation. Below is an excerpt from his last will and testament that he asked to be published detailing his vision for how the money would be used.

Before anything else, I am a Marine. The 4 years I spent as a Marine officer were the most transformative of my life. Every success I enjoyed after leaving the Corps is directly because of something I learned *in* the Corps. I figured the best legacy I could leave would be to ensure that Marines of every rank were properly educated and prepared to fight in the future. The battlefields Marines will face will be unrecognizable to ‘old-timers’ like me and these battlefields will require intelligent, creative, and agile leaders who were educated properly.

I have no intention of dictating exact or specific requirements for the endowment’s usage. I trust the Marine and civilian leadership at MCU and MCUF will be good stewards of this money for generations to come. I would however like to share some ideas on ways the money might be used for the betterment of the MCU students. I have tried to organize my thoughts into two sub-categories: “Who should the students at MCU be?” and “What should the students learn?” You are free to consider the following suggestions as perhaps just the ramblings of an infirmed Devil Dog but it is my sincere hope, in fact my dying wish, that at least a few of these ideas will be brought to fruition.

“Who Should The Students Be?”

I have spent many long hours thinking over the following questions: What sort of student is best suited to attend resident PME at MCU? How do we ensure we are getting the right student on campus? What should the constitution of the student body look like and how will this make up help ensure future success on the battlefield? My time on the MCU BOV brought me to believe that we are teaching to the lowest common denominator. Too much time is spent trying to teach to the next proverbial J-5 officer in the Pentagon and not

to the next Gen Eisenhower or Gen Mattis. I am confident that we can raise the performance of the MCU students by raising the quality of instruction/learning and demanding more from their time on campus.

Further, I think a massive expansion in our non-resident PME and distance education program is necessary and its Marines should be required to complete this course prior to being offered the opportunity for resident PME. If students have successfully completed their service and joint PME requirements via this expanded non-resident PME venture, the courses offered on campus could be untethered from these requirements and can create a truly unique learning environment that prepare Marines' mind for future war.

'Opt Out'—If a Marine is selected for resident PME and he desires not to attend, he should be able to 'opt-out' without adversely effecting his career. If creative leaders will be required to fight and win the next war, then our PME institution should be a place to foster, nourish, and encourage the creativity innate in our Marines. A student population with even a small percentage present against their will or wishes will always be a hindrance to creating a truly dynamic and creative learning atmosphere. In fact, one of the most critical factors in unleashing creativity in others is creating an environment that allows and encourages divergent thinking to take place. If a student is forced to attend a year long course of study, they are unlikely to contribute much, will not value the opportunity presented to them, and worst of all, will serve as a creative hindrance to the students that do want to be there. In short, they will prevent the establishment of a truly creative environment. The fact that non-resident PME could become mandatory means that Marines will still be eligible for promotion and advancement without attending resident PME.

“What Should The Students Learn”

While the German educational ideal of *bildung* (self-directed education, balance of intellect and character) is often discussed and promulgated, the current curriculum at MCU falls short in implementation. My ideas for a 21st century PME are first and foremost, centered on the study of history. As men and women who took an oath to the Constitution, the MCU curriculum should focus on the history of the founding of this nation, the great men and women who helped create America, and the leaders and soldiers who forged this ‘American experiment’. Unfortunately, this time period receives only a passing glance with a seminar or two in the curriculum. The curriculum should focus on the study great battles, campaigns, and wars to build a repository of vicarious experience that might be drawn on in the future. Finally, they should study great soldiers, leaders, and statesmen who can serve as both ethos building representatives of soldierly virtue as well as examples for today’s Marines to emulate. After the centrality of history, my ideas for officer and enlisted education diverge, so I will address them separately below.

Enlisted PME must adapt in order to present material in the manner in which our young Marines are suited to receive information. Marines in our ranks are digital natives while many of us are digital immigrants. The vast majority of them grew up in an era dominated by Twitter, YouTube, and instant access to information. However, the manner in which we, as an institution, attempt to communicate with and teach these Marines has failed to adapt to this ever-present reality. They simply do not learn the same way that I did when I was a young Marine. It is lamentable that young Marines are not inclined to read a 200 page book but there are still ways to communicate with and teach them what is

contained in that 200 page book. We have to look, find, and exploit new teaching methodologies and communication platforms to adapt to this generations learning style and preference. Indulge a hypothetical to help illustrate my point. Which is a young Marine more likely to learn from: a series of memes about Tarawa, Hue City, or Bella Wood uploaded to YouTube or assigning them “With the Marines at Tarawa”?

