



MARINE CORPS Gazette

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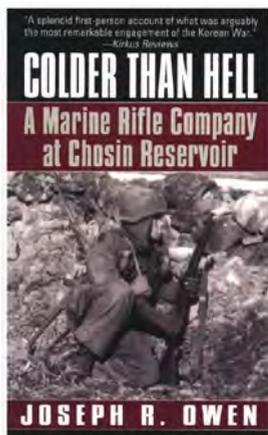
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GEN ROBERT E. HOGABOOM LEADERSHIP WRITING CONTEST



Gen Robert E. Hogaboom.

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

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31 January

Background

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

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

Instructions

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

E-mail entries to: gazette@mca-marines.org

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SEPTEMBER 2019

Editorial: Focus on the MCISRE

The focus of this month's edition is on the Corps' intelligence, surveillance, and reconnaissance enterprise: the MCISRE. Among the twenty MCISRE and intelligence themed articles this month, you will find important observations and insights on the various intelligence disciplines from across the MAGTF and in all warfighting domains—including space.

In addition to the articles featured on this month's cover, I recommend the following highlights. On page 10, "Marine Corps Intelligence" by Maj Michael H. Decker (retired) and Sgt William Mackenzie (retired) presents the "origin story" of the Marine Corps intelligence department during the interwar years of the 1920s. This fascinating history shows the influence of several notable Marines including LtCol Earl "Pete" Ellis and MajGen John A. Lejeune in creating an intelligence capability for the Corps.

As the National Defense Strategy and our 38th Commandant's Planning Guidance have focused the Corps on the Pacific and identified near peer pacing threats, two of this month's authors offer insights on the capabilities and intentions of our potential adversaries. "PLANMC" by Mr. Steve Ostrosky and "Relations with China" by MGySgt Andy B. Anderson, beginning on pages 56 and 80 respectfully, both offer unique assessments of specific aspects of the complex political and military problems posed by the People's Republic of China in the western Pacific and across the world.

Also of note in this edition, two authors have identified a needed resource for intelligence planners and provided two different potential solutions. Maj Clint J. Nussberger's "Intelligence Planner's Handbook" and LtCol Jonathan M. Donigan's "The Intelligence Planner's Guide," on pages 14 and 65 respectfully, provide two alternative and complementary ready references to support intelligence professionals and commanders across the force.

As the Corps seeks to establish a more ubiquitous presence with the Navy's Numbered Fleets and identifies the requirements to organize train and equip smaller more distributed units, the need for intelligence collection analysis and production capabilities at the small unit level is in evidence. The Company-level Intelligence Center (CLIC) capability was first employed during counter-insurgency operations during Operation IRAQI FREEDOM. In "21st Century CLIC," on page 62, 1stLt Evan J. Allard describes the role of CLIC as a critical enabler in the future operating environment.

As a final update for *Gazette* readers and MCA&F members, if you have not explored the improved MCA&F website and the *Gazette's* home page, you are missing out on a curated collection of resources for self-education and professional development. In addition to the monthly edition of the magazine, these resources include: the *Gazette* Blog as a Warfighter's "book club," special web-only articles, the *Gazette* Forum where readers can share their comments on published articles, the complete collections of *Gazette* content on Maneuver Warfare and Tactical Decision Games, archives of all articles dating back to 1916, and links to related communities of interest and relevant websites. I strongly encourage all Marines to access and make use of these resources as you develop plans for professional development and PME for yourself and the Marines you lead.

Christopher Woodbridge

MCA&F President and CEO, LtGen W. Mark Faulkner, USMC(RET); Chief Operating Officer, Col Dan O'Brien, USMC(RET); Director Foundation Operations, Col Tim Mundy, USMC(RET); Director of Strategic Communications & Editor, Leatherneck magazine, Col Mary H. Reinwald, USMC(RET); Member Services, Jaclyn Baird; Chief Financial Officer, Johnna Ebel.



MajGen David G. Bellon

General Officer Announcements

On 20 June, Acting Secretary of Defense, Patrick M. Shanahan, announced that President Donald J. Trump has made the following nomination:

MajGen David G. Bellon for appointment to the rank of lieutenant general and assignment as the Commander, U.S. Marine Forces Reserve; and Commander, Marine Corps Forces North. Gen Bellon is currently serving as the Director, J-5, U.S. Southern Command.

National Commission on Military Aviation Safety

Due to recent military aviation accidents, Congress established the National Commission on Military Aviation Safety to conduct a comprehensive review of military aviation mishaps occurring between 2013 and 2018 to reveal trends, identify shortcomings, and highlight the best practices.

The bipartisan, independent Commission includes individuals appointed by the President, as well as by the leadership of the House and Senate Armed Services Committees. The eight Commissioners are all highly accomplished individuals from across industry, government, and the military. Their unique backgrounds make them eminently qualified to review mishap data, safety programs, management processes, and fiscal and cultural influences.

The Commission will report their findings and recommendations on how to best reduce future military aviation mishaps to the President, Congress, and the DOD no later than 1 March 2020.

LCS 21 Christened and Launched

On 15 June, the USS *Minneapolis-St. Paul* (LCS 21), a Freedom Class LCS, was christened and launched.

Reunions

Org: Marine Air Base Squadron 49
Dates: 7 September 2019
Place: Earlville, MD
POC: Col Chuck McGarigle, USMC(Ret)
 609-291-9617 or 609-284-2935
 mabsreunion@comcast.net

Org: The Distinguished Flying Cross Society, 2019 Reunion
 "Celebrating 100 Years of American Air Power"
Dates: 15-19 September 2019
Place: Dayton/Fairborn, OH
POC: Warren Eastman, 760-985-2810
 weastman@dfcsociety.org

Org: Basic School 3-68
Dates: 19-22 September 2019
Place: Quantico, VA
POC: Jerry W. Sagggers, 703-232-3572
 jsaggers@gmail.com

Org: 20th Annual Marine Corps Postal Reunion 0160/0161
Dates: 29 September-4 October 2019
Place: Norfolk, VA
POC: Robert I. Brown, 910-358-7752
 cbrown11@ec.rr.com

Org: Corps Basic School 4-67 Reunion
Dates: 9-12 October 2019
Place: San Diego, CA
POC: Ken Pouch, 860-881-6819
 kpouch5@gmail.com

Org: National Reunion of the USS *Canberra* (CA-70/CAG-2) (1943 to 1971)
Dates: 9-13 October 2019
Place: Deerfield, IL
POC: Ken Minick, 740-423-8976
 usscanberra@gmail.com

Org: Final Reunion for the USS *Iwo Jima* (LPH-2/LHD-7) Shipmates
 For all ship's company and embarked Navy and Marine Corps personnel who were onboard the LPH-2 or LHD-7
Dates: 2-5 October 2019
Place: Sheraton Waterside Hotel
 Norfolk, VA
POC: Robert G. McAnally, 757-723-0317
 yujack46709@gmail.com

Org: The Marine Corps Air Transport Association (MCATA) Reunion & Convention
Dates: 3-6 October 2019
Place: Handlery Hotel, San Diego, CA
POC: Rich Driscoll, 817-657-7768
 president@mcata.com

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The Bigger Picture

▣ In the April 2019 issue of the *Gazette*, Capt Eric Abrams' article, "The Bigger Picture," argues, "The effective utilization of [COMMSTRAT] Marines is key to winning the support essential to maintaining a strong Marine Corps." As evidence of this claim, he then suggests that the photograph of the flag raising on Iwo Jima "played a greater role in winning the war than any single Marine on the island of Iwo Jima." I caution Capt Abrams from publicly making such a claim. The men who died on that island were living, breathing patriots who fought bravely under circumstances few alive today can even begin to fathom. Arguments that individual sacrifices do less for the war effort than an

their efforts, when undocumented, mean nothing. *That* narrative could not be further from the truth.

Capt Daniel R. Abney

A Modest Proposal

▣ MEU commanders are typically colonels with an infantry or aviation background. I propose the Marine Corps leadership consider adding to their command rotation a colonel who has been an armor officer, otherwise known as a tanker. I argue that an armor officer has an outstanding background in the many elements of the MAGTF. They have risen up through the ranks and learned the value of maneuver warfare, the application of fires, and the best methods to logisti-

is a modest proposal with great potential to increase our Corps' capabilities and mission effectiveness.

Col Ray Celeste, Jr., USMC(Ret)

The second we think we can manipulate the American public and our fellow Marines with pictures and videos that do not portray reality, then we have lost touch with reality ourselves.

image on a piece of photo paper does more to harm the "narrative of the Marine Corps" and the morale of our Marines than anything else. The Marine Corps' narrative is already written, and it continues to be written in the blood, sweat, and tears of tough men and women who chose service over self-preservation. COMMSTRAT's chief end should not be to "articulate a clear vision of our *desired narrative*" by "proactively pushing our ideal image of the Marine Corps." It should be to present the reality of our institution to leaders at all levels as a metric. If that reality does not meet the standards earned in blood by those who have gone before us, then we need to identify our deficiencies and correct them. Perception is not reality. Reality is reality. The moment we think that we can manipulate the American public and our fellow Marines with pictures and videos that do not portray reality, then we have lost touch with reality ourselves. Capt Abrams poses the question, "If Marines raise the flag, and no one takes a picture, does it matter?" Yes. It always has, and it always will. To suggest otherwise communicates to our Marines that

cally support the MAGTF. Their background in logistics and maintenance is quite expansive. Moreover, being a maneuver element commander themselves, many times during exercises or while serving in combat zones, develops a great understanding of how to employ the MAGTF across the series of mission taskings the MEU has in its playbook.

I argue these officers have perhaps a more expansive understanding of the employment of the MAGTF when compared to any other MOS. It is to the Marine Corps' benefit to allow several of these highly capable officers to command a MEU and then evaluate their performance. The Marine Corps is known for its great leadership initiatives and forward leaning thinking. This is an initiative that should be tested to see what these officers may have to offer in the way of employment of the MEU.

Lastly, they are extremely capable officers with an exceptional background well-suited for command of a MEU. Our Corps should not deny them the opportunity to command a MEU just because the Corps has always selected officers from certain MOSs. This

Tanks on the MEU

▣ As a former MEU tank platoon commander, I read Capt Kyle Endyke's "Tanks on the MEU" (*MCG*, May 2019) with interest. I admire his desire to engage in professional writing, but he makes some misguided comments which demand correction. Positioning tanks for the sake of increasing the number of an already embarked capability will result in MEUs that are less scalable for the geographic combatant commanders they support.

Initially, prepositioning sounds plausible until the realities of prepositioned equipment convert imagined responsiveness to fixed tethers which constrict rapid planning. A capability's usefulness is indirectly proportional to its distance from the crisis. During crisis planning, the MEU—whose effectiveness is tied to self-sufficiency and international waters—would immediately find itself relying on a land-based capability and outside support at a time it is most scarce. More than likely, tanks would not arrive in time.

Operations of all types in Somalia, Iraq, and Afghanistan prove that tanks have a role across the range of military operations. As long as it can get there, a Marine tank will tip the balance of a kinetic situation—and most non-kinetic situations—in favor of our Marines. While technology hints at a transformed operating environment, nothing will change the fact that mass at the decisive point wins battles. Indirect and aviation-delivered fires are essential, but the idea of these precision fires winning battles alone is a long chased chimera.

Success will always rely on the infantry Marine at the decisive point. Those Marines need every bit of direct, indirect, and aviation delivered fire support we can get them. We tankers are not the ones who will pay the price for tanks not embarking on MEUs. It will be the young Marines who are asked to accomplish the impossible without a tank in overwatch.

Maj Andrew C. Hietpas

Letters of professional interest on any topic are welcomed by the *Gazette*. They should not exceed 300 words and should be DOUBLE SPACED. Letters may be e-mailed to gazette@mca-marines.org. Written letters are generally published 3 months after the article appeared.

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9 August 2019

Marines and Sailors,

After nearly two decades of sustained combat operations against violent extremist organizations, I believe our intelligence warfighting function must evolve to sustain competitive advantage against revisionist powers. Over this period, the Marine Corps Intelligence, Surveillance, and Reconnaissance Enterprise (MCISRE) has supported a range of operations, especially those aimed at countering insurgencies and disrupting terrorism around the globe. Meanwhile, global competitors like Russia and China have focused their attention on military modernization, and Iran and North Korea have refined their warfighting doctrines and continue to challenge international security. Altogether, Marines now face increased asymmetric risks on the 21st Century battlefield.

As the 38th Commandant evolves the Marine Corps Operating Concept and builds lethality for a 5th generation MAGTF, the MCISRE must ensure intelligence support is ready to drive operations across the spectrum of conflict. We will work diligently to address the challenges outlined in the 2018 National Defense Strategy and to integrate our actions with the 2019 National Intelligence Strategy. It is clear from these documents, we have entered a new era of information warfare. Today's digital environment presents adversaries new opportunities to leverage vast amounts of data, mask malign activity, distort public perception, and undermine legitimate authorities - all without firing a single shot. Success will go to those who are able to rapidly maneuver in and through a globally integrated operating environment.

Moving forward, we must synchronize intelligence with information-related warfighting capabilities to ensure our Marines maintain a level of tactical overmatch in any fight. It is imperative we align the MCISRE with warfighting capabilities and initiatives from Command, Control, Communications, and Computers (C4) and Electronic Warfare (EW) communities. Doing so will allow us to develop a strategic foundation that is built upon a fully integrated professional workforce. A united information-intelligence team of uniformed and civilian Marines, alongside reliable coalition partners will operationalize our approach and arm MEF Information Group Commanders to support emerging operational concepts.

As I assume the Office of the Director of Intelligence, my intent is to leverage innovation and disruptive technologies to accelerate the evolution of the MCISRE. We will empower MCISRE leaders who are comfortable with employing these tools. While we promote a culture that embraces technology and human-machine teaming, we must maintain agility in our intelligence processes and discipline in our analytical tradecraft. Our efforts will build trust with our Commanders and allow for decision-making at machine, not human speeds, that will *outpace* and *out-think* any threat. The forthcoming MCISRE 2025 strategy will prepare us to develop future force capability and lead our intelligence warfighters toward sustained competitive advantage on the 21st Century battlefield.

I look forward to serving with you and ***accelerating the evolution of the MCISRE!***

Semper Fidelis,

M. G. CARTER
Brigadier General, U.S. Marine Corps
Director of Intelligence, HQMC



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Marine Corps Intelligence

The interwar years

by Maj Michael H. Decker, USMC(Ret) & Sgt William Mackenzie, USMC(Ret)

In an attempt to institutionalize the intelligence experiences gained by the American Expeditionary Force (AEF) in World War I (WWI), the Army published its first doctrinal publication on intelligence in 1920 titled “Intelligence Regulations.” On 18 August 1921, the Major General Commandant of the Marine Corps sent three copies of this classified Army publication to the Commanding General, Marine Barracks, Quantico, VA. In the early years after WWI, Marine veterans of the AEF worked to apply combat lessons learned regarding staff and unit organization, combined arms, and other tactics, techniques, and procedures to the Marine Corps for warfighting. This was especially true of intelligence.

Intelligence Marines often cite the 1939 reorganization of HQMC and the creation of the “M-2” as the birth of Marine Corps Intelligence. Marines are not alone in the view that WWII, or the run-up to WWII, began the formal approach to the craft of intelligence; many in the national intelligence community (IC) point to the creation of the Office of Strategic Services as the birth of the IC, prior to that, there was no dedicated or formal U.S. intelligence service outside of the military. However, an examination of how the intelligence lessons learned from WWI resulted in organizational changes in the interwar years reveals significant Marine Corps intelligence activity that predates the 1939 reorganization of HQMC.

Post-WWI Reorganization of HQMC

Up until a few years before WWI, the Marine Corps essentially had no “HQMC Staff” as we think of it today. The Major General Commandant

>Maj Decker served as an Infantry Officer with the 2d Bn, 6th Marines in Beirut, Lebanon, and as an Intelligence Officer with I MEF G-2 during DESERT STORM. As an SES, he served as Director of Intelligence, January 2004–June 2005.

>>Sgt Mackenzie served with the 2d Bn, 6th Marines as a Squad Leader on deployments to the Middle East and Afghanistan, including Marjah in 2010.

Both authors are researchers at The RAND Corporation.

oversaw the Marine Corps through a small personal staff and three staff departments: Adjutant and Inspector, Quartermaster, and Paymaster. It was not until April 1911 that the Office of Assistant to the Commandant was created, headed by Col Eli K. Cole, who served as what today would be called a Chief of Staff.¹ Col Cole was replaced in January 1915 by Col John A. Lejeune.

After WWI, on 1 July 1920, MajGen Lejeune returned to HQMC as the Major General Commandant and brought his experience of commanding the 2d Division in the AEF and extensive use of a European staff system in those organizations to HQMC. On 1 December 1920, Lejeune reorganized HQMC and created the Division of Operations and Training with BGen Logan Feland as its first Director. The Division of Operations and Training included Operations, Training, Military Education, Aviation, and Military Intelligence sections.

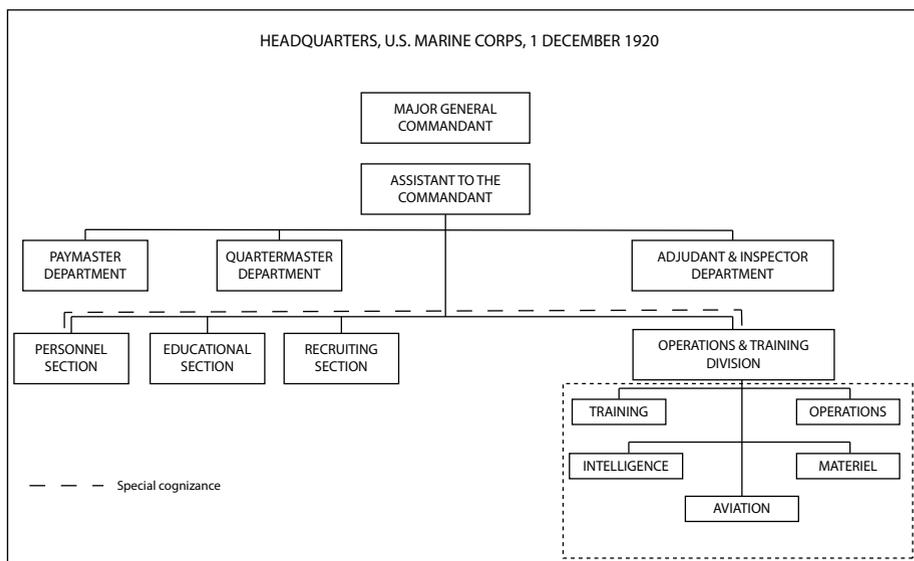
The creation of this “Military Intelligence Section” represents the first permanent Marine Corps intelligence organization. BGen Feland requested that LtCol Earl H. “Pete” Ellis, who had been Feland’s brigade intelligence officer (B-2) in the Dominican Republic, be assigned as the first head of the

Military Intelligence Section in December 1920.² While Ellis remains most famous for writing “Advanced Base Operations in Micronesia” in 1921 during this tour of duty, his official position was Military Intelligence Section Head.³

One other function of the Division of Operations and Training was staffing the approvals of “special duty assignments,” which often included intelligence, reconnaissance, and related missions. These were accounted for in U.S. Navy Regulations of 1920, which stated,

No officer of the Navy or of the Marine Corps shall proceed to a foreign country on special duty connected with the service except under orders prepared by the Bureau of Navigation or by the Major General Commandant as the case may be, and signed by the Secretary of the Navy.⁴

Perhaps the most famous special duty assignment by a Marine during this period is the mission of LtCol Ellis to survey islands in East Asia. Ellis’ special duty was approved by the Major General Commandant and the Secretary of the Navy as required by Navy Regulations. Unfortunately, the mission ended with LtCol Ellis’ death in Palau in 1923.⁵



Source: A Brief History of Headquarters Marine Corps Staff Organization. (Figure provided by author.)