Memes are not the only possible solution. In order to further bridge the gap between teaching methods and young Marines learning style, I envision a team of digital professionals, junior Marines, and historians from MCU’s History Division collaborating to make animated videos that present an period of instructions on Marine Corps and American history that is both educational and entertaining. These videos could be similar to those on the popular YouTube Channel “Oversimplified”

(<https://www.youtube.com/user/Webzwithaz>) or “Three Minute Philosophy”

(<https://www.youtube.com/user/CollegeBinary/videos>). Similarly, we should seek to take advantage of interactive social media platforms to educate our Marines. As Snapchat is the most popular social media platform for 18-24-year-old in the United States, it is safe to assume the overwhelming majority of our enlisted Marines use this platform. I would like to hire historians to create and manage Snapchat accounts for some of our most celebrated Marines like SgtMaj Dan Daily, Gen David Shoup, and GySgt John Basilone, for instance. Marines across the globe would then be able to ask questions, interact with, and have conversations with these historical figures in real time. These accounts could both answer questions to inquisitive Marines and/or act as a resource provider to help cultivate and encourage a Marines interest in the historical person.

Few things offer to “change the game” in military PME quite like Virtual Reality (VR). I envision a robust team of VR experts, historians, Marines and educators, armed with the latest technology, travel to places like Iwo Jima, Saipan, and Da Nang, capture the necessary material, and then create the ability to see and experience the terrain in state of the art, interactive, VR. Marines need the ability to experience history in ways not previously imagined. Imagine a Marine, submerged into the VR, and then able to play the part of a historical person that experience the battle. The Marine in VR would then be faced with the same leadership decisions, tactical problems, or ethical situation experienced by the historical Marine decades before. Our Marines will then be able to see the consequences of their actions played out before them. Enabled by VR, this fusion of multisensory engagement, decision making, and battlefield history will help hone a Marine’s decision-making ability while teaching and showing them seminal moments from our past.

On the officer’s side of PME, I feel that our PME curriculum is too narrowly focused and, if expanded, would create all around better Marine officers. Professional Military Education should be about cultivating a fire of exploration and discovery on the part of the individual and less about the completion of a rigorous, pre-ordained set of classes and events. For example, at Command and Staff College, students are given a single 6-week period where they have the latitude to pick two electives. The rest of the 10-month course is a fixed curriculum that each student is required to complete. I firmly believe that the entire academic year should be a time where students are offered a wide assortment of challenging, graduate level classes and then are free to pick and choose ones of their own interest. As with the enlisted curriculum recommendation, officer PME be grounded in required courses in world, American, and war history but should offer a supplemental

series of courses students self-select into based on their interest level. These elective classes could range from everything from classical philosophy, art, music, calculus, and the like. World class instructors, paid for by MCFU, could be retained and integrated into the academic year curriculum. I see the academic year broken down into four quarters and each quarter broken down into 9-week periods (see below). Each quarter, students could enroll into 3 classes (one history class and 2 classes of their own choosing) as well as one hour each day in language training.

The first two 9-week periods could be divided by a reflection week. During this reflection students will be transported to outdoor/wilderness destinations of their choosing with the intent of spending no less than 4 day outdoors, surround by nature, thinking. A student might choose to hike the Appalachian Trail, camp in the Shenandoah Mountains, or something of that sort. Work should not be assigned. Students could choose to go in small groups but families should be strongly discouraged. The purpose of this week is a mental and physical break from the academic year and simply think.

Mid July	Late July-Nov	1st-Week October	Mid Oct-Mid Dec	Mid-Late Dec	Jan-Mid Feb	Mid Feb - Early March	Mid March-Mid May	Mid May - End of May
Orientation (2 Week)	9-Week Term	Reflection Week	9-Week Term	XMAS Break	9-Week Term	Abroad Experience (3 Weeks)	9-Week Term	Examinations / Out-processing

The second semester consists of two 9-week terms and an “Abroad Experience” between these two terms. This abroad experience will be fully funded by MCFU and will allow the student and their families to utilize and hone their language skills in a natural

setting. This cultural and language experience will broaden the student’s world view while concurrently improving their language skills. Students will prepare and submit a reflection upon their return detailing their experience and highlighting particular aspects of their time abroad.