Activities of the Military Intelligence Section

On 10 January 1921, a month after the Military Intelligence Section was formed, it promulgated a “List of Intelligence Regulations, etc. Transmitted to Certain Marine Corps Units.”⁶ The list included items such as the aforementioned Army publication “Intelligence Regulations,” along with various other military orders, articles, and reports. A few excerpts from items on the list highlight the type of things this 40-day old HQMC office felt would be of use to Marine Corps Schools and “certain” field units.

- “*Front Line Intelligence*,” an extract from an article in the *Marine Corps Gazette*, December 1920, by Maj Ralph Stover Keyser. Maj Keyser served as Commanding Officer, 2d Bn, 5th Marines, June through July 1918, during battles in the Château-Thierry sector and the Aisne-Marne offensive; then, August 1918 to August 1919, he served as MajGen Lejeune’s Assistant Chief of Staff G-2 (Intelligence Department) in the 2d Division, AEF. The article was a tour-de-force of tactical intelligence support focused on intelligence functions at the division, regiment, and battalion level. Maj Keyser noted, “Military intelligence is more than reliable information, it is reliable information furnished in time to permit appropriate action.”⁷

- “*Intelligence Service in the Bush Brigades and Baby Nations*,” an extract from a 1920 report by Maj Earl Ellis. Ellis noted,

In executing the intelligence functions stated the most difficult problem of all is to force the personnel to realize that their mission is not to gather information of any kind and place it on file, as is generally the custom, but to gather pertinent information, put it in proper form for use and then place it in the hands of the person who can use it to best advantage—and this as quickly as possible.⁸

- “*Functions of Intelligence Officers in War Plans*,” an extract from U.S. Army Instructions to Intelligence Officers by *Military Intelligence Department, 1921*. This Army doctrine stated,

As the plan is built up, every portion should be submitted to you for attack as the enemy’s representative—this for the purpose of providing the means of disinterested construction [sic] criticism. Your mental attitude in doing this work should be that of the enemy’s Chief of Staff, who, supposedly having captured the plan, strives to make arrangements to circumvent it.⁹

In 1922, BGen Feland wrote in the *Marine Corps Gazette* that he saw the Division of Operations and Training as essential for the Marine Corps to

mitigate future losses in combat and increase organizational readiness. He stated,

The principal function of the Military Intelligence Section was the “collection and compilation of intelligence useful to the Marine Corps, in carrying out its mission.”¹⁰

There is ample evidence of the Military Intelligence Section collecting and compiling information. As evidenced by the HQMC letter forwarding “Intelligence Regulations,” the Military Intelligence Section also took part in the Division of Operations and Training’s efforts in the areas of organizing, training, and equipping the Marine Corps. This included developing tables of organization and tables of equipment for intelligence sections and units.

In 1921, MajGen Lejeune authorized the creation of combat intelligence personnel billets in deployed Marine Corps units.¹¹ In the following year, the Marine Corps assigned a new four-section executive staff—to include personnel, intelligence, operations and training, and supply—to brigades and infantry regiments.

Creation of the Fleet Marine Force

In February 1922, MajGen Lejeune sent a memorandum to the General Board of the Navy, stating, “The primary war mission of the Marine Corps is to supply a mobile force to accompany the Fleet for operations ashore in support of the Fleet.”¹² MajGen Lejeune retired in 1929, and it was not until MajGen Ben H. Fuller became Commandant that the pace of development of Lejeune’s envisioned mobile force began to accelerate, evolving first into an “expeditionary force” and eventually into a term that better inferred the role of Marines within the fleet: the Fleet Marine Force. On 7 December 1933, the Secretary of the Navy created the Fleet Marine Force by issuing *Navy Department General Order 241*.¹³

In 1931, Marine Corps Schools in Quantico began work on a tentative text to be titled “Marine Corps Landing Operations.” By June 1934, the *Tentative Manual for Landing Operations*¹⁴ was available in mimeograph

AUTHORIZED INTELLIGENCE STAFF PER UNIT	OFFICERS	ENLISTED
For each independent brigade HQ	1	10
For each brigade forming part of a division	1	2
For each regimental HQ	1	7
For each battalion of infantry	1	13
For each battalion of artillery	1	1
Air Service, per wing	1	1

An example of the envisioned size of intelligence staffs and units at various echelons. (Figure provided by author.)

form for use by the 1934–35 school years’ classes. The tentative manual was revised and reproduced in various forms annually until 1939, when the definitive version was issued as *Fleet Training Publication 167 (FTP-167), Landing Operations Doctrine, United States Navy 1938*.¹⁵

FTP-167 contained extensive guidance on intelligence and reconnaissance. It emphasized the importance of a detailed intelligence plan that compared data required for the mission to the data available on the area of operations and the development of a plan for collecting the additional information needed to conduct the operation. This in turn would determine the “size, composition, and tasks of the reconnaissance force dispatched to the theater of operations.”

In the chapter on “Ship-to-Shore Movement,” there was a list of reasons to use rubber landing craft, one of which was the “landing of intelligence agents.” The chapter on task organization recommended creating a reconnaissance group and noted how “photographs and panoramic sketches executed by surface craft or submarines and oblique aerial photographs from seaward will be a great assistance” to boat group, fires support group, and troop commanders.

Pre-WWII Reorganization of HQMC

On 21 April 1939, MajGen Thomas Holcomb issued “Headquarters Memorandum NO. 1–1939” on staff organization and procedures, in which the Division of Operations and Training was redesignated the Division of Plans and Policies.¹⁶ Popularly known as “Pots and Pans,” the new division retained the same subdivisions as the old with the standard number designations of

a general or executive staff but designated “M” rather than “G.” Under the supervision of a director, the division contained the standard M-1, Personnel; M-2, Intelligence; M-3, Training; and M-4, Supply and Equipment Sections as well as a M-5, War Plans Section, which was abolished in the fall of 1941 and absorbed by M-3.¹⁷

The first Director of the M-2 was believed to be Maj David A. Stafford. An article published on the occasion of BGen Stafford’s retirement noted,

From 1935 to 1940 he served variously as a ‘sea soldier’ aboard the USS *West Virginia*, and as officer in charge of intelligence in the Division of Plans and Polices at Marine Corps Headquarters in Washington, D.C.¹⁸

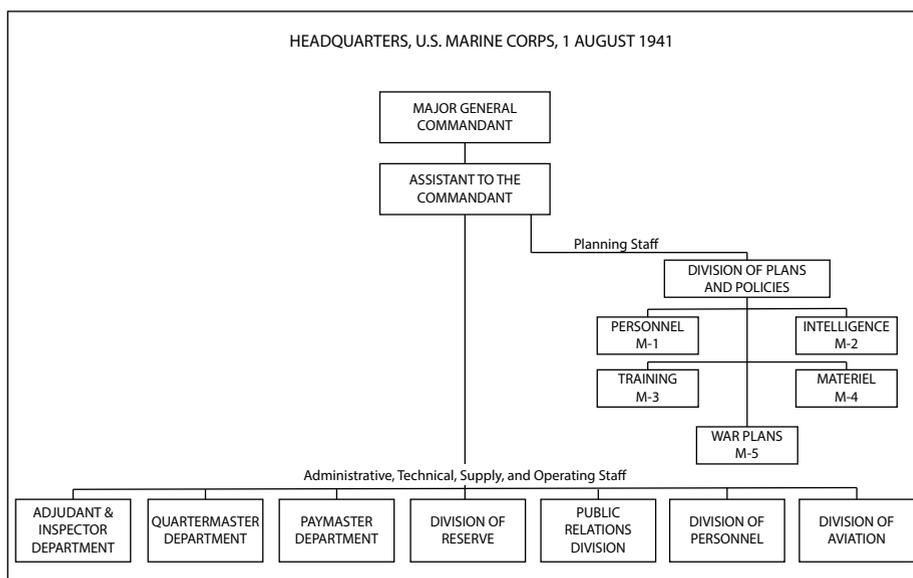
Mark Stout has written on the importance of the WWI experience to the creation of an IC in the United States, noting,

The standard origin myth of modern American intelligence has the period from World War II to the passage of the National Security Act in 1947 as the seminal period. ... It is clear that many of the artifacts, values, and assumptions that exist in today’s Intelligence Community date back to World War I.¹⁹

Intelligence Marines traditionally observed the HQMC reorganization of April 1939 and creation of the M-2 as the birthdate of Marine Corps intelligence. However, it seems that on 1 December 2020, intelligence Marines around the world should be saying to each other “Happy 100th Birthday, Marine!” and discussing the heritage of the first Director of Intelligence, LtCol Pete Ellis.

Notes

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Source: A Brief History of Headquarters Marine Corps Staff Organization. (Figure provided by author.)

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Intelligence Planner's Handbook

A guide to exercise design and scenario development

by Maj Clint J. Nussberger, USMC(Ret)

Marine Corps exercises offer unique opportunities to fully integrate intelligence and operations while employing a unit's tactical decision-making cycle. Quality exercises require comprehensive intelligence support, to include exercise design, scenario development, and detailed intelligence inject scripting. However, Marine officers and SNCOs assigned these tasks often lack a detailed "how to" guide. This article serves as an overview of such a guide and expands on the intelligence topics addressed in Joint Event Life Cycle doctrine.

Initial Planning

The intelligence planner first studies the exercise concept established by higher headquarters and the exercise control group. This concept should include the type of threat (state actor, non-state actor, or hybrid) and the type of warfare (a conventional maneuver scenario, irregular warfare, or a hybrid environment) that will be replicated during the exercise. The exercise concept should also outline the operational setting, such as the exercise location, an operation plan or a contingency plan, and which elements of the exercise will be live, constructive, and virtual.

Next, the intelligence planner must understand the exercise force's task organization to include constructive units as well as all live elements. The exercise force's live intelligence assets will drive the level and type of intelligence injects. Live intelligence injects should be scripted to provide collection opportunities for each live collection capability. Message traf-

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fic injects should also be scripted to replicate virtual and constructive collection capabilities. For example, an infantry battalion field exercise typically involves live opposing force activity for the scout-sniper teams to observe and scripted materials—such as documents, electronic media, and pocket litter—for the rifle companies to exploit on their objectives. All other intelligence feeds typically involve scripted message traffic, to include

human intelligence (HUMINT) and signals intelligence (SIGINT) reports and full-motion video chat logs to replicate unmanned aerial system coverage.

With an understanding of the exercise concept and the exercise force's intelligence capabilities and limitations, the intelligence planner creates the exercise geography by overlaying the real-world physical and cultural geography onto the exercise training area.



The intelligence planner must understand task organization, the area of operations, and the exercise concept. (Photo by LCpl Scott Jenkins.)

Although it is virtually impossible to remove all exercise artificialities, the intelligence planner should attempt to match the real-world location's population densities, topography, and infrastructure to those features within the training area as much as possible. Exercise planners typically use Google Earth or similar mapping software to draw an overlay over the training area to create the political borders of the exercise geography. It is often best to modify the real-world political boundaries to match existing political borders within the training area, such as state and county boundary lines.

If these existing borders are not suitable, choose identifiable terrain features such as rivers, lakes, or mountain ranges. Use the real-world objective area country and province names when labeling portions of the training area, but retain the local names for cities, highways, and other infrastructure within the exercise training area.

Higher headquarters and the exercise control group must also provide a schedule for each critical training event to address a mission-essential task. The intelligence planner will use this information to backward plan intelligence injects to drive the exercise force to plan and execute each critical training event. Prior to scripting detailed intelligence injects, the intelligence planner must create an outline or storyboard of the opposing force's overall scheme of maneuver, to include political, military, economic, and informational objectives.

Detailed Intelligence Scripting

Detailed intelligence scripting tasks include developing orders products such as the Annex B (Intelligence), intelligence estimate, and other intelligence appendices for the higher headquarters operations order that will be provided to the exercise force. Intelligence injects for the master scenario events list (MSEL) round out the chief outputs of detailed intelligence scripting.

Since intelligence professionals should have a fair grasp of the orders products listed above, they will not be addressed in detail here. Instead,



Exercise planners use the time-event chart to create threat activities during training. (Photo by Cpl Destiny Dempsey.)

this article will devote more attention to the lion's share of the intelligence planner's work: the MSEL intelligence injects.

Upon completion of the orders products, some planners immediately turn to the detailed intelligence inject scripting. This approach may work for a two- or three-day exercise, but for longer exercises, the intelligence plan-

The time-event chart also provides depth and breadth to the scenario by addressing each of the warfighting functions.

ner will not be able to keep track of all the injects in his head. What often results is an incoherent exercise with "cross-threaded" or contradictory injects. To avoid these problems, the intelligence planner should expand on the overall opposing force scheme of maneuver to create a detailed time-event chart.

The intelligence planner's time-event chart is similar to the execution

matrix for threat actors, such as opposing force units in a conventional maneuver environment or individual actors in an irregular warfare environment. In other words, the time-event chart is the enemy playbook. It provides details of threat activities for each day, which should be designed to lead up to a critical training event. The time-event chart also provides depth and breadth to the scenario by addressing each of the warfighting functions.

The time-event chart should also reflect opposing force pre- and post-operation actions and continuing actions. For example, each threat operation typically requires intelligence collection and reporting, rehearsals, staging lethal and non-lethal aid, lodging for fighters and support personnel, bribing or coercing local security forces and political leaders, transportation, training on communications, explosives, marksmanship, tactics, first aid, and vehicle acquisition and maintenance. For transnational criminal networks and threat financing for insurgent networks, the intelligence planner should script front companies to launder funds or serve as avenues for funding irregular forces. Assign a date and a time to each of these tasks, for each tactical thread leading up to a critical training event. These items

provide the anchor points from which intelligence injects are created.

A well-crafted time-event chart allows the exercise control group to avoid a single point of failure that often occurs when one planner does most or all of the scripting. If the lead scripter is unavailable, other intelligence planners or response cell members can respond to the exercise force's requests for information or complete dynamic scripting tasks by consulting the time-event chart, which serves as the benchmark for the scenario. This product also enables the exercise control group to build on branches and sequels or react to unexpected exercise force actions.

Subject matter experts from all warfighting functions can and should help to build the time-event chart by scripting opposing force events or simply providing ideas and operational details. For example, a Marine Raider is ideally suited to sketch out the activities of the auxiliary, support cells, and other elements of an insurgency to match the terrain and the situation. Likewise, an artillery officer can provide tactical and operational depth to the intelligence scripter's depiction of opposing force fires. A broad concept of operations developed by maneuver subject matter experts is enough to guide the intelligence planners in the right direction. As learned from experience, when soliciting input from maneuver subject matter experts, it is often best to ask them to "develop an opposing force plan" rather than to "script opposing force MSEL injects."

The time-event chart assists in debriefing the exercise force intelligence section after the exercise, as it allows them to see the ground truth as it was being depicted via intelligence injects throughout the exercise. It also builds credibility, as the intelligence section of the exercise control group "shows its work" via the chart.

In conclusion, sketching out a detailed opposing force plan in some manner that depicts a scheme of maneuver, daily operations, and tasks across all warfighting functions will make the intelligence scripting effort much easier. Much of the "thinking" associated with exercise scripting is

addressed when crafting a time-event chart.

As the exercise planner completes the time-event chart and begins intelligence inject scripting, he should determine the "no later than" time and date the exercise force must begin detailed planning for each critical training event. Then, backward plan the intelligence injects to ensure enough corroborating information is collected by the exercise force to meet the timeline. Intelligence planners must allow enough time for the intelligence cycle (planning and direction, collection, reporting, analysis/production, dissemination, and utilization) and the operations-intelligence decision-making cycle to run their course. Exercise planners must be mindful of the exercise force's battle rhythm, especially the timing and frequency of its targeting boards. For example, if the exercise force must begin planning

Exercise planners must be mindful of the exercise force's battle rhythm ...

at H minus 72, a sufficient number of injects must be received (collected or pushed via message traffic) by H minus 96, or perhaps even H minus 120.

Exercise planners should link injects to specific events on the time-event chart. For example, an intelligence inject should include the spreadsheet cell (column/row) that contains the specific event. Likewise, the time-event chart entry should include the MSEL inject that corresponds to the event. Each event can have more than one intelligence inject; in fact, many should to provide corroborating information to drive exercise force mission planning. This is tedious work, but the investment is worth ensuring all injects are mapped to an opposing force event. Such an approach will also allow the intelligence scripter to identify op-

posed by intelligence injects. Exercise planners may choose to avoid scripting injects for certain events to create intelligence gaps for the exercise force to address. In this case, consider color coding these events on the time-event chart to visualize which events will appear as information gaps for the exercise force more readily. This approach also ensures that intelligence gaps are intentional rather than happenstance or the result of poor planning.

Once the time-event chart is complete, exercise planners are ready to begin scripting intelligence MSEL injects. The intelligence planner should avoid allowing one intelligence inject to provide all of the five Ws (who, what, where, when, and why) to drive an operation; this is often referred to as the "golden source." Instead, planners should parse intelligence injects for the same opposing force event among the different intelligence disciplines (HUMINT, SIGINT, geospatial intelligence, measurement and signature intelligence, and open-source intelligence). For example, SIGINT may provide the time (hour) of an opposing force event, while HUMINT may provide the date of the event. Multiple sources and intelligence disciplines should indicate opposing force composition, disposition, strengths, and weaknesses. Exercise force all-source analysts must fuse these various injects to determine the opposing force situation and drive tactical planning.

In addition to scripting injects that provide the five Ws for each opposing force event linked to an exercise force critical training event, intelligence planners should provide injects that indicate the significance of each target. These injects will drive the nomination process for emerging targets as well as the prioritization of targets and missions. In short, the intelligence injects should allow the exercise force to analyze the entire opposing force network as a system and determine which elements of the system will deliver the highest payoff when actioned.

Include injects to drive "white" targeting and to support exercise force information operations. Script open-



Alliances may play an important role during the exercise. (Photo by LCpl Scott Jenkins.)

source news media reports that include political and economic topics, as well as articles that reflect political competition between the host nation's ruling government and opposition parties—or rifts between rival insurgent factions or leaders. Open-source reporting could also indicate shifting alliances among political parties within parliamentary systems of government, which could lead to new governing coalitions, particularly in response to coalition force operations within the host nation.

Attributes of an Intelligence Scripter

An intelligence scripter must be able to visualize not only the entire opposing force construct but the timeline and sequence of events as well. This can be compared to a fire support coordinator's ability to synchronize air and surface fires with ground maneuver units in terms of time and space, or an aviator's ability to not only fly but also "fight" the aircraft. Intelligence scripters must also be at least familiar, if not a subject matter expert, in each intelligence discipline. A solid understanding of intelligence collection management concepts is also required. The scripter must not only visualize the opposing force but also think in terms of signatures—observables and collectibles—that would

be detected by exercise force intelligence collection assets. Therefore, the scripter must understand the capabilities and limitations of those assets and script injects consistent with those capabilities. Ultimately, intelligence scripters must be able to reverse engineer indicators of enemy activity and break them down into specific reportable information.

Intelligence scripters must build the entire opposing force construct—in other words, the overall answer key or whole picture of the puzzle—then determine where to cut up that picture with a jigsaw.

A seasoned all-source analyst is a logical candidate for intelligence scripting but is not always the best choice. Intelligence scripters must build the entire opposing force construct—in other words, the overall answer key or whole picture of the puzzle—then determine where to cut up that picture with a jigsaw. Therefore, intelligence scripting involves visualizing the comprehensive opposing force composition, disposition, scheme of maneuver, doctrine, tactics, techniques, procedures, and objec-

tives, and then artfully deconstructing and decomposing elements of the opposing force situation into quality intelligence injects. For these reasons, intelligence scripters need experience with collection management as well as opposing force doctrine and all-source analysis.

Creativity, imagination, and visualization skills are also important because virtually all exercise scenarios involve a fictitious scenario. In many cases, the scenario is based on a potential threat actor, but the specific elements of the exercise scenario must be created to fit the exercise design and drive the exercise force to meet its critical training objectives.

Conclusion

Intelligence planners have a key role in exercise design, scenario development, and intelligence inject scripting. They must be engaged in the initial phases of exercise planning to help shape the type of threat actor and threat environment that will be replicated during the exercise. In addition to drafting the more common intelligence portions of the exercise operations order, intelligence planners must possess creativity and the ability

to visualize the entire opposing force scheme of maneuver across all war-fighting functions. They must capture this information in a detailed opposing force time-event chart that drives intelligence inject scripting and helps avoid exercise contradictions while also providing redundancy during exercise execution and avoiding a single point of failure within the exercise control group's intelligence section.



The Future Is Now

Marine Corps operations in the information environment

by James McGinley & Arthur Speyer

In today's complex operating environment, information is a crucial role at the strategic, operational, and tactical levels. Information is so powerful that it is recognized as both an element of U.S. national power and a joint warfighting function. Technology increases the speed information can travel, and technology diffusion increases the accessibility and lethality of our adversaries' information-enabled weapons.¹ To counter these information-enabled weapons, the Marine Corps needs to be a force equipped to handle and dominate the information environment (IE). Knowing how to maneuver within the IE is essential in modern warfare, and the first step to successfully maneuvering within the IE is understanding what the IE is.²

Understanding the IE

The IE is an aggregate of individuals, organizations, or systems that collect, process, or disseminate information, including the information itself. Although the Internet, wireless communications, social media, and automated networks provide new avenues for our adversaries to shape the IE, this evolved IE environment also provides new opportunities for Marines to gain a decisive advantage. Cyber warfare, electronic warfare (EW), influence operations, deception operations, and intelligence, surveillance, and reconnaissance (ISR) activities enhance our ability to interpret and influence the IE. Leveraging the IE is about generating operational tempo, improving effectiveness, and increasing lethality. Understanding the IE enables a force to reduce its own battlefield friction while increasing the enemy's battlefield friction.³

Conflict is as much a war of narrative as it is a physical contest. Competitors engage in a battle of narratives, seeking

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Leveraging the information environment will generate our operational tempo. (Photo by Cpl Tessa Watt.)

to shape perceptions and control the dissemination and message of information. Contests in the IE are complex because they combine diplomatic, military, political, humanitarian, security, social, economic, and information dimensions. This complexity creates opportunities for adversaries to exploit, disrupt, and disable command and control systems, hinder critical infrastructure, disseminate disinformation, foster internal dissent, recruit supporters worldwide, and promote their legitimacy while discrediting the legitimacy of others.

The era of U.S. technical dominance is over. Advanced cyber and surveillance capabilities are increasingly available to adversaries. The world is moving toward increased connectivity levels that will further change how people will gather, share, and consume information. Emerging technologies, including the Internet of Things, artificial intelligence (AI), and quantum computing, promise even greater revolutionary changes. Social media gives an asymmetric advantage to adversaries who can quickly produce and disseminate unfiltered information and disinformation to audiences worldwide.⁴ Rapidly spreading information will cause Marines to operate and fight in an IE where persistent global surveillance will challenge their ability to approach areas undetected and untargeted.

Marines confront a diverse and complex array of global crises. The IE is a contested environment where adversaries challenge U.S. power projection from many dimensions, including the physical, informational, and cognitive. Forces that build the IE into their operational design will gain a significant advantage. The future IE will be increasingly lethal (placing a premium on maneuver, dispersion, deception, and signature management), increasingly adaptive (elevating the importance of information, intelligence, and decision making), and increasingly interconnected (allowing information and informational activities to converge, amplifying their effects).

Technology

The IE's complexity is fueled by technology. Off-the-shelf unmanned



Figure 1. (Figure provided by author.)

systems, commercially available GPS, and cellular networks combine to facilitate rapid advances in precision lethality. Technology trends will favor the tactical offensive, significantly enhancing an adversary's ability to find

in contested IEs. China, Russia, North Korea, Iran, and extremist organizations are expanding their capacity to sense the battlespace, deny communications, attack networks, and manipulate information. Information technology's

Technology trends will favor the tactical offensive, significantly enhancing an adversary's ability to find and strike massed or high-value targets with precision—often enabled by ISR systems that target battlespace signatures.

and strike massed or high-value targets with precision—often enabled by ISR systems that target battlespace signatures.⁵ (See Figure 1.)

Threats from technology-empowered adversaries will force Marines to rethink how they sense, communicate, and fight

greatest advantage, and its greatest vulnerability, is its ability to connect. Our adversaries know that we depend on a limited number of critical information capabilities, and our adversaries will attack these capabilities at the exact time we need them the most.⁶

Fire and Maneuver

Maneuver warfare is a competition of seeking versus hiding. The proliferation of systems that can rapidly analyze and disseminate data makes it harder for forces to move undetected. Militaries that cling to the past and invest in more expensive and exquisite traditional systems will be detected and destroyed. High-volume, low-cost disposable weapons systems are becoming the norm.

Although technology will not alter the central role of fires (rate, ranges, accuracy, and lethality), technology diffusion will lower the barriers for acquiring a precision fires capability.⁷ Fires are not limited to physical projectiles; fires has become the broader ability to project effects onto an enemy, including cyber, EW, directed energy, and information warfare. Fires will grow more ferocious as technology improves lethality through greater precision, and greater precision will give the advantage to the force that fires first.

Russian operations in Ukraine and Syria demonstrate Russia's commitment to the employment of IE as a key war-fighting component. Chinese doctrine calls for preparing for not only physical warfare but also legal, cyber, and psychological warfare. Violent extremist organizations gather recruits and financial support through the Internet and social media. All of these actors disseminate biased and false information using digital technologies and exploit global audiences to disrupt and delegitimize U.S. operations.⁸

Space-based Assets

Our space capabilities make it possible for the Marine Corps to sense the battlespace more clearly, communicate with certainty, navigate with accuracy, and strike with precision. Adversaries are aware of these advantages and are fielding capabilities to challenge our space-based assets. From simple jammers to anti-satellite weapons, denying our space capabilities is a central tenet of our adversary's strategies.⁹

China and Russia are pursuing counter-space weapons.¹⁰ Counter-space weapons and threats can include kinetic physical strikes against satellites



Fires are not limited to projectiles. (Photo by Cpl Tessa Watt.)

or ground stations; non-kinetic strikes with lasers, high-powered microwaves, and electromagnetic pulse weapons; electronic attacks through jamming or spoofing; and cyberattacks targeting computers and data.¹¹ Adversaries will increasingly have access to space-based imagery and weather data; communications; and positioning, navigation, and timing information. Anyone with enough money will be able to buy or rent commercial space assets.

Weaponized Information

The battle of the narrative is no longer just fought at the strategic level. The perception of events rapidly alters the tactical situation, particularly in crowded urban environments. Technology allows anyone to film, edit, and share information in near-realtime. Every individual can be an information actor and distribute messages, true or false, to a global audience. Deep fake videos allow messages to spread quicker than they can be disavowed. Governments and traditional media are no longer the dominant players in the information space.¹²

An entire generation only knows an Internet world. These digital natives share and receive information in virtual environments in methods that are fundamentally different than the way past generations shared and received infor-

mation. The spread of mobile technology, particularly in developing nations, has dramatically increased the ability to rapidly access and share information. Individuals leverage social media to energize protests in a fraction of the time it took only a few years ago. Internet-connected personal devices with cameras and full-motion video allow much of the world to share and observe events as they unfold. Adversaries can use the same technological advances for operational purposes as well as for propaganda and disinformation.¹³

Marines will be challenged by state and non-state actors as they attempt to control the narrative. Adversaries use digital technology and social media to disseminate biased and false information to global audiences to disrupt and delegitimize U.S. operations. These disinformation campaigns pose a threat to Marines down to the tactical level as the campaigns can quickly undermine the Marines' relationship with local populations.¹⁴

Reconnaissance-strike Complex

Adversaries are using the IE to integrate surveillance, maneuver, and strike into a more seamless network. For example, Russia's reconnaissance-strike complex links high-precision, long-range weapons with realtime intelligence data.¹⁵ The ability to hide, mask,

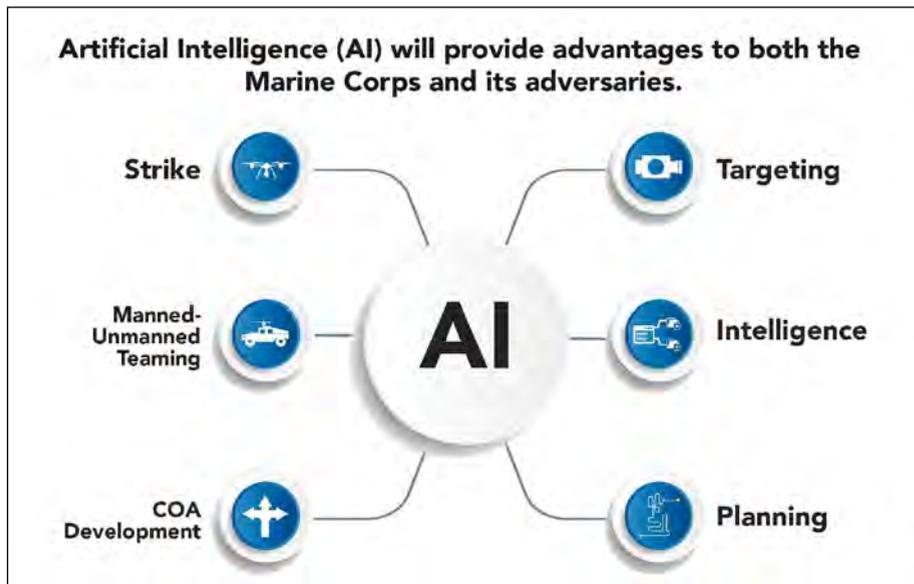


Figure 2. (Figure provided by author.)

or deceive unit locations will become increasingly important as the battle of sensors and signatures intensifies.

Advances in the IE are allowing competitors and non-state actors to merge reconnaissance feeds with firing assets to create extremely rapid sensor-to-shooter kill chains. The IE-driven networks will also increase precision, allowing for fewer munitions to be transported, maintained, and stockpiled.¹⁶ Some munitions will be supersonic, whereas others will loiter, hover, or perch. By networking IE-enabled sensors, future munitions will become highly maneuverable and will hunt targets, even in complex urban environments.¹⁷ Some IE-enabled strike platforms will be fused with manned or unmanned teams with the ability to maneuver autonomously and execute fires on command from remote locations. Not all munitions will be kinetic, some loitering systems will conduct EW or wirelessly deploy malware into enemy systems. Large static locations, such as supply depots and forward arming and refueling points, will be increasingly difficult to protect.

The Convergence of Big Data and AI

Every 24 hours, humans create 2.5 quintillion (a billion billion) bytes of new data. This amount of information spurns the rise of big data. Information

created within the past 24 months makes up 90 percent of the data available in the world. AI is harnessing big data by making it possible for machines to learn over time, adjusting to the massive flow of new inputs to gain insights, make decisions, and perform tasks without human intervention. Big data feeds AI, and AI empowers big data.¹⁸ (See Figure 2.)

AI and the Kill Chain

The integration of information and firing systems is shortening the time it takes for adversaries to sense the environment. AI is the future of sensor-to-shooter networks. AI-based fire systems create the ability to find, fix, and finish targets faster than a human can. Once deployed, AI-based fire systems progress through the kill chain internally or via a network of autonomous weapons working together. Depending on the level of permissions granted, these weapons will send a signal back once a target is fixed, along with the evidence required to garner strike approval. With approval, a command signal is sent, weapons engage, and the kill chain is complete (finish and feedback). If the weapons are fired with the appropriate approval, then the entire kill chain could be completed autonomously. These integrated enemy networks reduce Marine Corps advantages in shooting, moving, and communicating.¹⁹

ISR

As inexpensive sensors proliferate and as competitors and adversaries extend the range of sensing systems, ISR networks will expand. Developments in high-performance computing and AI that can rapidly identify events and patterns within large data sets will enhance the ISR sensor integration.²³

Smart Sensors

Smart sensors receive input from their physical environment and use internal processors to monitor, detect changes, analyze data, and communicate the results or make decisions and control processes. When connected through networks, smart sensors can create a smart grid capable of monitoring and reacting over large areas.²⁴

The Targeting Threat

Adversaries will continue to develop long-range strike capabilities with an array of sensor and missile technologies to limit U.S. power projection capabilities. The global proliferation of sensor-capable and weaponized unmanned aerial systems has created a critical need for counter-unmanned aerial systems capabilities. Cyber threats will persist as social media and cyber footprints signal Marines' presence and as cloud-based computing solutions erase the difference between internal and external networks.²⁵

Implications

Marines need to view IE operations as integral to the single battle concept. Cyber and electromagnetic space is simply an extension of the physical space; they all enable commanders to maneuver to present the enemy with a dilemma. There are no permissive IEs. In tomorrow's fights, being detected can mean being targeted, which can mean being killed. The force that can sense and understand the actions of its opponents in the IE will fight from an advantageous position.²⁶ This war-fighting approach requires innovative concepts, creative tactics, new systems, and—most importantly—smart Marines.

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Marine Corps Intelligence Activity

Organizational support to the Marine Corps

by LtCol Ryan Shaffer

We live in an incredibly intricate and complex world. Globalization allows once disparate groups to connect at a rapid pace, and the result can either be beneficial or detrimental to the United States and the Marine Corps. With the threat of humanitarian disasters being an increasingly volatile threat, a growing interconnectedness among the global community can enable a faster and more accurate response by Marines and other entities. In contrast, increased globalization can cause persistent disorder and make it difficult to discern shifting alliances in instances of political upheaval, threatening American interests and citizens worldwide. Adversaries are determined to exploit the information environment, and the expanding dis-

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semination of advanced technologies makes it easier than ever for them to assault our allies and interests around the world. As the Nation's force-readiness, Marines must be prepared, trained, and equipped to respond to and operate in these complex and dynamic situations.

The Marine Corps Intelligence Activity (MCIA) serves as the Marine Corps' Service-level intelligence center. As the Service-level intelligence center, MCIA's mission is to deliver expeditionary intelligence products and services

to inform and prepare decision makers and warfighters for mission success.

- MCIA provides intelligence products and services in support of Marine Corps planning and decision making, doctrine and force structure development, systems and equipment acquisition, wargaming, training, and education.
- MCIA supports Marine Corps Operating Forces, the DOD, the intelligence community, and allied partners by providing comprehensive intelligence for expeditionary mission sets.
- MCIA facilitates the efforts of the Marine Corps Intelligence, Surveillance, and Reconnaissance Enterprise (MCISRE) through coordinated planning and guidance to inform decision makers and enable success on the battlefield.

The MCISRE is the mechanism, via personnel, equipment, and processes, which merges disparate nodes of the Marine Corps intelligence effort into a cohesive, mutually reinforcing whole. The MCISRE is made up of intelligence professionals from the MEFs and their major subordinate commands (division, wing, and logistics group), as well as the Marine forces (MARFORs)—both regional and functional. By pooling its resources, the MCISRE is greater than its parts: where one unit's intelligence gaps exist, another unit can fill those gaps. Once known for its country hand-



MCIA assists in providing intelligence support to units as needed. (Photo by Matt Lyman.)

book production line, MCIA now serves as the nerve center for the MCISRE. MCIA communicates, coordinates, and provides a shared understanding of what Marine Corps operations are currently doing and what future operations are planned. This nerve center does not direct any of these operations; however, it coordinates with the Marine units supporting the operations and assists in providing intelligence support to those units as needed.