Another aspect of a revised officer curriculum would be the introduction of a Passport Program. This program would serve as a forcing function for students to take advantage of the tremendous cultural, educational, and artistic opportunity afforded by the National Capital Region. On their own time (after school, weekends, holidays, etc.) students would be required to attend events or participate in certain activities that would in turn earn them a certain amount of ‘points’. By the end of the year, students would be required to accumulate 100 points in order to fulfill the Passport Program graduation requirements. Each student will be given \$500 during orientation to offset the cost of Passport Program activities. Students will keep a log of the activities they attend and will present this log to their mentor near the end of the year to ensure completion. The list should be revised often to meet to overall intent throughout the years. See table below for possible activities and associated points:

MCU Passport Program	
Activity	Points
See an Art Gallery	10 points
Attend a live theatrical performance	10 points
Attend a music concert	10 points
Attend the Symphony	10 points

Tour a Battlefield	10 points
Coach a team	25 points (entire season)
Community service event	5 points
Take a musical instrument lesson	5 points / lesson
Attend a cultural festival / celebration	10 points

My fear is, frankly, the status quo. Many leaders and General Officers will openly admit that the next major war will not be like anything previously seen or experienced. If this is true, and I believe it is, then we must be willing to educate our Marines in ways not previously seen or experienced. To do so will require vision, courage, and perhaps one or two of my ideas presented here. To do otherwise, to remain stagnant, may very well seal our fate as a Corps, a service, and perhaps even our nation.

RETHINKING THE CLAUSEWITZIAN PARADIGM: POWER AND POLITICS IN AN AGE OF PERPETUAL WAR

Maj Viktor Stoll

On 10 February 2015, a group of American military spouses leading veteran advocacy groups were targeted online. Spouses, with partners deployed in the fight against the Islamic State (IS), were directly threatened over Facebook and Twitter – “we know everything about you, your husband and your children, we’re much closer than you can even imagine.”¹ The attacks were claimed by the CyberCaliphate, a group operating under the IS banner, and the sensationalism of the threat spread rapidly across American news outlets. The event was heralded as demonstrating the enduring threat to the homeland by radical extremist groups operating outside the norms of conventional, state-based military conflict. The only problem with this assessment, however, was that the attack was not orchestrated by an IS-aligned non-state actor but by Russian uniformed military personnel.

¹ Raphael Satter, “Russian Hackers Posed as IS to Threaten Military Wives”, *The Associated Press*, 08 May 2018.

The CyberCaliphate, which also attacked other Western targets in 2015, was non-other than the “Fancy Bear” group – a specialist cyberwarfare sub-section of the Main Intelligence Directorate of the Russian Armed Forces (GRU).² This was not the first operation carried out by Fancy Bear against Western targets. In response to the Western sanctions imposed on the Russian Federation following the occupation of Crimea and Eastern Ukraine in 2014, the Russian military initiated an undeclared cyberwar on the West.³ Under numerous “false-flag” operations, GRU cyberwarfare personnel orchestrated a systematic campaign against Ukraine, Britain, France, Germany, South Korea, the United States – often piggy-backing through Iranian, North Korean and, even, Chinese servers.⁴ This latter point was particularly dangerous, as it risked false-attribution by Western national security organizations and the potential for escalating “retaliatory” attacks against non-aggressors.

However, cyberwarfare operations against the West are only one facet of Russia’s undeclared war on the Western international system writ large. Since 2006, GRU and Russian Federal Security Service (FSB) agents have murdered dozens of Russian emigré throughout the West – from anti-Putin oligarchs to pro-democracy advocates to government defectors.⁵ Moreover, the FSB has waged a “massive undercover campaign of harassment” against Western diplomats since 2009 while simultaneously conducting

² Kim Sengupta, “Russian Spy Agency GRU Responsible for International Cyberwar”, *The Independent*, 04 October 2018.