To ensure there is a shared understanding across the MCISRE, MCIA supports the MCISRE's Program of Analysis (PoA). The PoA facilitates collaboration across the enterprise to enable intelligence analysis and production as well as to support decision makers at all levels. Through an iterative process that integrates inputs from regional, functional, geospatial, open-source, and counterintelligence analysts from around the Marine Corps, the PoA harmonizes the planned analytic support by attempting to prevent redundant production and ensuring our analytical endeavors are concentrated and relevant. In accordance with the *2018 National Defense Strategy*, the current PoA focuses on peer competitors and adversaries. The PoA is also driven by



Regionally aligned organizations can focus on operational-level intelligence requirements within combatant command areas of responsibility. (Photo by Sgt Ronald Spotswood.)

ing Marine Corps acquisitions programs and also helps Marines to detect trends in warfare, ensuring they are prepared for the next fight rather than the last fight. MCIA is uniquely able to identify challenges to Marine Corps operations and potentially help mitigate those challenges by conducting in-depth regional, coastal, and targeted studies. MCIA also

cedures as the operational environment fluctuates, new technologies emerge, and resources permit. Although some of these tools, techniques, and procedures remain unique to MCIA, others are propagated across the MCISRE. Other examples of unique MCIA capabilities include:

- Enterprise operations center: Known as the EOC, it coordinates and integrates intelligence capabilities and activities across the MCISRE, the IC, the Defense intelligence enterprise, and coalition partners.
- Multi-intelligence: The regionally aligned divisions focus on long-term strategic and operational-level intelligence within combatant command areas of operation. These divisions comprise all-source, geospatial, and open-source intelligence analysts to provide foundational intelligence expertise in support of Marine Corps, joint, and coalition requirements.
- Science and technical: These divisions, as well as the foreign materials program, focus on long-term, strategic, and operational-level analysis of our adversaries' technology and equipment. They acquire and exploit adversaries' technologies and weapons systems to prevent technological surprise and to be aware of the enemy's technological capabilities.

MCIA develops and deploys new tools, techniques, and procedures as the operational environment fluctuates ...

*Marine Corps Operating Concept: How an Expeditionary Force Operates in the 21st Century; A Cooperative Strategy for 21st Century Seapower; and Littoral Operation in a Contested Environment.*¹ The MCISRE's PoA is a plan for intelligence support, and all plans have branches and sequels; the PoA is updated every six months to enable requirement shifts from the Operating Forces.

Although MCIA focuses on current and planned Marine Corps operations, we also support intelligence requirements for analyzing the future operating environment. This has value in support-

maintains a situational awareness of potential crises; assesses political, social, and technological trends; and evaluates factors that could affect the future operating environment. These efforts inform the development of future warfighting concepts and capabilities within the senior levels of the Marine Corps.

Although MCIA provides intelligence support to acquisitions and serves as the nerve center for MCISRE operations, what other unique capabilities does MCIA have that other MCISRE elements do not? MCIA develops and deploys new tools, techniques, and pro-

- Open source: Known as OSINT, these analysts exploits publically available information to discover trends, vulnerabilities, and strategies in the operational and informational environment. Although the OSINT capability is inherent to MCIA, we provide analysts and reachback support to all the MEFs. MCIA's OSINT team also collaborates with other DOD, IC, academic, industry, and foreign partners.
- Identity intelligence analysis cell (I2AC): This team provides 24/7/365 near-realtime identity intelligence reachback support to Marines worldwide. I2AC assists with identifying individuals who might pose as a security or operational risk. Identity intelligence is a mission enabler for force protection, counterintelligence/human intelligence, counter-improvised explosive device operations, law enforcement, maritime boarding operations, and counter-insurgency activities.

- Production, exploitation, and dissemination (PED): MCIA operates a 24/7/365-PED cell that provides tactical-level intelligence through full-motion video exploitation from airborne intelligence, surveillance, and reconnaissance platforms. In conjunction with the Deputy Commandant for Information and Intelligence Division, MCIA's PED branch is laying the foundation for the MCISRE's plan to have six operational PED cells across the Marine Corps by providing training and establishing standards for all PED nodes to follow.

The list above is not all-inclusive but is an example of distinctive capabilities that MCIA provides in support of the Marine Corps. Additionally, MCIA continually evolves to meet emerging and unique requirements of the operational and tactical environment. MCIA is made up of dedicated intelligence professionals who help prepare units prior to deployment and support

units throughout their deployments. MCIA has finite resources and manpower, just like any other organization, but by working the MCISRE, we can prioritize production goals and assess capability support based on the guidance set forth by Marine Corps' senior leadership. As our adversaries' capabilities evolve, MCIA will evolve to support the dynamic and complex operating and information environment that Marines operate in every day.

Note

1. Headquarters Marine Corps, *Marine Corps Operating Concept: How an Expeditionary Force Operates in the 21st Century*, (Washington, DC: September 2016); Headquarters Marine Corps, *A Cooperative Strategy for 21st Century Seapower*, (Washington, DC: March 2015); and Headquarters Marine Corps, *Littoral Operation in a Contested Environment*, (Washington, DC: March 2017).





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The Space Warfighting Domain

Is Marine Corps intelligence ready?

by LtCol Mark J. McDonald, USMCR

Space is integral to our way of life, our national security, and modern warfare. Although United States space systems historically maintained a technological advantage over our potential adversaries, those potential adversaries are now advancing their space capabilities and actively developing ways to deny our use of space in a crisis or conflict. It is imperative that the United States adapt its national security organizations, policies, doctrine, and capabilities to deter aggression and protect our interests.¹

Activity in space is accelerating globally. The commercial, civil, and military sectors are expanding both independently and in mutually beneficial partnerships to the standard group

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of earth’s orbital regimes and beyond. The outcome of this activity is designed to expand commercial markets, further exploration and discovery, advance scientific theory, and facilitate national security. In the latter case, what role has Marine Corps intelligence played in the space warfighting domain? Further, is Marine Corps intelligence via the Marine Corps Intelligence, Surveillance, and Reconnaissance Enterprise (MCISRE) sufficiently involved in space to carry out its fundamental roles as a

warfighting function? The questions posed are limited in scope to the intelligence warfighting function, but they cannot be viewed in isolation as they represent a small—but crucial—corner of an increasingly complex and interconnected warfighting domain.

Why Space Matters to Marines

Succinctly, space enables MAGTF operations. Satellites determine our location, guide our weapons, synchronize our timing, allow us to communicate and transport data, provide situational awareness across the electromagnetic spectrum to include imagery and signals, warn us of emerging and imminent threats, and inform us of current and predicted environmental conditions. Denial of space-based capabilities will obviously have a detrimental effect on MAGTF operational effectiveness. A thorough explanation of space dependencies can be found in the January 2019 edition of the *Marine Corps Gazette*, where authors Majors Joseph Horvath, Erika Teichert, and James Connolly provided a compelling overview of space and the Marine Corps in their article, “The Marine Space Support Team Concept: Tactical Space Operations Support to the MAGTF.”² Critically, the piece states,

The MAGTF of today does not understand how to take full advantage of space-based capabilities and is not prepared to operate in a denied, degraded, or disrupted space operating environment.³

Does this statement also apply to Marine Corps intelligence and the MCISRE?



Space enables MAGTF operations. (Photo by Sgt Ronald Spotswood.)

Strategic documents at every echelon of national security direct our capability development efforts toward conflict with near-peer adversaries. This introduces weapons and tactics with effective ranges from hundreds to thousands of miles. The *Marine Corps Operating Concept* (MOC) speaks to this reality by stating,

The deep-water ports and high-throughput airfields we once relied upon are also increasingly vulnerable to attacks with long-range fires. These challenges will only grow as competitors pursue concepts for holding our forces at bay at greater distances and denying our ability to maneuver⁴ in both littoral and landward areas.

While the “21st century MAGTF operates and fights at sea, from the sea, and ashore as an integrated part of the Naval force and the larger Combined/Joint force,”⁵ the de facto battlespace for a MAGTF now spans from traditional micro-terrain through hemispheric distances on the surface of the earth, and from subterranean and subsurface to geosynchronous orbit in altitude, across the entirety of the electromagnetic spectrum, and wherever computer code exists in cyberspace. This seems to be supported, at least in part, by the MOC:

Now, changes in the operating environment and adversary capabilities drive us to increase emphasis on maneuver in the cognitive dimension and expand our employment of combined arms to the domains of space and cyberspace.⁶

How aware are Marine Corps intelligence professionals of the extent of space domain capabilities, effects, and dependencies of both red and blue forces on the MAGTF, Navy and Marine Corps Team, and of the larger joint force given the expanded scale of current operational concepts exemplified in *Joint Concept for Access and Maneuver in the Global Commons*, (Washington, DC: October 2016); *Littoral Operations in a Contested Environment*, (Washington, DC: February 2017); and *Expeditionary Advanced Base Operations*, (Washington, DC: 2018)?

Teaching the Language of Space

“The Marine Space Support Team Concept” provided recommendations for establishing Marine space support teams to guide MAGTF commanders and their staffs through the broad range of space operations outlined in *Joint Publication 3-14 (JP 3-14), Space Operations*. These teams will be essential in educating the commander and staff on space operations, trouble-shooting situations related to space-related capabilities, connecting staff organizations with space-related products and services (or providing products and services themselves depending on the level of training) that enhance mission accomplishment, and coordinating integrated space-related efforts amongst staff elements. This mission currently falls to a smattering of space officers, Space Operations Officer (8866s) and Space Operations Staff Officer (0540s), assigned throughout the Operating Forces and Supporting Establishment. One of the most important services provided by space officers is the ability to speak the language of space—meaning the terms and definitions of *JP 3-14* and Air Force lexicon—because the bulk of current space capabilities reside with the Air Force. Space officers translate this language to the operational culture and jargon of the MAGTF. However, the preponderance of Marine space cadre are versed in communications and do not necessarily consider MCISRE equities.

One of the most prominent space capabilities is space-based intelligence, surveillance, and reconnaissance (ISR). If the primary MOS of a space officer is intelligence (02XX), they are generally better acquainted with the range of capabilities that space-based ISR can provide to a MAGTF than a non-intelligence (02XX) space officer, just like communications officers have a much deeper affiliation with satellite communications and position navigation and timing capabilities. But how many 02XXs consider intelligence support from space operations? Are we leveraging space capabilities and existing tools to the maximum extent to support the MAGTF? Are we aware of our adversary’s space capabilities and partner-

ing with staff counterparts to mitigate or deny their capability to surveil the MAGTF envisioned by our joint, Naval, and Marine Corps concepts and threat assessments? How can we better receive and contribute to the joint force where space and Marine Corps intelligence intersect? How will we operate without access to space?

Battlespace Awareness, Intelligence Functions, and Space

Intelligence warfighting publications take an inclusive approach to warfighting domains by using the term “battlespace” instead of focusing on any one domain:

The environment, factors, and conditions that must be understood to successfully apply combat power, protect the force, or complete the mission. This includes the air, land, sea, space, and the included enemy and friendly forces; facilities; weather; terrain the electro-magnetic spectrum; and the information environment within the operational areas and areas of interest.⁷

However, current doctrinal intelligence publications are exceptionally old from a space domain perspective, and even the most recently updated examples are dated when the latest developments are considered. They are not irrelevant, as the traditional relationships between space-based intelligence capability providers are strong, well-developed, and ongoing. But Marine Corps intelligence, in particular, has generally partitioned its approach to space according to intelligence discipline (e.g., geospatial intelligence and signals intelligence). This statement is manifest by the embedding of Marine personnel at National Geospatial Agency, National Security Agency, and now National Reconnaissance Office, respectively. Technological advancements within these agencies coupled with wider advances and activity in the space warfighting domain and the strategic guidance to focus on peer adversaries necessitates that Marine Corps intelligence move beyond our traditional stance regarding space-based ISR. A framework already exists in our doctrinal intelligence operations, and being proactive in assisting

space officers in supporting other staff officers and deliberately applying our six intelligence functions toward the other space operations capabilities.

The six intelligence functions include: support to the commander's estimate of the situation, situation development, indications and warning, support to force protection, support to targeting, and support to combat assessment.⁸ Taking each in turn, potential space operations and space-related capabilities are considered hypothetically:

Support the commander's estimate of the situation. Intelligence is responsible for providing the commander an accurate view of the battlespace and the threat. Today's battlespace extends into space in a more significant way, and the area of interest for any deployed MAGTF is global when speaking of peers in general. Space is a domain where threats are enabled, originate from, operate in and from, and transit when they originate from other domains. Space needs to be better understood and considered from an intelligence preparation of the battlespace (IPB) context, including space weather and its effects as well as the orders of battle and capabilities of adversaries' space forces. Space officers and Army space support teams provide much of this information at combatant commands, Marine Corps Forces, and MEFs; but, IPB and joint preparation of the operational environment is an intelligence function and the space warfighting domain needs to be better understood inherently by intelligence Marines.

Develop the situation. Provide continuing knowledge of unfolding events to update the commander's understanding of the hostile situation (the basis for adjusting the plan). Space needs to be visualized as a layer in our common intelligence and operational pictures along with the other domains to provide the commander with a thorough understanding of the battlespace.

Provide indications and warnings. The area of interest for any MAGTF is global and now orbital in scope. The reach of threat ISR and anti-satellite weapons systems continues to grow, placing fundamental warfighting functions at risk. A space order of battle could be included



Loss of command and control will adversely impact MAGTF operations. (Photo by Sgt Ronald Spotswood.)

in MAGTF IPB products and a generic intelligence requirements handbook developed specifically for the space warfighting domain. This will include the aforementioned adversary space order of battle and priority intelligence requirements to monitor their activities that threaten MAGTF operations.

Provide support to force protection. It may be time for a renaissance of blue force denial and deception. A standard intelligence product could portray adversary space-based ISR and alert the commander to objects transiting the space domain, which could affect MAGTF operations. Signature management is a current challenge, and the ability for the force to survive will be determined on how well it is executed. An additional way to add persistence to ISR and force protection is to leverage the increased variety of commercial and coalition space-based systems beyond to watch our perimeter and locate threats beyond line-of-sight.

Support to targeting. Marine Corps intelligence could become further involved in development and expansion of targeting capabilities and align our gaps with emerging capabilities by incorporating them into training and exercises. Increasing manpower in this area can yield a large benefit for relatively minimal cost.

Support combat assessment. This function is also already a space-based capability, but with the significant increase in remote sensing satellites in the commercial and coalition realm, there may be more timely and redundant assets to assist battle damage assessment and speed decision for re-strike or prioritization of other targets.

Currently, a nascent MCISRE space community of practice has convened to consider these topics in context, but a more deliberate cross-functional working group may need to be developed to focus on space-related doctrine, organization, training, materiel, leadership and education, personnel, facilities and policy gaps and normalize Marine Corps intelligence's approach to the space warfighting domain.

Recommendations

There are several organizations with significant authorities regarding space in the Marine Corps. Current advocates identify the Deputy Commandant for Plans, Policies, and Operations as the advocate for space. The Deputy Commandant for Information (DC I) has equities as space is one of the information-related capabilities and simultaneously the DC I commands Marine Corps Forces Strategic Command. *Marine Corps Order 5300.43, Marine Corps*

Space Policy (Washington, DC: Headquarters Marine Corps, 2009) assigns the Director of Intelligence responsibility for space-based ISR and liaison with space-based ISR agencies. Under the DC I leadership with Director of Intelligence's support, the intelligence liaison position to National Reconnaissance Office was re-energized this year after having fallen vacant for the past seven years. A small but notable step as the HQMC is resourcing where we can best get after the future fight—where we can influence intelligence community and joint investments and keep our warfighters and Supporting Establishment informed.

The challenges are being managed, but an overall Marine Corps vision, true concept, or strategy for space does not yet exist—nor does a documented, consolidated stance toward the future of space as it relates to the MCISRE. The *Marine Corps Concept for Space Operations* (Washington, DC: Headquarters Marine Corps, October 2017) is an encyclopedic offering that reiterates the information contained in *JP 3-14* but does not state how the Marine Corps will operate related to space, nor does it provide a vision or roadmap toward future use or participation in the space warfighting domain. Space is being considered broadly in the next MC-

ISRE strategy, and the establishment of Marine Forces Space Command will likely play a part. In the interim, a cross-functional, cross-intelligence discipline team should be formed to consider updating the way Marine Corps intelligence and the MCISRE approach the space warfighting domain as it affects MAGTF operations. Partnering the MCISRE with the other Services who have more structure, responsibilities, investment, and have devoted more concerted thought toward space could assist us to better integrate intelligence and space into our culture and into mission sets as part of the joint force. Education—both general space operations and specific intelligence capability topics as an entry-level requirement for intelligence professionals—will likely spur the imaginations of the newest generation of Marines that may participate in a conflict overtly involving the space warfighting domain.

Conclusion

The designation of space as a warfighting domain is a recognition of the advances in technology as well as increased access to and activity within the physical domain. The designation also recognizes the threats to our terrestrial warfighting capabilities. An unchanging facet of Marine Corps intelligence doc-

trine is to provide battlespace awareness to the MAGTF to include threats to, in, transiting, and from the space domain. Education for intelligence professionals should expand beyond the traditional space-based ISR partition and into the other space operations capabilities listed in *JP 3-14*. Combining traditional intelligence tenets with the new domain and taking proactive steps to provide intelligence support to other aspects of space operations are short-term remedies all intelligence professionals can improve upon. Working within our profession and with other space stakeholders, a comprehensive Marine Corps strategy toward space could be initiated to realize the vision of our current operational concepts and win in the conflicts to come. Enabling the MCISRE with space doctrine will enable MAGTF operations.

Notes

1. President Donald Trump, *Space Policy Directive-4: Establishing A U.S. Space Force*, (Washington, DC: February 2019).
2. Joseph Horvath, Erika Teichert, and James Connolly, "The Marine Space Support Team Concept: Tactical Space Operations Support to the MAGTF," *Marine Corps Gazette*, (Quantico, VA: January 2019).
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Satellites have become indispensable to MAGTF units deployed around the world for training.
(Photo by PFC Dalton S Swanbeck.)



Intelligence Within the MIGs

A running estimate

by Maj Trustun G. Connor

To meet the challenges and opportunities demanded by a modern, rapidly evolving information environment, the Marine Corps is adapting and developing new capabilities and methods to fight and win in the information environment.¹ These capabilities require revised focus on battlespace awareness, primarily coming from the intelligence warfighting function. Within specific formations, significant reorganization efforts and strategic investments in people, training, and modernized equipment will enable the Service's ability to gain and maintain decision advantage against peer competitors while maintaining a balanced MAGTF capable of performing its assigned mission.

A key formation within these new capabilities is the MEF information group (MIG). The MIG was established to plan, coordinate, support, and conduct operations in the information environment (OIE). The MIG exploits information environment gaps and integrates information across all domains in support of all warfighting functions to gain operational advantages, increasing the overall lethality and survivability of the MEF against a peer threat.