³ Jen Weedon, “Beyond ‘Cyber War’” Russia’s Use of Strategic Cyber Espionage and Information Operations in Ukraine”, in *Cyber War in Perspective: Russian Aggression Against Ukraine*, (ed.) Kenneth Geers (Tallinn: NATO CCDCOE Publications, 2015), pp. 68-77.

⁴ Andy Greenberg, “A Brief History of Russian Hackers’ Evolving False Flags”, *Wired Magazine*, 21 October 2019.

⁵ Heidi Blake, *From Russia with Blood: The Kremlin’s Ruthless Assassination Program and Vladimir Putin’s Secret War on the West* (London: Harper Collins, 2019).

detailed on-the-ground studies of Western telecommunication infrastructure “preparing for an opportunity to disrupt [them].”⁶

This coordinated, undeclared war on the West greatly intensified following creation of the Western sanctions regime in 2014. Russian military personnel and veterans, attached to Kremlin-linked “private” military contractors like the Wagner Group, are battling U.S.-aligned forces in Syria, Libya, Ukraine and Venezuela.⁷ Moreover, once supportive of the American-led effort in Afghanistan, Russia is now covertly funding and supplying the Taliban.⁸ This increasingly kinetic clash between American and Russian forces reached an apex on 7 February 2018 during the Battle of Khasham in Southeast Syria. Russian mercenaries and Syrian Army soldiers engaged a declared U.S.-occupied position for more than four hours. The mixed force of Rangers, Delta Force and Kurdish YPG repelled the attack with small arms and indirect fires, as well as multiple airstrikes.⁹

An Era of Perpetual Conflict

⁶ Ali Watkins, “Russia Escalates Spy Games after Years of U.S. Neglect”, *Politico*, 01 June 2017; Adam Weinstein, “Russia, Our New Anti-Terror ‘Ally’, is Spying Inside the US like it’s 1959”, *Task and Purpose*, 01 June 2017.

⁷ David D. Kirkparick, “Russian Snipers, Missiles and Warplanes Try to Tilt Libyan War”, *The New York Times*, 05 November 2019; Neil Hauer, “The Rise and Fall of a Russian Mercenary Army”, *Foreign Policy Magazine*, 06 October 2019; Kimberly Marten, “Russia’s use of semi-state security forces: the case of the Wagner Group”, *Post-Soviet Affairs*, Vol. 35, Is. 3 (2019), pp. 181-204; Nathaniel Reynolds, *Putin’s Not-So-Secret Mercenaries: Patronage, Geopolitics, and the Wagner Group*, Carnegie Endowment for International Peace Policy Paper, 08 July 2019.

⁸ In 2018, General John W. Nicholson, commander of U.S. Forces – Afghanistan and NATO’s Operation Resolute Support publically confirmed Russian military support to the Taliban. Dawood Azami, “Is Russia Arming the Afghan Taliban”, *BBC World Service*, 02 April 2018; Ayaz Gul, “Taliban, Russia Demand Foreign Troops Leave Afghanistan”, *Voice of America*, 28 May 2019.

⁹ Thomas Gibbons-Neff, “How a 4-Hour Battle Between Russian Mercenaries and U.S. Commandos Unfolded in Syria”, *The New York Times*, 24 May 2018.

The implications of this undeclared war are clear.¹⁰ The Bolshevik concept of a cross-domain, perpetual and ideological struggle against the capitalist system of the West, enshrined in the Kremlin-led Communist International (Comintern), has returned to the heart of Russian national strategy. Comintern's (1919-1943) original objective was simple: "the struggle by all available means, including armed force, for the overthrow of the international bourgeoisie and the creation of the international Soviet republic as a transition to the complete abolition of the state."¹¹ Comintern was to serve as the "General Staff of World Revolution", the rallying-point for all anti-Western sentiment across the globe.¹²

What many in the West term Russia's "New Generation Warfare" is little removed from its Comintern predecessor – either in ideology or approach. The ideological foundations of the Cold War struggle between "capitalism" and "communism" evolved to one between "neoliberalism" and "neorealism" and cultural liberalism versus conservatism.¹³ In both cases, the hegemony of the "decadent" West serves as the primary *raison d'être* for the exercise of Russian power. As one leading Latvian Russia-analyst points out, "the clear enemy [of Russia] is Western civilization, its values, culture, political system, and ideology."¹⁴ As former National Security Advisor LTG (R) H. R. McMaster

¹⁰ Connor Dilleen, "Russia's Undeclared 'New-Generation War' On the West", *The National Interest*, 15 November 2019.

¹¹ Harold F. Fisher, *The Communist Revolution: An Outline of Strategy and Tactics* (Palo Alto: Stanford University Press, 1955), 13-14.

¹² Fisher, *The Communist Revolution*, 13.

¹³ Kurt Engelen, "Is Cold War 2.0 Our Best Available Option?: A Critical Analysis of Western Foreign Policies Following the Annexation of Crimea by the Russian Federation", *MA Thesis*, Collège de Défense, École royale militaire, Brussels, 08 April 2016.

¹⁴ Jānis Bērziņš, *Russia's New Generation Warfare in Ukraine: Implications for Latvian Defense Policy*, Policy Paper No. 2, Center for Security and Strategic Research – National Defense Academy of Latvia (April 2014), 5.

quipped in 2018 that the West as an institution is “in the crosshairs of determined, capable [Russian] adversaries.”¹⁵

Like the young, relatively poor USSR of the Comintern period, Putin’s Russia accepts the physical imbalance between Russia and the West. Thus, New Generation Warfare embraces what Liddell Hart termed the “indirect approach” across a unified domain of conflict. Elements of this approach include the move from “direct destruction to direct influence,” “from a war with weapons to a culture war,” from direct annihilation of the opponent to its inner decay,” “from direct clash to contactless war,” from a superficial and compartmented war to a total war,” from war in the physical environment to a war in the human conscience” and, most importantly, “from war in a defined period of time to a state of permanent war as the natural condition in national life.”¹⁶

This concept of war is revolutionary, ceaseless and occurs, simultaneously, across the full spectrum of international relations. In this conceptualization of struggle, there are no distinct military “domains”, no separate “instruments” of national power, no Alpha and no Omega. There is only “power” as an absolute, zero-sum transaction between the state and its perceived challenger. The singular objective is to employ the totality of the state’s power to achieve dominance over the other or, in Clausewitzian parlance, “the compulsory submission of the enemy to [the] will [of the state].”¹⁷

Inverting the Clausewitzian Paradigm – Educating Towards a New Philosophy of War

¹⁵ H. R. McMaster, “Paul G. Haaga, Jr. Lecture”, University of Pennsylvania, 02 November 2018.

¹⁶ Bērziņš, *Russia’s New Generation Warfare*, 5; Nicholas Fedyk, “Russian ‘New Generation’ Warfare: Theory, Practice, and Lessons for U.S. Strategists”, *The Small Wars Journal*, 16 May 2017; Shazada Rahim, “‘New-generation warfare’ and the future of state security”, *The Jerusalem Post*, 03 September 2018.

¹⁷ Carl von Clausewitz, *On War*, Book I, Chap. 1, Para. II.

The Russian concept of war, an all-encompassing and ceaseless struggle that erases the parameters between political and military power, is highly at odds with those found in the West. While the Marine Corps in particular, and the US military more broadly, should develop new training and education programs focused on the tactics, techniques and procedures of Russia's "New Generation Warfare"¹⁸ – it is the entire conception of war within the American military education system which merits drastic reform. In order to out-think and outfight our adversaries in the evolving operating environment, American military professionals must adopt a new "philosophy" of war – one that assumes a totality of ceaseless struggle against an ideological foe.

If there is anything that an American field grade officer learns from a Command and Staff Course, it is the Clausewitzian adage that war is "politics by other means."¹⁹ In this conception, military means are, ultimately, subordinate to political objectives. This assumes that politics and war are, in French philosopher Michel Foucault's term, two separate "technologies of power."²⁰ In the Western mind, there remains a clear divide between war and politics.

Yet, if we invert this Clausewitzian paradigm we begin to approach a philosophy of war that is not segregated from, or subordinate to, politics, but rather one that is united with politics in a total struggle for power. Foucault first formulated this inversion - "politics

¹⁸ The US Army's Asymmetric Warfare Group has, so far, published the only critical analysis of Russian "New Generation Warfare" tactics, techniques and procedures within the services. US Army Asymmetric Warfare Group, *Russian New Generation Warfare Handbook* (Washington D.C.: US Army Publishing Directorate, December 2016).