Reorganization and modernization efforts for the MIG have great potential to enhance a MAGTF commander's decision making in support of peer competition and missions across the range of military operations if intelligence doctrine, training, and equipment challenges are addressed. Recent exercises and wargames identified process issues and organizational shortfalls. More specifically, PERSISTENT WARRIOR 19.1 confirmed the need to address doctrine, policy, structure, and training and education issues.

"It's ... a lot of information for us to manage. It's at a rate faster than we can absorb. At the tactical level, we are over-saturated with that coming in."

—Gen David H. Berger

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Challenges

The MIG intelligence section is inadequately manned to operate a doctrinal intelligence section. Doctrinally, the intelligence effort is synchronized under the staff cognizance of the intelligence officer on the staff. The intelligence section, through the development of focused intelligence requirements, is responsible for intelligence operations and the production of analytical assessments. However, the MIG intelligence section has limited ability to execute intelligence operations and no production capability. Based on the personnel in the MIG intelligence section table of organization (T/O), the preponderance of the personnel's tasks are focused on security management, request for information coordination, and other administrative and collateral duties. The current structure of the MIG has intelligence personnel dispersed through the intelligence and the operations sections. Some personnel are in non-intelligence-specific billets, and others are filling intelligence roles in the operations section. For example, the MIGs are structured as

follows: I/II/III MIG S-3: 2691 Master Gunnery Sergeant Operations Chief, Chief Warrant Officer 4 2602 Assistant Current Operations Officer, Gunnery Sergeant 0231 Assistance Operations Chief, Chief Warrant Officer 3 2602 Systems Integration Officer, Sergeant 0231 Intelligence Analyst, Lance Corporal 0231 Intelligence Analyst (2), Sergeant 2651 Systems NCO, Gunnery Sergeant 2651 Special Technical Operations NCO, Chief Warrant Officer 4 0205 Intelligence Operations and Fusion Officer, and Staff Sergeant 0231 Intelligence Analyst.

It is important to note that MIGs have subordinate intelligence capacity, specifically, intelligence and radio battalions. Yet, the ability to leverage intelligence to support should be balanced with needs of the MAGTF elements to include the command element intelligence requirements.

Within the MIGs, the primary intelligence consumer is the information command center (ICC). At present, the relationship between the MIG S-2 and the ICC is not doctrinally defined or

understood, and it varies between the three MIGs. The ICC is composed of a watch floor and OIE cells that serve as the focal point for all ICC responsibilities and actions. These cells are organized to plan and coordinate information capabilities and activities in accordance with the seven OIE functions. The information warfare coordinator has overall responsibility for the function of the ICC and exercises control by providing guidance, direction, and tasking to the OIE functionally aligned cells. The MIG commander, through the ICC, is the MEF's lead for OIE with the ICC envisioned to be the MEF's central nervous system for sensing, understanding, and executing actions in the information environment. Therefore, the ICC provides the MEF commander with the means to command and control OIE as well as support operations in the physical domains.

In an attempt to identify capability gaps based on the MIG's current T/O and doctrinal construct, the Deputy Commandant for Information-Intelligence Department conducted a wargame (PERSISTENT WARRIOR 19.1)² with the primary objective of identifying MIG S-2 roles and responsibilities. A secondary objective was to capture tactics, techniques, and procedures differences across the three MIGs. Given the Marine Corps' focus on operations in the information environment for the MAGTF, the requirement to conceptualize how the MAGTF will operate and win in a contested information environment is imperative.

PERSISTENT WARRIOR

PERSISTENT WARRIOR is a Title 10 wargame series intended to inform Service-level capability development efforts. The purpose of the wargame is twofold: to influence Operating Force non-materiel changes with regard to intelligence support (short-term) and inform concept and capability development for the Service and Supporting Establishment (mid- to long-term). Ultimately, the intent is to provide a venue that spurs innovation, tests and evaluates Marine Corps Information Environment Enterprise concepts, and identifies current and potential future capability gaps while

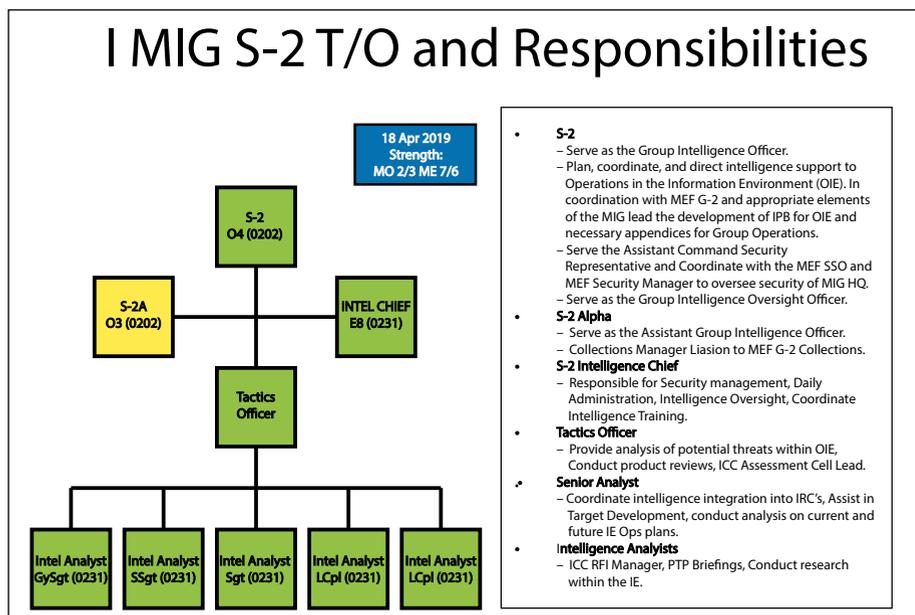


Figure 1. (Figure provided by author.)

proposing potential solutions. Broadly, recommendations might include changes to mission essential tasks, missions, concepts of operation, and concepts of employment refinement.

PERSISTENT WARRIOR 19.1 identified several key findings highlighting the differences between the three MIGs.³ Since each MIG and their intelligence sections are in varying stages of manning, total force structure manpower was used as the baseline. In accordance with the Total Force Structure Management System, the MIG billet organization for the intelligence section is identified as: I/III MIG S-2: 0202 Major Intelligence Officer, 0202 Captain Intelligence Officer, 0231 Master Sergeant Intelligence Specialist; -II MIG S-2: 0202 Major Intelligence Officer, 0202 Captain Intelligence Officer, 0231 Master Sergeant Intelligence Specialist, and General Schedule-11 Assistant Security Manager. Each MIG functions uniquely to support their respective MEFs. For common reference, before conducting the vignette portion of the wargame, each MIG S-2 briefed their structure as well as their internal and external support requirements. The vignette portion of the wargame consisted of the following five focus areas:

- MIG S-2 staff support roles and responsibilities predominantly in a garrison environment.

- Intelligence support to the ICC in an offensive near-peer environment.
- Intelligence preparation of the battlespace considerations and defining responsibilities.
- Defining intelligence support to defensive cyber operations—internal defensive measures.
- Identifying training requirements for MIG intelligence Marines and OIE training.

I MIG took a doctrinal approach to intelligence operations. The MIG intelligence officer serves as the senior advisor to the MIG CO on intelligence issues. Additionally, the MIG intelligence officer provides overall guidance and direction for intelligence operations in the MIG. To better enable this, intelligence Marines in the MIG operations section executing intelligence functions were moved under the MIG intelligence officer, increasing the total number of personnel in the intelligence section from three to nine. This also helped to transition the intelligence section from an administrative to an operational staff section. (See Figure 1.)

I MEF views the MIG and G-3 Fires Effects Coordination Center (FECC) as intrinsically linked in the MEF targeting spectrum. The G-3 FECC is the primary lead for plans, developing the initial OIE planning supported by the MIG, OIE plans for the next phase, and

transition planning. The G-3 FECC and MIG transition plans in the future operations portion of the targeting spectrum. The MIG then owns the current operations fight, coordinating and executing the day's events to provide enhanced situational awareness and integrated assessment and tracking of ongoing operations. The MIG interacts closely through the MEF boards, bureaus, centers, cells, and working groups with the G-2 (Staff [G-2 operations, G2X, collections], operations control and analysis center [OCAC], intelligence operations center [IOC]), and the G-6 (MAGTF Communication Control Center). In this construct, the MEF G-2 owns the intelligence preparation of the battlefield (IPB) but receives inputs, as needed, and tailors support to the requirements of the MEF commanding general and the major subordinate commands and elements. To facilitate execution of the MIG/FECC relationship, the MIG ICC is linked to the FECC in the field. (See Figure 2.)

II MIG intelligence personnel are divided between the intelligence staff section and the ICC. The intelligence officer is tasked with administrative staff functions as well as collateral duties. The assistant intelligence officer is embedded in the ICC as the intelligence liaison officer in the ICC, coordinating intelligence support for the ICC. The intelligence chief is currently filling the senior enlisted advisor role within the ICC. This is not an optimal solution but was implemented because of manpower shortages and identified prioritized gaps within the MIG. II MEF views the MIG as a uniquely standalone element that alternatively supports and is supported by the G-2 (Staff [G-2 operations, G2X, collections], OCAC, IOC, MAGTF intelligence center), G-3 FECC, and G-6 MCCC. The MIG works through the B2C2WG to collaborate with the other MEF staff sections and provides information environment battlespace awareness and monitors the execution of OIE. In this construct, the II MIG CO owns the OIE IPB but works collaboratively with the MEF G-2 because of shared battlespace awareness responsibilities. Similar to I MIG, II MIG has the MIG

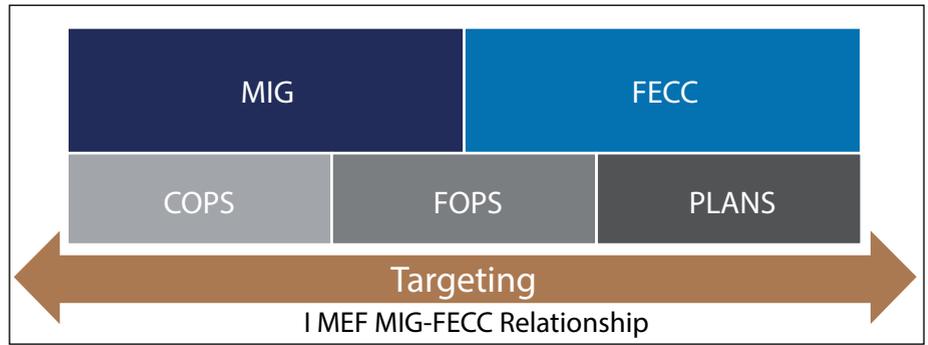


Figure 2. (Figure provided by author.)

ICC attached to the G-3 FECC in a deployed environment. (See Figure 3.)

III MIG modeled their approach after intelligence battalions that do not have intelligence sections in their staff. Additionally, III MIG CO is an intelligence officer and does not require an intelligence staff advisor. Currently, the intelligence officer is the only billet staffed in the III MIG intelligence section. The intelligence officer was moved from the intelligence section and is serving as the assistant operations officer with the long-term plan of transitioning the intelligence section billets into the MIG future operations section with the intelligence Marines providing detailed and long-term analysis needed to support OIE (e.g., target audience analysis, deception analysis, etc.) as well as produce and maintain the information environment baseline. Furthermore, III MIG views the MIG ICC as operationally controlling their subordinate battalions in the field. The MIG ICC is collocated with the OCAC

and IOC, providing guidance and direction. This deviates from established doctrine (*MCWP 2-10*)⁴ that has the MEF G-2 providing guidance and direction to the OCAC and IOC. In this construct, the III MIG CO owns the OIE IPB. (See Figure 4.)

Solutions

As the Marine Corps reorganizes and modernizes, MIG's intelligence short-term and mid- to long-term shortfalls must be addressed through doctrine and policy, organization and personnel, training and education, and material. Understanding that the MIGs are not expected to be fully operational until 2025 and are still in the experimental stage, there are critical functions that require action now. Currently, each MIG is executing intelligence support uniquely based on available manpower, current established concepts, commander's guidance, and internal MEF command relationships. However, MIG ICC processes for intelligence support

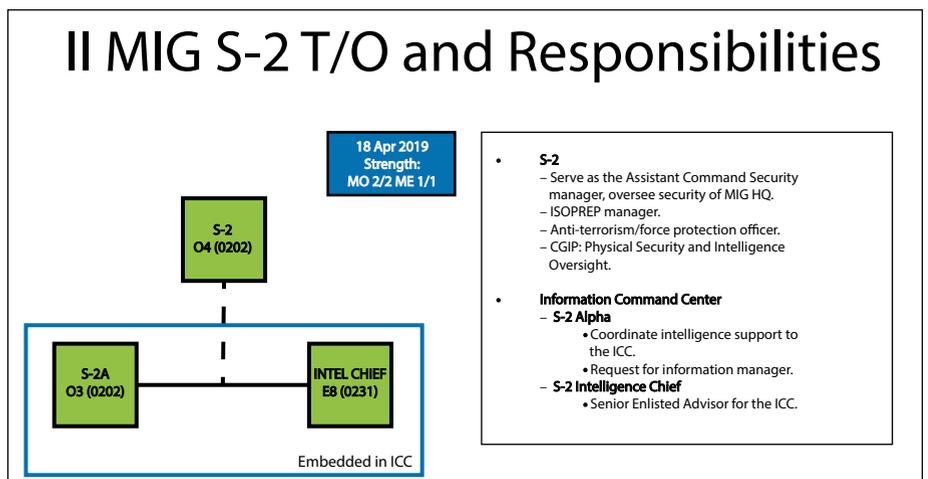


Figure 3. (Figure provided by author.)

to all information related capabilities must be defined and shared across the Marine Corps Information Environment Enterprise. Next, intelligence support to the MIG and OIE needs to be institutionalized. Finally, IPB should be resolved through consistent OIE intelligence support processes across the MEFs. Although IPB is a staff effort led by the AC/S G-2, the introduction of the MIGs has resulted in varied application of doctrine across the Operating Forces. For I MIG, the I MEF G-2 owns IPB and the MIG S-2 supports, as needed. For both the II and III MIG S-2, the MIG CO owns OIE IPB. However, with II MIG, there is overlap between the II MEF G-2 and II MIG CO on OIE responsibilities.

The Service must revisit key MIG billets and structure. Each MIG intelligence section has a standard T/O of three personnel (with II MIG having an additional civilian security manager). This T/O is insufficient to support the ICC and has resulted in each MIG modifying the existing structure to better support operational employment of intelligence personnel. While MIGs and ICCs are currently led and staffed largely by intelligence officers, this is not a requirement and may not reflect the command environment going forward. In the future, the MIG S2 may represent one of the few, or even the only, field grade 0202s within the MIG headquarters making intelligence staff section input on a variety of issues more prominent. Regardless of the CO's MOS, he should still rely on an intelligence staff officer for the overall management of the intelligence warfighting function. MIG intelligence sections need additional personnel to provide tailored production support to the ICC. Recent exercises have identified gaps in MIG S-2 structure (all-source analysis, geospatial and imagery intelligence, counter-intelligence, and human intelligence) to fully support intelligence analysis, production, and IRC planning in support of the ICC. Additionally, I and III MIG should be resourced with a civilian security manager for consistency and to allow MIG intelligence personnel to focus on intelligence operations.

III MIG S-2 T/O and Responsibilities

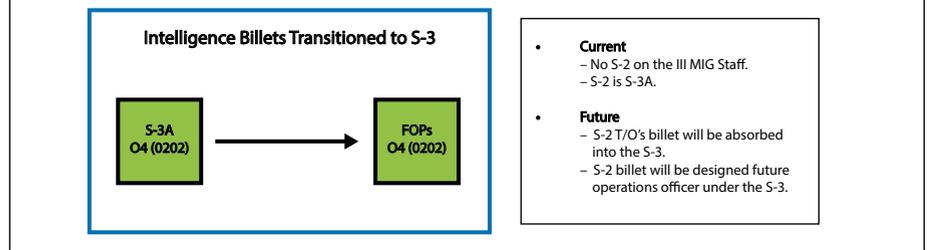


Figure 4. (Figure provided by author.)

Training and education solutions need to be prioritized and institutionalized across the Service. Intelligence Marines need OIE training prior to arriving at the MIG. Intelligence personnel assigned to MIGs should attend Intermediate MAGTF Information Officer Practitioners Course and be trained to the requirements for Information Operations Specialist (0551) or Basic Information Operations Staff Officer (0510). In order to fully support the ICC, intelligence Marines must have a fundamental understanding of all IRCs. More importantly, there is no training focused specifically on intelligence support to OIE. Ultimately, with this much focus on training, the Service needs an OIE center of excellence. Much like aviation has MAWTS and the GCE has MCTOG, an OIE center of excellence would host the Marine Corps' subject-matter experts who provide advanced specialized individual and collective staff training for OIE support to MAGTFs, lead doctrine and training standard development and refinement, and examine emerging concepts, technology, tactics, techniques, and procedures to enhance operational readiness of the MIGs and their supported MAGTFs. Finally, unit training and large-scale exercises should include OIE considerations and scenarios to train the force to operate in the IE. Both real-world OIE events and exercise OIE injects help sharpen the force and define roles, responsibilities, and command and control relationships for the G-2, G-3 FECC, G-6 MAGTF Communication Control Center, MIG S-2, and the ICC.

Conclusion

The Marine Corps is adapting to the rapidly evolving information environment by developing new capabilities. A key formation within these capabilities is the MIG, which enables the MAGTF to integrate information to enhance its lethality and survivability. Current efforts to reorganize and modernize the MIG have potential to enhance MAGTF decision making if efforts are undertaken to address issues highlighted in both PERSISTENT WARRIOR 19.1 and recent exercises. Revisiting MIG intelligence concept of support, organizational structure, and training and educational prioritization addresses not only short-term issues but also sets the stage for long-term institutional solutions.

Notes

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3. Deputy Commandant for Information, Intelligence Division, "PERSISTENT WARRIOR 19.1 MEF Information Group (MIG) S-2 Roles & Responsibilities Exercise Report," (Washington, DC: April 2019).
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OSINT

The need for an open source intelligence workforce

by Heather A. Barrows

What happens when your relative, friend, or colleague shares state-sponsored propaganda? What if it seems to align with deeply held personal values? Can the content elicit multiple emotional responses from people with disparate beliefs? Is there a call to action no matter how seemingly innocuous? The intent of state-sponsored propaganda is to create instability with psychological and potential kinetic effects. Our adversaries are adept at exploiting publicly available information (PAI) to oppose United States Government (USG) interests. When citizens look at state-sponsored propaganda and disseminate it through “shares,” posts, blogs, gifs, and retweets, they provide unfettered access to the American sentiment.¹ The effective range of weaponized information is the collective response of individuals and subsequent environmental effects. Our adversaries use these tactics against USG and civilian populations world-wide. A Marine Corps Service professionalized open source intelligence (OSINT) workforce is critical to parse, collect, and vet PAI to address the demands of the current and future operating environments.²

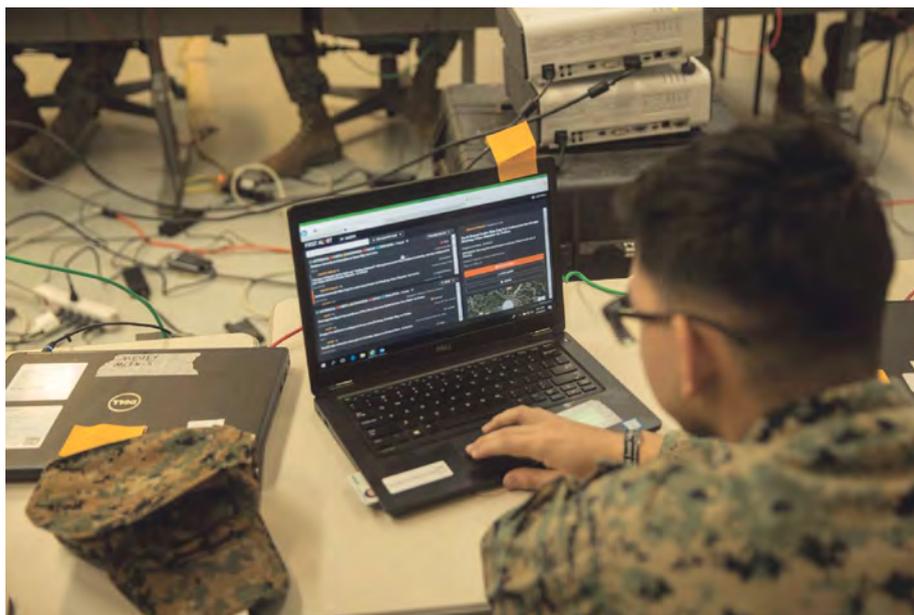
The keyboard is quickly becoming the modern warfighter’s rifle. We have all heard the refrain, “Every Marine a rifleman.” This refrain is an affirmation that Marines are proficient in warfighting. The truth still stands that Marines must understand how to shoot, move, and communicate; however, both what it means to be proficient and the weapons being used have changed. It is imperative that Marines are proficient in utilizing information technology and systems to disrupt, degrade, and deny the adversary in the information environment. Marines must understand that weaponized information can penetrate our homes and disrupt

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us in uniform. The definition of enemy has changed as the means to conduct an attack is ever increasing. Disinformation can be used to influence and control local sentiment in deployed environments with kinetic outcomes against USG interests. The volume of information available creates noise that intensifies the “fog of war.” Whether at home or work, the individual Marine is vulnerable to attack from adversaries. It is imperative to train and equip every Marine to maximize lethality in the information environment to ensure that every Marine remains a rifleman—a modern warfighter. Weapons platforms may change, but the resolve of the war-

fighter to dominate the multi-domain battlespace must not.

OSINT should not be construed as simple based on the availability of PAI. OSINT collectors methodically parse PAI to answer intelligence requirements and produce serialized OSINT reporting. For instance, commercial satellite imagery can be collected and disseminated to a geospatial intelligence cell to answer a request for information. The OSINT cell knows how to minimize their digital signature, use tools that are specific to OSINT, and optimize collection.³ Without training to collect PAI, intelligence professionals use home computing habits to answer



A keyboard is often the weapon of choice. (Photo by LCpl Kyle Bunyi.)

information requirements. Applying sophisticated Boolean or “Google Dorking” alone is a failure to utilize three-quarters of the measures required to collect PAI securely. All keystrokes, mouse movements, clicks, action, and even inaction contribute to a user’s presence in a session. Each action or inaction influences the content that is delivered during a session. Successful employment of OSINT tradecraft facilitates secure collection.

What can be done with OSINT does not reflect where Marine Corps OSINT is today. Every Marine is individually and collectively part of the common operating picture. Marines can be targeted individually and collectively by diverse adversaries with attacks such as phishing or information campaigns meant to degrade confidence in the mission, USG capabilities, and interests. A Marines’ ability to ingest, assess, and exploit PAI improves our agility in the information environment. PAI exploitation improves situational awareness and leaves us less vulnerable. However, prior to enabling all Marines to exploit PAI, we must establish a robust OSINT capability. The fundamentals of OSINT collection must translate across domains in any operating environment.

The Marine Corps must establish professionalized OSINT before developing force-wide PAI capabilities to maintain unity of effort. There are several requirements that are necessary to conduct the full-spectrum of OSINT operations. First, provide relevant OSINT support through standardized processes that are captured in policies, doctrine, and disseminated through the Marine Corps. Second, launch a professional occupation field with career growth through a formalized training pipeline. Third, expand OSINT relationships between the Marine Corps, joint force, intelligence community, and coalition partners. Standardized, professionalized, and operationalized OSINT is an intelligence discipline capable of supporting realtime intelligence requirements in dynamic environments.

HQMC Deputy Commandant for Information has initiated movement on professionalization through release of an OSINT strategy, applying outcomes from



The Marine Corps must become an effective employer of publicly available information. (Photo by LCpl Kyle Bunyi.)

the May 2019 OSINT Professionalization Working Group, and synchronizing efforts with the Defense Intelligence Agency and the Services. The vision is to establish a Marine OSINT program of record that facilitates resourcing to include commercial–Internet service provider, managed attribution, tools, and training. There are several lines of effort required to execute this vision:

- Operationalization: Enable timely, precise, relevant, and predictive OSINT support to MAGTF, joint force, coalition, and intelligence community decision makers, planners, and operators at all echelons.
- Institutionalization: Provide relevant OSINT support through standardized processes that are captured in policies, articulated in doctrine, and shared throughout the Marine Corps.
- Professionalization: Launch a professional occupation field that encourages career growth through a training pipeline to provide capable Marine Corps OSINT professionals who better understand how OSINT can support the needs of the MAGTF.
- Partnerships: Renew, create, and expand OSINT’s relationships between Marine Corps elements, the joint force, intelligence community, and coalition partners to leverage resources, ensure interoperability, and

increase mission effectiveness across the intelligence community.

The OSINT strategy is a roadmap to establish OSINT as a formal intelligence discipline within the Marine Corps.

*OSINT enables the gathering and processing intelligence that would have been difficult or impossible to collect a generation ago.*⁴ 26th MEU and Marine Corps Forces Cyberspace Command (MARFORCYBER) OSINT activities demonstrate OSINT’s capacity as a force-multiplier. The 26th MEU deployed from February to August 2018 and used OSINT to answer intelligence requirements. 26th MEU’s OSINT requirements were federated among intelligence specialists from each element of the MEU, information operations planners, and communications strategy personnel. These Marines utilized DATAMINR for near-realtime monitoring of force protection/indications and warnings, resulting in contingency triggers supporting European Command, Africa Command, and Central Command. The Conflict Zone Tool Kit proved instrumental in identifying narratives of interest, trend analysis, assessing online personas, and conducting network analysis. OSINT enabled 26th MEU to respond to realtime requirements and provide critical information



OSINT enables units to respond to realtime requirements. (Photo by LCpl William Chockey.)

to facilitate successful operational outcomes across domains.

From October 2018 to February 2019, the MARFORCYBER G-2 OSINT Cell began supporting Joint Task Force-Ares. MARFORCYBER G-2 OSINT cell provided violent extremist organization website characterization. The sensitivity of the G-2 OSINT cell's activities cannot be overstated. Through the employment of OSINT tradecraft, the G-2 OSINT cell monitored and collected information from violent extremist organization websites without compromise. The G-2 OSINT cell provided descriptions of website operability and content that enabled Joint Task Force-Ares to adjust operational missions accordingly. As our OSINT capability develops, it will be possible to ingest large data streams, discern patterns, and utilize them to project real-world outcomes with greater frequency than we can today. If the adversary has situational awareness of the OSINT cell's activities, they could target Marine Corps networks, interests, and operations—affecting multiple domains. The challenge of collecting and disseminating critical information to the audience is best left to a professionalized OSINT Marine. OSINT collectors are in strong position to provide vetted information to support other intelligence disciplines across domains.

Execution of the OSINT strategy serves as a force-multiplier through the professionalization, standardization, and operationalization of OSINT while providing layers of security for collection activities. Threats in the information environment and cyberspace demand rapid response including the ability to answer realtime requirements. OSINT presents a corridor to synchronize ef-

The sensitivity of the G-2 OSINT cell's activities cannot be overstated.

forts across domains by developing space and time for decision makers to seize initiative and advance objectives.

While out of uniform and at home, Marines may think and even believe they are a long way from the front line of inter-state warfare.⁵ However, in today's world, citizens, their devices, their workplace, the company used to purchase office supplies, and its supply-chain are all critical parts of the battlefield that can be exploited to further adversary objectives.⁶ No single intelligence discipline, capability, or domain can respond to the

sophistication of the adversary threat. Capabilities that can synchronize effects across multiple domains are necessary to ensure the commander's freedom of action today. *To respond to the demands of the modern operating environment, the Marine Corps must execute the four OSINT lines of effort: operationalization, institutionalization, professionalization, and partnerships.*

Notes

1. Emerson T. Brooking and P.W. Singer, "The Empires Strike Back," *Like War*, (New York, NY: Harcourt Publishing Company, 2018); see also, Keir Giles, *Handbook of Russian Information Warfare*, (Rome, Italy: Research Division North Atlantic Treaty Organization Defense College, November 2016).

2. Headquarters Marine Corps, *Marine Corps Operating Concept: How an Expeditionary Force Operates in the 21st Century*, (Washington, DC: September 2016); see also Marine Corps Intelligence Activity, *2015-2025, Future Operating Environment Implications for Marines*, (Quantico VA: September 2016); Headquarters Marine Corps, *Marine Corps Intelligence Surveillance, and Reconnaissance Enterprise Plan*, (Washington, DC: September 2014); and MAJ Ryan Kenny, USA, "Disruptive by Design: Intelligence Fusion Inoculates Against Cyber Threats," *Signal*, (Fairfax, VA: June 2019).

3. Headquarters Marine Corps, "Marine Corps Intelligence, Surveillance, and Reconnaissance Enterprise Implementation Guidance for Open Source Intelligence," *Marine Corps Intelligence, Surveillance, and Reconnaissance Decision Memorandum 01-2019*, (Washington, DC: February 2019); see also Headquarter Marine Corps, *Marine Corps Reference Publication 2-10A.3*, (Quantico, VA: June 2017).

4. Ilana Bum and Heather J. Williams, *Defining Second Generation Open Source Intelligence (OSINT) for the Defense Enterprise*, (Santa Monica, CA: RAND Corporation, 2018).

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6. Edward Wood, "To Win the Cyber War, A Great Defense is the Best Offense," *Forbes*, (Jersey City, NJ: May 2019).





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A Time to Iterate

The MEF intelligence brigade

by LtCols Ben Hodgins & Marc Caldwell

Marines innovate, iterate, change course, make steady improvements, and execute bold adjustments when required. We follow doctrine; however, we do not blindly adhere to doctrine and are willing to change our paradigm when warranted. Now is the time to iterate and change the paradigm again.

Over the last 25 years, MEF-level intelligence has undergone many phases.¹ In the mid- and late-90s, the Surveillance and Reconnaissance Intelligence Groups led the MEF intelligence, radio, and reconnaissance battalions. For a time, after the SRIG dissolved, the radio and intelligence battalions operated as independent battalions under the cognizance of the MEF Assistant Chief of Staff (AC/S) G-2 and alongside the new MEF headquarters group (MHG). The reconnaissance battalion and force reconnaissance company split with the former falling under division and the latter staying as a MEF-level asset. Eventually, MHG assumed administrative control of radio battalion, intelligence battalion, and the force reconnaissance companies. With the advent of Marine Corps Special Operations Command, force reconnaissance company returned to the division reconnaissance battalion for care and feeding while remaining, in theory, a MEF asset. In its final form prior to its dissolution in 2017, the MHG consisted of the radio, intelligence, communications, and law enforcement battalions while in conjunction with the air-naval gunfire liaison company.

The MIG

This leads us to recent history: the *Marine Operating Concept* (MOC) (Washington, DC: HQMC, 2016), the emphasis on command control in the

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MOC,² and the emergence of information as a warfighting function.³ At the tactical end of this information spear are the two-year-old MEF information groups (MIGs). These organization superseded the MHGs and retained command of the MHG's battalions while adding a MEF support battalion and an information coordination center (ICC) falling under the MIG S-3 or MIG CO, depending on the MIG. The II MIG Mission Statement is to

coordinate, integrate and employ Information Environment Operations (IE Ops) capabilities in order to ensure the MAGTF Commander's ability

to facilitate friendly forces maneuver and deny the enemy freedom of action in the information environment. Provide communications, intelligence, supporting arms liaison, and law enforcement capabilities ISO [in support of] MAGTF Operations.⁴

The MIG organization did indeed, on paper, provide the MEF's commanding generals a colonel commander responsible for executing information environment operations (through the ICC) while creating the necessary structure to address MEF command element administrative and logistical support (through the MEF Support



Marines with 2d Intelligence Battalion setting up a Joint Mobile Intelligence Communication System. (Photo by Cpl Justin Updegraff.)

Battalion). However, this structure also generated serious negative concerns for the intelligence community. The MHG functioned strictly in an administrative and logistical support capacity which allowed each intelligence command to operate under the direction of the MEF AC/S G-2. Yet, in this newly designated formation, the MIG commander is a battlespace owner (the information domain) and has demands of his intelligence apparatus to feed the ICC which consequently informs and responds to the fire and effects coordination center (FECC) in the G-3. At the same time, the MEF AC/S G-2 has the responsibility to provide intelligence to the MEF CG and staff, direct intelligence operations in the MEF area of responsibility, and coordinate intelligence operations executed by the MIG commander's intelligence elements and the division's force reconnaissance company.

Beyond the now complicated direction and execution of intelligence operations, there are concerns regarding the processing, exploitation, and dissemination of that collected information. A case in point is the key product produced by the ICC, the "running estimate" of the information environment; this product is heavily reliant upon intelligence information gathered from the MIG's intelligence and radio battalions which ostensibly are operating under the direction of the MEF AC/S G-2. In garrison, this is

the MAGTF intelligence center and is staffed largely by the intelligence battalion. However, in a deployed environment, it is the intelligence operations center (IOC) formed from the intelligence battalion operations company. This presents a potentially significant problem. While the G-2 is responsible

... these organizational structures do not allow for unity of effort ...

for providing the MEF CG with an accurate and up-to-date intelligence estimate to drive future operations (using the MIG intelligence apparatus), the MIG commander simultaneously has the requirement to brief the CG the running estimate of the information environment using much of the same information *from the same MEF intelligence apparatus* but with potentially different or competing analysis. While differing analysis or alternative theories are absolutely valuable for a commander and are a requirement to prevent group think or to address specific biases, this scenario is presenting the MEF CG with repackaged information further removed from the source and the analysts closest to the problem.

Much like the potential conflicts

between the MEF G-2 and MIG commander, the FECC and the ICC have a similar problem where the ICC is informing the FECC using the information the G3 is already receiving from the G2. In short, these organizational structures do not allow for unity of effort (if not unity of command); the structure generates the unnecessary question "Who owns intelligence?" Furthermore, it causes significant confusion amongst the MEF command element, staff principals, and intelligence unit commanders regarding responsibilities surrounding the production and dissemination of intelligence.⁵

Extrapolated further, in a deployed environment, for whom does the IOC work? Per *MCWP 2-10, Intelligence Operations*, published in May 2016, the intelligence battalion commander dual-hats as the intelligence support coordinator and establishes and supervises the MEF IOC under the direct staff cognizance of the MEF AC/S G-2.⁶ How will this structure work when the intelligence battalion commander is also being tasked, through a separate chain of command, to provide direct support to the MIG's ICC and potentially offer different or competing analysis *from the same intelligence unit*? This situation becomes even more complicated when a non-intelligence entity (the ICC) asks the radio battalion operational control and analysis center for direct support (or it is directed to support by the MIG commander). More colorfully, the MEF CG might be tempted to ask "Who's on First" or "Who does #2 work for?"

MEF Intelligence Brigade

In a resource (manpower) constrained environment, the last thing the Marine Corps needs to do is create confusion among its echeloned units and commanders, and spread itself thinner than it already has. To address this problem, we offer a new (though not that dissimilar to the creation of the MIG) concept. Conditions are now perfect for the Marine Corps to transform the MIG ideal into a MEF intelligence brigade. This proposal will deliberately coalesce MEF-level intelligence tasking, collection, processing, exploitation, and dissemination under a single entity. A



Up-to-date intelligence is necessary to support an accurate intelligence estimate that supports future operations. (Photo by Cpl Patrick Osino.)



Marines with 2d Reconnaissance Battalion land at Onslow Beach during a training exercise.
(Photo by Cpl James Smith.)

MEF intelligence brigade will remove false or unneeded barriers to effective command and control of intelligence activities and organizations. Decision-making cycles will shorten and required coordination will drastically be reduced leading to a more responsive, effective, and efficient MEF intelligence apparatus.

The MEF intelligence brigade will bring together all the MEF-level intelligence collection and analysis assets under a single command in a colonel-level brigade. This brigade will be comprised of the intelligence battalion, radio battalion, the force reconnaissance company, and the marine unmanned air vehicle squadron. The MEF AC/S G-2 will dual-hat as the G-2 and as the MEF intelligence brigade commander; this will be a board-selected command billet. The AC/S G-2 will have a civilian deputy, while the intelligence brigade would have a colonel deputy commander to provide depth to both entities.

The remaining assets of the former MIG/MHG will be distributed throughout the MEF and provide much needed relief to the already exacerbated manning shortfalls we currently feel. The communications battalion will fall under the AC/S G-6 and could likely be part of a MEF communications bri-

gade given the size of the communications battalions and the growth in their mission (the defensive cyber operations company). The ICC moves to its logical home in the FECC and could be reduced in size given the overlap between the responsibilities of the FECC and ICC today and the support the G3 already receives from the G2 (not to mention the FECC and ICC tables of organization already look remarkably similar). Additionally, ANGLICO becomes subordinate to the MEF's artillery regiment where many have said for years it should be.⁷ The law enforcement battalion returns to the MEF logistics group where it existed for many years. Finally, the MSB operates as an independent battalion responsible to the MEF chief of staff.