¹⁹ Clausewitz, *On War*, Book I, Chap. 1, Para. XXIV.

²⁰ Michel Foucault, "Lecture to the College de France on 17 March 1976", in *Society must be Defended: Lectures at the College de France, 1975-1976*, eds. Mauro Bertani and Alessandro Fontana, (trans.) David Macey (Princeton: Princeton University Press, 2003), 239-264.

is the continuation of war [or struggle] by other means...power is war.”²¹ Power is, ultimately, about repression. It is a zero-sum struggle that seeks to impose the will of the self over the will of the other. Foucault, a former member of the French Communist Party, described the relationship further, “the role of political power is perpetually to use a sort of silent war” to establish a hierarchy of domination and subjugation.²² Ultimately, “peace” between actors “must be interpreted as a continuation of war.”²³

Thus, we arrive at a conception of war that is totally foreign to the American military professional. Americans, ideological isolationists on account of our geographic position and history, want war to remain far away, a last resort when all other pacifist options have failed. This stands in stark contrast to the Russian mindset, one of a frontier people in continuous, centuries-long struggle with an array of Eurasian powers.

It is not any single aspect of the “American way of war” which requires modernization to adapt warfighters to the contemporary operating environment but, rather, our entire philosophical concept of war as a finite, limited conflict of arms. American military education must embrace Clausewitz’s paradigm in its inverted form - a perpetual, non-linear power struggle for dominance over an ideological foe.

From this paradigm shift, it becomes possible to develop the educational foundations for a “New Generation of American Warfare”. The old definitions of clearly segregated forms of war which compartmentalize our military education system must,

²¹ Michel Foucault, “Lecture to the College de France on 07 January 1976”, in *Society must be Defended: Lectures at the College de France, 1975-1976*, eds. Mauro Bertani and Alessandro Fontana, (trans.) David Macey (Princeton: Princeton University Press, 2003), 1-22.

²² Foucault, “Lecture to the College de France on 07 January 1976”.

²³ Foucault, “Lecture to the College de France on 07 January 1976”.

necessarily, be thrown out. War will lose its various prefixes, Small Wars and Cyber Operations will give way to war and operations – a concept of totality and fusion that far exceeds our current plans for so-called “Multi-Domain Operations”. This integrated approach to war is:

“consistent with published Russian military doctrine. Russian strategic thinkers do not consider ‘cyber war’ (or even the prefix ‘cyber’) as a distinct concept. Rather, computer network operations are tools to be integrated into broader efforts to maintain political and military dominance in a given theatre and, more broadly, in the domestic and global courts of public opinion.”²⁴

Furthermore, education for operations and planning will, necessarily, move away from the rigid six-step “operational phases” that parameterized Joint Operations for three decades.²⁵ The joint concepts of “dissuade” and “deter” would be replaced with a holistic concept of “dominate”. The long-standing OPFOR concept of “deep-battle” consisting of disruption, battle and support zones, could be adapted to develop a cross-domain approach to operational planning and execution.

Conclusion

Ultimately, focusing on individual aspects of military education – tactics, technologies and even theories – will fail to ensure that our warfighters are capable of out-

²⁴ Weedon, “Beyond ‘Cyber War’”, 68-77.

²⁵ DoD, *Joint Publication 3-0, Joint Operations*, 22 October 2018.

thinking and outfighting our adversaries in the evolving operating environment. The real shift in paradigm in the operating environment is not tactical or even theoretical, it is philosophical – an embrace of that aspect of human nature that German philosopher Friedrich Nietzsche termed the “Wille zur Macht” (the will to power over your adversaries). This, in turn, inverts Clausewitz’s paradigm as Foucault demonstrates, replacing war as a finite concept subordinate to politics with a concept of war that is perpetual, all-encompassing and existential. In their New Generation Warfare, the Russians have resurrected the Bolshevik idea of a “total struggle” against an opponent. It appears that the Chinese, Iranians and North Koreans are already adapting to this philosophical concept of war.²⁶

Only by adjusting our philosophy of war can we begin to restructure our military education system to adequately address the evolving operating environment – and prepare our warfighters for a new era of perpetual struggle. In the current operating environment, we are already at war – whether we choose to fight or not.