While this will upend recent changes (the MIGs are only two-years-old), we argue that these are sunk costs and should not prevent the Marine Corps from making a bold adjustment. The MIG concept has attempted to address the Marine Corps' concerns regarding information environment operations but has consistently had the negative effect of diluting the role of the MEF AC/S G-2 and significantly complicating the operational control of MEF-level intelligence operations. While creating a MEF intelligence brigade will entail

a very bold correction and upend some paradigms, these recommendations will generate better intelligence for MEF commanders and greatly simplify chains of command, insuring both unity of effort and command without compromising the MEF's ability to execute information environment operations.

Notes

1. This is written from the perspective of a II MEF Marine, but the general concept and timeline remains the same across the Corps.
2. Headquarters Marine Corps, *Strategy for Assured Command and Control: Enabling C2 for Tomorrow's Marine Corps, Today*, (Washington, DC: March 2017).
3. Headquarters Marine Corps, *MARADMIN 235/19, Availability of MCDP 1-0, Change 2, Marine Corps Operations*, (Washington, DC: April 2019).
4. Staff, "II MEF Information Group," *Marines*, (Online), available at <https://www.iimef.marines.mil>.
5. The authors have examples too numerous to count where MEF, Division, Wing, MLG, and MIG staff officers have referenced the MIG's intelligence brief during the CG's O&I or referred to the MIG and the MIC (the MEF's MAGTF intelligence center) as the same entity or have gone straight to the ICC to request an intelligence update on a certain situation.

6. Headquarters Marine Corps, *MCRP 2-10, Intelligence Operations*, (Washington, DC: May 2016).

7. ANGLICO to the artillery regiment is another subject for another, better versed author but anecdotally this has been a long-term debate in the fires community. An argument could be made for ANGLICO, as a MEF-level asset, to fall under the G-3 as well. These authors would point out that force reconnaissance company currently operates as a MEF asset under a division headquarters structure.



Nonlinearity and the Arc of Warfighting

Bending toward the tactical level of war?

by George M. Gross

The information environment (IE) has turned into a vast and expansive arena over the last decade, especially as a topic of study and intelligence analysis as well as of planning and operations. Disciplines that did not previously exist or were just beginning to evolve a decade ago are currently integral to understanding and operating in the IE. Understanding the IE involves a multi-disciplinary approach that lies at the intersection of sociology, politics, and technology.

The idea of nonlinearity is a good frame of reference for understanding and operating in the IE. United States Air Force (USAF) Col John Boyd carried out his major conceptual work on maneuver with an emphasis toward the previously emerging air domain of warfighting, but his contributions

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looked ahead to anticipate conditions of nonlinear warfare. For all intents and purposes, Boyd was the prophet of nonlinearity, envisioning the key traits of nonlinear warfare before the nonlinear domains of warfighting came on the scene. Because of the strategic aspects of nonlinear warfare, many people compare weapons in the nonlinear domains to nuclear weapons. While there is merit in the comparison, it is a limiting comparison because we do yet understand how the nonlinear domains will affect the three levels of war. The air domain has a prominent strategic aspect that, in

some institutional contexts, overshadows air operations at the operational and tactical levels, but the MAGTF provides a correction by serving to institutionalize air operations at the tactical level. The strategic aspects of nonlinear warfare should not divert us from the challenge to assimilate warfighting in the nonlinear domains to combined arms formations. If the nonlinear domains follow an arc that is similar to that of the air domain, then—in time—that arc will bend toward the tactical level of war.

Principles of Nonlinearity

As an approach for understanding the IE, I propose the concept of nonlinearity. Think back to the high school or undergraduate course you likely had on the fundamentals of physics which usually included a short unit on relativity theory. In that unit, you learned the shortest distance between two points is not actually a straight line. Space is curved because mass bends space; light follows the arc of the curve, and hence, the path of light through space is nonlinear.

In the traditional warfighting domains of land, sea, and air, the shortest distance between two points is generally a straight line. But the nonlinearity of space is a frame of reference and a metaphor for understanding the challenge of the IE in our time. Information travels in the nontraditional warfighting domains of cyberspace and the electromagnetic spectrum through nodes and rarely in a straight line. Information travels in these domains at a rate that far exceeds the speed through which it moves through land, sea, or air. Because of these two traits of motion (nonlin-



Boyd developed his concept of maneuver warfare by an intensive examination of the air domain of warfighting. (Photo by LCpl Cody Rowe.)

erarity and speed), the nontraditional domains differ from the traditional ones.

If you were planning to conduct a traditional information, then in the time it took for you to embark leaflets and loudspeakers—the tools of the trade in traditional psychological operations—and even prepare to set sail, the enemy already would have reshaped the IE by means of messaging in the nonlinear domains. The point is not that the nonlinear domains make the linear domains obsolete or traditional psychological operations a thing of the past. Rather, information warfare analysts, planners, and operators need to anticipate the threats and opportunities posed by the rise of the nonlinear domains.

The Prophet of Nonlinearity

Col John Boyd discovered the observe-orient-decide-act (OODA) loop and was the prophet of nonlinearity. Boyd sought to understand why it is crucial for a fighter pilot to exploit gravity by means of nonlinear thinking to infiltrate and dominate an enemy's decision cycle. In his insights about the role of nonlinearity and speed in exploiting gravity, Boyd anticipated both of the two key facets of nonlinear warfare.

Boyd built the foundation for his work on the OODA loop largely during the 1950s and 1960s when the air domain was still a relatively new domain of warfighting. Boyd conceived

the energy-maneuverability (E-M) theory on the insight that a fighter cannot control gravity, but he can exploit it by means of the tight control of velocity and turn. Boyd showed how to view air maneuver on a spherical, nonlinear surface, such that mastering velocity and turn and exploiting gravity enables a fighter to rapidly increase and decrease motion along the surface of the sphere as he gains ascendancy over his enemy and penetrates their decision cycle.¹ Through successive cycles of maneuver in this fashion, a fighter dominates the tempo of engagement with the enemy. Boyd held that airplane design should generalize from these insights about pilots' experiences in order to enable U.S.-built fighter planes to exploit gravity systematically. Aside from conceiving the theory, Boyd assembled and analyzed data to enable airplane design to incorporate these insights and, thus, provide a systematic basis for pilots to master the enemy fighter's decision cycle.²

By the time of Boyd's work on the E-M theory, the air domain of warfighting was already about 50-years-old. Nonetheless, the air domain was still a new domain of warfighting in the sense basic issues about how to fight in it remained unresolved and in contention. Strategic bombing doctrine was the vehicle for the Air Force to assert its institutional independence from the Army. Despite achievements in tactical air support during World War II, the

obstacles to maintaining institutional knowledge over the range of tactical air missions after the war meant that entropy—or the law of the dissipation of institutional knowledge in the absence of fresh experience—favored strategic bombing.³ The controversy over strategic bombing lasted through most of the 20th and into the 21st century.⁴ This story has been retold many times; however, for our purposes, it is worth a reminder because it highlights the challenges caused by a reluctant and—in some instances—resistant assimilation of the air domain to combined arms thinking. The Marine Corps developed close air support early and consistently in contrast to the other Services, and with the rise of this new domain of warfighting, Marines came to be more deeply imbued with combined arms thinking than members of the other Services.

Cyber and Nuclear Weapons Compared

Many people compare cyber and nuclear weapons because of their strategic role and, by implication, their presumed ability to circumvent and indeed supersede warfighting in the traditional, linear domains. We will review some of these comparisons in order to then push beyond them and arrive at a more balanced way of thinking about the nonlinear domains. Nuclear weapons require strategic-level decision making and achieve strategic-level effects. Even after recent efforts by Russia to rehabilitate tactical nuclear weapons, considerations pertaining to nuclear weapons are inseparable from the strategic level of war. Russia's attempt for a rehabilitation of tactical nuclear arms notwithstanding, for a while it was a central tenet of nuclear weapons strategy that the advent of nuclear weapons made conventional warfare obsolete. This was certainly a ruse to discourage investment in conventional arms and arms strategy, but it received a powerful lift by riding on the back of the myths about strategic air bombing.

Cyber warfare has prominent strategic aspects especially as it involves threats to industrial control systems and supervisory control and data ac-



Boyd was the prophet of nonlinearity. (Photo by LCpl Brennan Priest.)



Air and cyber operations are useful for pursuing limited objectives. (Photo by LCpl Kenny Nunez Bigay.)

quisition. Russia's use of cyber warfare illustrated the strategic aspect of the cyber domain during deployments against Georgia, Estonia, and Ukraine. For instance, cyber warfare was employed against Georgia and Estonia to disable Internet communications and sectors of the civilian economy, whereas it was used against Ukraine to disable that country's electric power grid.⁵ In each instance, Russia deployed computer network operations to strategic effect. Aside from their uses in interstate war, cyber Internet monitoring and control are used domestically as strategic-level means for the state to repress its populations in China, Cuba, and other countries. Conversely, access to cyber communications is a barometer of openness in the world's open societies and is a means by which these societies declare, defend, and realize their strategic vision and mission as open societies.

Nuclear and cyber weapons achieve a special or exponential unity when considerations about nuclear command, control, and communications (NC3) are factored. Because of vulnerabilities in NC3, cyber or computer network operations threaten to disable an enemy's nuclear weapons systems. As strategic instrumentalities, nuclear and cyber warfare are complementary in cross-domain calculations. A nuclear or cyber

threat can elicit either a cyber or nuclear counter-threat and so relieve pressure on each side in a contest to have both a tactical nuclear arsenal and a strategic cyber playbook. Yet, cyber and nuclear weapons are "dangerous complements" as stealth and the difficulty of attribution in the cyber domain, among other factors, can be destabilizing in calculations about nuclear deterrence.⁶ But even apart from NC3 and cross-domain complementarity, concern about the use of nuclear and cyber weapons tend to rise rapidly to the strategic level of war.

The Cyber and Air Domains Compared

It is quite common to hear comparisons between nuclear and cyber weapons, but let's change course now and suggest comparisons between the cyber and air domains. It is less common and indeed more risky to make comparisons along these lines. The history of the cyber domain potentially follows that of the air domain across the three levels of war, even if difficult technological problems and authorization issues cause cyber to lag behind. The air and cyber domains are means for pursuing limited objectives and are both better suited than nuclear weapons to the three levels of war. The protracted affair with strategic air bombing, by virtue of which

the air domain acquired its strategic face, is not likely to have an equivalent in the cyber domain. Strategic bombing and tactical air support represent only two-thirds of the picture as far as the air domain is concerned, reflecting only operations at the strategic and tactical levels. A discussion of cyber effects at the strategic and tactical levels will likely be similarly incomplete.⁷ Cyber offers less resistance than air to assimilating in combined arms formations in any case. A recent training report highlights a finding that conducting cyber operations in conjunction with other branches of arms—in other words, using cyber operations in conjunction with maneuver forces including, by implication, tactical combined arms formations—is more effective than using cyber operations alone.⁸

Indeed the cyber and air domains are both relatively new domains of war. In certain respects, the air domain is not really a traditional domain at all. Rather, the air domain straddles the traditional and nontraditional domains; it is about halfway between them and serves as a bridge. The air domain has too many features in common with the nontraditional domains to be a traditional domain itself. The air domain was the arena for Boyd to develop E-M theory and the OODA loop; in both instances, Boyd anticipated key features of warfighting in the nonlinear domains. It is inconceivable that Boyd would have developed these concepts on land or on water. In discovering hitherto unexploited aspects of the air domain, Boyd anticipated key aspects of nonlinear warfare, most notably the OODA loop.

Air is both a branch of arms and a domain of warfare. The other new branches of arms in American history—cavalry (1863) and armor (1940)—belong to the land domain and are not domains themselves. Air is the first new branch of arms (1926) to be a domain, but it is perhaps not the last.

What does it mean for a new branch of arms to come of age? Does it mean the branch can defeat its opposite number in a duel, as implied by Eric J. Wittenberg's study of the Union cavalry in the American Civil War?⁹ Or, does it



The air domain is halfway between linear and nonlinear warfighting domains. (Photo by LCpl Kevan Dunlop.)

mean that the new branch of arms can go it alone at the strategic level of war, as implied in the history of the strategic air bombing movement?¹⁰ Perhaps what it should mean is that the new branch of arms is ready for assimilation to combined arms formations at the tactical level of war. If this is true—and I argue it is sounder and more accurate historically than the duelist or go-it-alone perspectives—then as nonlinearity comes of age, we would look to see the increasing use of nonlinear means at the tactical level of war.

Conclusion

Nonlinearity is a key attribute for understanding the challenge of the IE in our time. Boyd identified unexploited aspects of the emerging air domain of warfighting: nonlinearity and speed. In doing so, he became the prophet of warfighting in the nonlinear domains. Strategic considerations tend to bring the common features of cyber and nuclear weapons into relief, but it is worthwhile to keep these common features in perspective to give thought to similarities between the air and cyber and electromagnetic domains in their careers as new and emerging domains of warfighting. The air domain is not really a traditional domain, although we make the mistake of thinking it is one

by counting it among the traditional domains. The air domain is really a halfway point between the linear and the nonlinear domains. Persistent contention about the role of the air domain likely reflects, in part, its intermediate or ambiguous status. The MAGTF has absorbed and enabled tactical air operations, and recent concept development shows the way forward for the MAGTF to enable tactical cyber and electromagnetic spectrum operations as well. An aspect of the competition between the United States and its rivals surely concerns the ability to assimilate warfighting in the IE to combined arms formations. As the arc of warfighting bends to accommodate the nonlinear domains, it may well assimilate them to combined arms thinking—for which Marines retain a unique and historic affinity.

Notes

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Next Generation Intelligence Integration

Leveraging artificial intelligence to enhance human-machine analytic collaboration

by Ryan R. Gorman

The ever-evolving character of war appears in the midst of a paradigm shift and is perhaps on the cusp of revolutionary technological change.¹ Although war remains a violent, dynamic conflict between opposing wills determined to achieve political ends, each element that comprises Clausewitz's famous "trinity of war"² is rapidly changing because transformative technologies are poised to dramatically alter how humans interact with machines and one another. Both in the present and future, the primordial elements of violence and passion, which intensely influence human judgments in war, will be mitigated by a greater reliance on objective criteria programmed into machine learning (ML) algorithms to aid human judgment and decision making. The element of chance will always remain in war, but artificially intelligent machines are becoming increasingly adept at forecasting probabilities and could reduce some of war's inherent fog and friction. War remains an instrument of policy intended to achieve rational political objectives; however, those objectives often appear to be in flux because of the highly globalized and enmeshed character of contemporary international relations, as well as the exponential increase in the volume, variety, and velocity of information being created, shared, analyzed, and utilized across the interconnected globe. These technological changes will have profound implications for how Marines and fellow servicemembers will

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Our target is ever increasing transformative technologies and the impact they will have on the human-machine relationship. (Photo by Sgt Kirstin Merrimarahajara.)

plan and operate in complex, contested future environments.

Recognizing the vital importance of maintaining informational and cognitive advantage against rivals and potential adversaries, the Marine Corps recently followed the Joint Chiefs of Staff's lead in officially establishing "information" as the seventh warfighting

function.³ Additionally, the 2016 capstone *Marine Corps Operating Concept* (MOC) recognizes the imperative to develop and integrate capabilities in order to conduct information warfare. The MOC declares,

The 21st century Marine Air-Ground Task Force (MAGTF) conducts maneuver warfare in the physical and

cognitive dimensions of conflict to generate and exploit psychological, technological, temporal, and spatial advantages over the adversary.⁴

With this increased institutional emphasis on the informational and cognitive dimensions of war comes the need to better understand how emergent technologies can augment the military's capabilities to operate in the information environment.

This article explores how artificial intelligence (AI) and ML technologies can help address emerging military problems that are likely to become increasingly pervasive and complex in future operating environments. It describes how AI and ML applications can enhance current intelligence processes and capabilities to provide rapid and insightful intelligence support to military decision makers operating in those complex environments. Although AI and ML hold enormous potential to help resolve challenges, no technological solution or set of solutions should be regarded as a panacea. Competitors will relentlessly seek to exploit vulnerabilities, and human creativity and character will continue to be decisive elements needed to gain advantages and win future battles. Some technological capabilities suggested in this article are speculative, but many sophisticated AI and ML applications are already commercially available from a variety of vendors. Differentiating between applications that sound great in theory (or appear great in elegant presentations) and those that actually deliver reliable and replicable results will be critical. Further experimentation is necessary to test commercial AI and ML technologies' interoperability with existing military systems and processes, tailor specific algorithms using large quantities of training data, and assess the effectiveness of the technologies in various simulated military scenarios.

The argument presented here assumes that American private sector technology firms and interagency partners will be willing to share information and cooperate with the U.S. military to help develop non-lethal AI and ML applications. It also assumes that competitor nations will actively militarize

AI technologies garnered from the commercial sector, often without the same degree of legal and ethical scrutiny that the U.S. Government and populace demands. It further assumes AI and ML innovations will progress rapidly but not evolve to general AI capabilities (in which machines can perform as well or better than humans at solving complex, adaptive problems and conducting most daily tasks) within the next 20 years.⁵

The greatest risk, regarding AI and ML technologies, is to spurn them or implement them so circumspectly that adversarial nations are able to outpace the U.S. military in developing more dynamic, resilient, and efficient systems. However, AI and ML applications do entail risks. For example, algorithms tend to work best when developed in fairly controlled environments with vast quantities of relevant training data; these conditions are not readily

However, AI and ML applications do entail risks.

available in many military contexts. If the algorithms are insufficiently trained and validated, or if the data is corrupted or manipulated (whether intentionally or inadvertently), then the systems can perform unpredictably. Moreover, many of the inner workings of ML algorithms are opaque, so humans might not fully understand how or why the machine generated a particular output or conclusion. This lack of process transparency can hinder accountability and dissuade people from trusting the systems, especially in risky environments where lives are at stake. A final risk is that an overreliance on technological solutions can lull people into a false sense of security that the machines will consistently provide accurate and reliable information with little human effort or input. Human judgment and decision making must always remain paramount over technology, lest we endow AI-enabled machines with greater autonomy than is prudent.