²⁶ Jack Brown, “An Alternative War: The Development, Impact, and Legality of Hybrid Warfare Conducted by the Nation State”, *Journal of Global Faultlines*, Vol. 5, No. 1-2 (October-December 2018), 58-82.

WARFIGHTING AND TRAINING

MAJ Donald Williams, USAF

Introduction

Our return to peer competition is unlike the past, and requires training of our force as empowered, critically thinking warfighters. The 2018 National Defense Strategy states that the security environment is affected by technological advancements, and “commercial technology will change society and ultimately, the character of war.” Threats such as Iran, China, and Russia, among others, have proven that the next conflict will combine traditional war-fighting methods with asymmetric tactics in the cyber and space domains. Because of these technological advancements, access to public domains, and increased global reliance on these domains for commercial products, we improve our preparedness for our evolving threats through a comprehensive assessment of readiness, training and education must account for the many resources available in the joint force, international partnerships, and the commercial sector.

We face a multi-national, multi-axis, multi-domain threat. Our training and education should match the way we will continue to deter aggression; through deliberate preparation of the joint force, interagency coordination, and strategic partnerships. Our future warfighters need to understand how we deter and prevail against our adversaries despite the advancements of our adversaries.

Training and Education

Our training must include the significantly underestimated threats in how systems are fielded and utilized. For example, legacy aircraft, even 5th generation, use commercially available technologies which are susceptible to interference, duplication, and manipulation. As a cost of furthering innovation from every level in recent years, many of the technology available in open-source environments had now been operationalized for military end states. However, each of those non-proprietary technologies poses a vulnerability of duplication or interference. China's Beidou system, built from readily available technology, has become comparable to the GPS we recognize. Additionally, China's Belt and Road Initiative, or Russia's growing influence in Africa that increase their global influence can only be countered by national solutions. As warfighters, we must remain educated about China's strategy to obtain power.

China's power position is growing, primarily focused on control in the Pacific region and a strong, agile military. The "One China" philosophy exemplifies its power position, which is that it seeks to maintain a physical presence in the region, including all disputed areas of land and water. Countries such as Taiwan and Hong Kong demonstrate the Chinese approach to forming a strong, capable nation with increasing influence in the Pacific. China has one of largest standing militaries in the world, one of the largest economies, and one of the largest populations. It has become more influential in the relations of other countries. The regional PACOM workbook states that until the 19th century, China was essentially isolated from the rest of world, particularly the west, but after the Second Opium War, China practiced less isolation.

China's power position is to be strong militarily and economically, first regionally, with growth and expansion throughout the world. China has resources in people and finance. As of 2016, China contains over 1.3 billion people (CIA, 2017), and have focused national resources on a global economic influence, shown by their creation of the Asian Infrastructure Investment Bank and the New Development Bank, spending over \$1 trillion in those initiatives (Morrison, 2017). Additionally, their investments abroad in Africa, and trade in places like North Korea, have afforded it a substantial level of influence in the future. China's ability to use economic power to gain regional influence and build its domestic military capability are strengths, but there are some weaknesses, however. China has been accused of unethical trade practices and infringement of intellectual property rights. Specifically, the recent debate on China undervaluing currency is of concern to the U.S. because of the low-cost goods that results in loss of American jobs and trade gains. On another note, militarily, China has innovative aircraft and naval assets as strengths, but has weaknesses in training and exercising that power in the Pacific region it is meant to be used in. Regional exercises in the Pacific do not often include China, as the isolationist approach to development is evident currently.

China uses its power advantages for domestic growth. Because the most visible element of Chinese power is economic, the U.S. has used diplomatic and economic methods to influence China. In 2017, President Trump explicitly identified the accusations of currency undervaluation by China and spoke against US participation in the Trans-Pacific Partnership. Diplomatically, the US has decided to increase direct dialogue with China, such as with the US-China Comprehensive Economic Dialogue (Morrison, 2017). Further, to counter China's military growth, the US has increased awareness about the dangers of

space and cyberspace if not properly governed and controlled. The US has invested in knowledge, training, and equipment that is meant to prepare for a future with China as a global influence in multiple domains. This development prepares our warfighters for what appears to be evolving international economic and military threats. Our understanding of the strategic battlespace should inform our tactical and operational training. For instance, the future warfighter must be familiar with how establishing lines of communication, maintaining centralized control, and being prepared for decentralized execution provide new centers of gravity in the future. The combination of air, space, ground, sea, and cyberspace powers provides deterrence, but the unknown risks of technological advances need to be accounted for in training, along with additional vulnerabilities, such as the rapid dissemination of communication and the resilience of warfighters.

Information Exchange

A present, underestimated threat is the rapid dissemination of information. While many refer to the present day as the information age, we are past that phenomenon. We are now in the age which requires an advanced, proactive, strategic approach to communications and messaging, domestically and abroad that was not characteristic of the information age. Now that information is readily available, leaders must be aware of the effects of every message, internally or externally. Training must influence deterrence through deliberate messaging about the joint force. The messaging should be widespread that the joint force is a lethal, ready, vital instrument of power that is trained for tomorrow's conflict. Messaging serves not just the purpose of communicating to adversaries, but also reinforcing the contribution its members make to national security, so

that warfighters can continue to be resilient, innovative, and productive. A lesson of the past is found in the Vietnam War, in which North Vietnam sought to influence the will of the American public, or in the Battle of Gettysburg, in which Robert E. Lee timed his force's advancements based on information regarding the resiliency of the Union. This strategic messaging is necessary to address the resiliency of the joint force, which is also a significant vulnerability.

Resilience

The resilience of the American military should also be a concern. Our heritage and tradition are still forming, so our training must be treated with sensitivity to that effect. For example, in WWII, our military heritage transformed with respect to strategic air power. We are now in an age where strategic space power is becoming a notable stage in our military development. This is the first year that our youngest military member will have been born after the devastation of September 11, 2001. This warfighter cannot draw on those memories and is making an assessment on current military training and operations. In parallel, suicides across the forces are on the rise. Our public messaging and training must be adaptable to how we build strong, resilient leaders and followers. Our military training should not be separated from the resiliency training our force receives because of the impact military operations have on the emotional and mental state of our warfighters. Our warfighters will see forms of conflict that they need to be prepared for. Resiliency training that is integrated with our traditional training will prepare them for that stress.

Conclusion

Therefore, our training needs to be overhauled to mirror what our military has become: a joint force. While highly capable, our military runs the risk of stovepipe thinking and training, which poses our greatest internal threat. First, we must understand our international operational picture. All warfighters need to be aware of why there is a need for a realignment in the first place. They need to see their role in the joint force, which is evident as we study countries like China and Russia who make their quests for power clear. Next, we must approach our national security as the strategy it is intended to be, with tools of not just military, but economic power. This allows the mission support warfighters to see their very direct role in our capability and be empowered to be critical thinkers. Their innovation will derive from their knowledge of the broader picture. They will know that solutions we need may not be the ones we have, and they will have a background to see why innovation is important. Finally, we must be acutely aware of the impact resilience has on our military and integrate that knowledge in training so that warfighters know that they must be physically, mentally, and emotionally fit to fight. They will test their bodies and minds like no other time in history, so they need to approach their training for that level of stress. The warfighter of the future is an educated, self-aware, emotionally intelligent weapon who understands his/her platform, their service, the joint force, international relations, and most importantly, national security.

References:

CIA World Fact Book: China. Accessed December 19, 2019 from https://www.cia.gov/library/publications/resources/the-world-factbook/wfbExt/region_eas.html

Morrison, Wayne, M. 2017. China's Economic Rise: History, Trends, Challenges, and Implications for the United States. Congressional Research Service. Retrieved December 18, 2019 from <https://fas.org/sgp/crs/row/RL33534.pdf>

China's Military Strategy. 2015. The State Council Information Office of the People's Republic of China. Retrieved November 27, 2019 from

http://eng.mod.gov.cn/Press/2015-05/26/content_4586805.htm

National Security Strategy of the United States of America. December 2017. Retrieved December 8, 2019 from

<https://www.whitehouse.gov/wp-content/uploads/2017/12/NSS-Final-12-18-2017-0905.pdf>