Military Problem

The U.S. military in general, and the Marine Corps in particular, is inadequately prepared to implement and integrate AI and ML technologies in a systematic manner across the warfighting domains despite growing recognition of the need to operate quickly, seamlessly, and coherently in a highly contested and data-saturated information environment (IE). Commercial technologies that can rapidly convert large and diverse data sets into actionable information likely will continue to progress at an alarming rate. These advances will present military organizations with both opportunities and challenges. Competitor nations, such as China and Russia, are investing in AI technologies to gain asymmetric advantages in the IE as well as future battlespaces.⁶ Without codified international norms and agreements regarding AI and ML military applications, competitor nations threaten to outpace the U.S. military in repurposing, implementing, and weaponizing commercial AI and ML technologies. Furthermore, competitor nations might encounter fewer legal, social, and ethical restraints when adopting new technologies for military use, which could put them at an advantage in a potential AI and ML arms race. The U.S. military needs to help set favorable conditions for employing AI and ML technologies in a manner consistent with democratic values and international norms.

Central Idea

The Marine Corps can play an important role in operationalizing AI and ML applications as it builds its capacity and capabilities to conduct operations in the IE.⁷ Focusing on developing and implementing non-kinetic AI and ML applications is less controversial than developing lethal, AI-enabled autonomous weapons.⁸ By investing in AI and ML capabilities, the Marine Corps, in partnership with the other Services, can shape the perceptions of competitor nations and the international community; this will potentially dissuade adversary nations from applying AI and ML technologies in overly aggressive or provocative ways. In particular, the Marine Corps could play a key role in

developing and implementing collaborative human-machine teams (sometimes known as “centaur teams”)⁹ and augmenting intelligence collection and analysis capabilities to enhance cognitive maneuver in the information domain.

Human-machine collaboration will continue to increase as AI and ML technologies mature and become increasingly capable of conducting a wide range of tasks.¹⁰ In this type of environment, centaur teams will play a critical role in completing many routine and complex cognitive tasks, such as assessing potential adversaries’ order of battle and predicting probable courses of action. Human-machine teams can leverage the speed and ability of artificially intelligent computers to rapidly process and analyze vast amounts of data from numerous different sources, to include ground-, air-, and space-based collection platforms, human intelligence sources, and publicly available information. Additionally, the more objective character of computer models and algorithms can augment, the more subjective element of expert human judgment to predict future outcomes with increasing accuracy. Yet, even the most technologically advanced machines lack vital attributes of human cognition, such as the ability to intuitively contextualize data and to make ethical decisions based on incomplete or ambiguous information. Therefore, it is vitally important to leave sufficient decision space within any AI-enabled systems for humans to apply judgment, expertise, and moral sensibility with the ability to amend or override automated machine recommendations.

Furthermore, human-machine teams will be most effective if they included specialists with a variety of disciplinary perspectives (human intelligence, signals intelligence, geospatial intelligence, open-source intelligence, and data science) to maximize the cognitive diversity of the teams and optimize the different mental and computational models that each team member contributes.¹¹ These teams would function like high-speed intelligence fusion cells with AI-enabled machines operating as force multipliers and integral members of the



How will artificial intelligence and machine learning impact current information sharing processes? (Photo by Cpl Rachel Mendieta.)

team. The dynamic interplay between machines and humans likely will become increasingly complex as machines become more capable of learning and simulating human-reasoning patterns, but human judgment should continue to be the decisive element that directs human-machine interactions.¹²

Another key element for developing AI and ML capabilities is discovering ways to integrate technologies with existing information systems and intel-

ligence processes to enhance cognitive maneuver in the IE. The 2016 MOC recognizes “changes in the operating environment and adversary capabilities drive us to increase emphasis on maneuver in the cognitive dimension.”¹³ Operations in the IE do not fit neatly with the traditional mode of phase-based military operations. As the National Defense Strategy suggests, the U.S. military operates persistently and globally in the contact layer with com-



AI and ML application will eventually impact how the Marine Corps utilizes “human-machine” teams. (Photo by Sgt Ronald Spotswood.)

petitors and adversaries, especially in the cognitive dimension of the information domain.¹⁴ The battle for informational and cognitive advantage will continue to be an essential precondition for conducting successful military operations. Adversaries will seek to exploit technologies that deny, degrade, distract, restrict, or otherwise obfuscate the U.S. military's understanding of their capabilities and intentions.

To generate cognitive advantage and maneuver space, new AI and ML technologies could be integrated with current Marine Corps Intelligence, Surveillance, and Reconnaissance Enterprise (MCISRE) systems to speed up intelligence processes, lighten the cognitive load on human analysts, and present decision makers with a holistic set of options to counter adversarial actions. The MCISRE can leverage emergent AI efforts, such as the Intelligence Advanced Research Projects Activity (IARPA)'s research project called Crowdsourcing Evidence, Argumentation, Thinking, and Evaluation (CREATE). This project is testing systems that "use crowdsourcing and structured analytic techniques to improve analytic reasoning."¹⁵ IARPA has partnered with several academic institutions and labs to develop state-of-the-art applications to augment intelligence analysis. Additionally, the DOD recently established the Joint Artificial Intelligence Center to accelerate the delivery and adoption of AI technologies across the Services.¹⁶ Close collaboration with entities like IARPA and the Joint Artificial Intelligence Center will favorably position the MCISRE to experiment with and adopt operationally relevant technologies.

AI and ML applications can perform tasks like pattern recognition and change detection faster and perhaps more reliably than human analysts, thereby providing users with informational and cognitive advantage. For example, algorithms can be designed to rapidly analyze large volumes of satellite imagery to detect significant changes or activities that are of interest to military intelligence organizations. Such automated analyses could allow human imagery analysts to more ef-



AI and ML technologies could be integrated with current MCISRE systems. (Photo by Sgt Luisa Torres.)

ficiently allocate their time, energy, and expertise. Furthermore, adversaries employ sophisticated AI and ML technologies to produce misinformation and propaganda to influence and deceive specific audiences, including U.S. citizens and military personnel.¹⁷ The U.S. military could develop applications to detect and counteract adversaries' use of these technologies to produce

The MCISRE can leverage emergent AI efforts.

fake news and deep fake images and videos.¹⁸ Creating automated defenses against these types of offensive influence operations will reduce risks posed by adversaries' misinformation and lend credibility to the U.S. military.

A popular branch of AI technology known as natural language processing (NLP) allows computers to ingest large amounts of unstructured data and convert the data into understandable, user-friendly formats.¹⁹ NLP technology supports a range of useful automated applications, such as machine translation of foreign languages, speech recognition, and text-to-speech conversion. Ad-

vances in NLP enable virtual assistants (like Amazon's Alexa or Apple's Siri) to answer increasingly complex questions and generate more sophisticated sentiment analysis, produce concise summaries of large volumes of text, and even create coherent paragraphs from limited pieces of information.²⁰ Such NLP applications create potential vulnerabilities and security risks to military organizations; however, NLP technology could also assist military personnel in comprehending large and diverse data sets and extracting key points that impact their specific missions. Experimentation and validation of NLP applications to facilitate and expedite intelligence and information operations will be key to maintaining an informational advantage.

Although complete information dominance is unlikely in future battlespaces, the U.S. military must not allow adversaries to gain asymmetric informational advantages that degrade or diminish friendly capabilities. Ingenuity and adaptability of forces will continue to be hallmarks of success as the technological terrain becomes increasingly competitive and complex. As a highly adaptive and innovative institution, the Marine Corps is well-positioned to play a formative role in shaping how emerging AI and ML technologies are ad-

opted and integrated to support a wide range of military operations, especially across the informational dimension of war. While policy debates often have focused on the use of AI to enable lethal autonomous or semi-autonomous weapons, the technology can serve numerous non-kinetic uses that raise fewer ethical concerns. Although artificially intelligent machines cannot replace the ingenuity and determination inherent in Marines, new modes of collaboration between humans and machines could significantly increase the timeliness and utility of intelligence analysis in support of future military operations.

Notes

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7. In July 2018, the Joint Chiefs of Staff released guidance titled *Joint Concept for Operating in the Information Environment (JCOIE)*. The Marine Corps appears to be updating its 2013 *Operating Concept for Information Operations* and 2017 *Marine Air Ground Task Force (MAGTF) Information Environment Operations Concept of Employment* to align more closely with the joint concept’s approach and terminology.

8. For an insightful presentation of how the U.S. military is adjusting to the evolution of automated and autonomous weapons systems, see Paul Scharre, *Army of None: Autonomous Weapons and the Future of War*, (New York, NY: W.W. Norton & Company, April 2018).

9. The term “centaur team” derives from the mythical Greek beast that was half man, half horse. AI researchers have pointed out the advantages of combining human insight with machine speed and processing capacity to generate better solutions to complex problems. For an overview of this concept, see Mark Steffik, “Half-Human, Half-Computer? Meet the Modern Centaur,” Palo Alto Research Center, (Online: December 2016), available at <https://www.parc.com>.

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A View From the Pointy End

Special operations forces perspectives for Marine Corps intelligence support to information operations

by Maj Paul L. Croom II

The Marine Corps has obtained several significant milestones in the endeavor to define and refine how to operationalize information operations at the tactical and low operational levels of conflict, including the establishment of the Deputy Commandant for Information (DCI), the transition of the MEF headquarters group to the MEF information group, the creation of information operations (IO) primary MOSs, the participation of II MIG's Information Coordination Center (ICC) in Exercise TRIDENT JUNCTURE 2018, and the creation of the *information* warfighting function. Still, conceptually nascent and inconsistently integrated even within the force, Marine Corps IO's maturation remains labored.

As an institution, the Corps seems to have realized the information environment (IE) is the decisive battlespace for the foreseeable future. However, by failing to adequately forecast the primacy and potency of information in the geopolitical landscape, we are now forced to build the proverbial IO airplane while we fly it. Even more fundamentally, from an intelligence perspective, we are only beginning to understand that successful intelligence support to IO requires a nuanced application of both traditional and non-standard tradecraft. Essentially, we are attempting to design and construct an airworthy IO craft while piloting it in an atmosphere where we are uncertain if existing laws and rules of physics and thermodynamics apply to use anymore. We do not understand the IE in which we are attempting to operate

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but are obligated to operate within it nonetheless. In this, lessons from Marines working in or with intelligence and IO in real-world environments can be of particular interest to the DCI. Accordingly, the following observations and recommendations from a recent deployment as the Information Operations–Intelligence Integration Officer assigned to a forward deployed combined, joint, interagency task force sup-

porting transregional counterterrorism (CT) operations provide this relevant context.

Winning Is (Sometimes) Hearts and (Always) Minds—and It Happens in Phase 0

Transregional CT operations are inherently complex. By their nature, the relationships between target individuals (TIs) and target audiences (TAs) in de-



II MEF subordinate staffs plan to support Exercise TRIDENT JUNCTURE following Hurricane Florence in 2018. (Photo by SSgt Melissa Karnath.)

clared theaters of active armed conflict (locations where lethal and less-than-lethal military force can be directly applied) and TIs and TAs outside declared theaters of active armed conflict cross sovereign lines and often involve nations allied with the United States. Terrorist actors may be anywhere along the “aspire–plan–prepare–execute” continuum, amid their chosen target environment that is blissfully plodding along in a pre-threat state of consciousness. Where possible and practicable, CT operations look to neutralize the threat prior to execution. Equally though, CT operations—and CT information operations (CTIO) more specifically—must seek to address the conditions that underpin the viability of transregional terrorist activity. These are the Phase 0 conditions that, if not checked, enable the marriage of a properly prepared bad actor, a sufficiently vulnerable and accessible target, and opportunity (attacker readiness plus target availability): the necessary components for a successful terrorist attack. TIs and TAs make decisions that affect relevant Phase 0 conditions. In order to craft courses of action against those decision-making factors, we must meet the requirement of steady-state IO founded on detailed and up-to-date understanding of what, when, where, how, and why TIs and TAs make decisions. This focus on the cognitive component is the nuts and bolts of intelligence support to IO.

As a warfighting organization biased for action, the Marine Corps struggles to fight the self-afflicted pull of establishing the operationalization of IO in the kinetic, near-peer conflict scenario as the only effort worthy of institutional investment. While ongoing geopolitical turbulence with Russia, Iran, China, and North Korea arguably renders this position appealing and defensible, it is nonetheless folly. Revered military leaders and thinkers including Sun Tzu, Clausewitz, Eisenhower, and Mattis understood the criticality of deliberately affecting the cognitive environment to enable shaping of political, military, social, informational, infrastructure, physical terrain, and temporal considerations that drive operations plan and contingency plan conditions prior



The Marine Corps should invest in a robust liaison officer network. (Photo by SSgt Melissa Karnath.)

to the onset of hostilities. Particularly, in the current era of ubiquitous virtual communications, intelligence support to IO should be understood as a stylized interpretation of the concepts and fundamentals of marketing. As such, the Marine Corps must rely heavily on purposefully exploiting (read: marketing) any and all activities by personnel and units across the globe to shape Phase 0 conditions in pursuant all operations plans and concept plans associated with any theater or geographic combatant command concerned.

Deliberately working to influence other’s decisions to take certain identified actions or inactions is a historic phenomenon that derives directly from the uniqueness of human consciousness and sentience. This maxim applies equally from one-on-one interpersonal interactions through group dynamics at a population level. MarineNet’s six-module “Marketing Essentials” series is an asset available to Marines of any MOS that provides an introduction to commercial marketing theory and practice. While certainly better than nothing, the module is not contextualized to military information or influence operations, and its applicability to IO or intelligence support to IO may be difficult to glean for many. Any codified Marine Corps curriculum for intelligence support to IO should be heavily

infused with a “marketing for military influence” component. Absent formal material, DCI and the Marine Corps Intelligence, Surveillance, Reconnaissance Enterprise will benefit to research, procure, and promulgate best-practice “band-aid” solutions cobbled together from the most relevant civilian, academic, and commercial resources available.

Signature Management: Beyond Camouflage Netting, Emissions Control and Light Discipline

As Daesh’s physical caliphate collapsed under coalition pressure in the Spring 2019 with its women and children displaced into internally displaced persons (IDP) camps throughout Syria, the global CT community of interest (CoI) began to consider whether and how those IDP camps might contribute or be connected to terrorist activity across the globe. Without robust access to these non-governmental organization run camps, traditional elements of the CT CoI were—rightfully—concerned with understanding key characteristics of the camps and their populations (e.g., nationality demographics, electronic communications device access, internal social structures, affiliation with named terrorist actors). The CTIO community went even further. How are individuals and groups reacting to the phenom-

enon of these post-Daesh caliphate IDP camps, and why? This question drove the development of a universal paradigm for characterizing the IE, comprising three often distinct “signatures” any person, place, thing, idea, or action possesses, defined as follows:

- Physical signature: The unfiltered or un-interpreted *observation* of facts; the ground-truth “who, what, when, where and how” characteristics as they exist.
- Virtual signature: The *representation* of a physical signature as interpreted through various filters of information collection, transmission, and receipt; the “who, what, when, where, how and *why*,” characteristics as they are presented and portrayed.
- Cognitive signature: The individual or collective perception of a virtual signature generated when human factors such as logic, emotion, bias, worldview, prejudice, or predisposition are applied to a sensory input (observation). How individuals and groups construe a virtual signature (what they are thinking or saying regarding who, what, when, where, how, and why characteristics as they are presented in the virtual environment).

Marine Corps IO, like any other IO, fundamentally seeks to exploit the OODA (observe–orient–decide–act) loop of targeted individuals or audiences. (See Figure 1.) To this end, intelligence support to IO should recognize that the cognitive domain is key terrain, and the appropriate cognitive signature is a critical capability. Co-opting Col John Boyd’s OODA loop theory for influence purposes, successful IO manipulates what the target *perceives* (observations) to alter what they believe (orientation) in order to elicit a *decision* that produces a particular action (or inaction). “Observables” (things that can be seen, heard, smelled, touched, or otherwise sensed) are manipulated in the physical domain, changing the target’s understanding within the cognitive domain. In turn, the target adjusts their decision making in the cognitive domain which alters their resultant actions in the physical domain, hopefully in a fashion advantageous to friendly objectives.

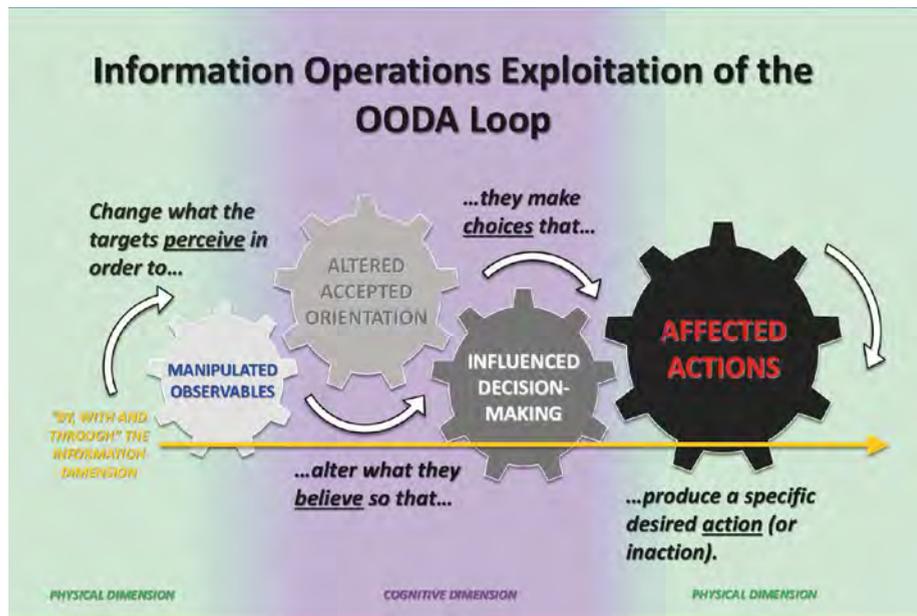


Figure 1. OODA loop. (Image provided by author.)

Though described differently here, this concept of manipulating perceived reality to cause a specific response is not new. Still, understanding that it is not enough to simply identify relevant observables for manipulation is critical for Marine Corps intelligence support to IO going forward. The cognitive may not necessarily be to the physical as three is to one, but the criticality of understanding why and how a target orients against their perceived surroundings, and the factors that drive why and how that target makes decisions based on their orientation cannot be overstated. Admittedly, this is a difficult task, never 100 percent accurate, and often fluid. For intelligence support to IO professionals, a more-than-superficial knowledge of individual and social psychology juxtaposed with individual and group communications science will underpin their input to IO planning that successfully targets relevant signatures while protecting our own.

The Organizational Imperative for the “Team of Teams”

Given the prolific and very real global threat terrorist organizations continue to pose worldwide, it is no surprise that efforts like this combined, joint, interagency task force found numerous stakeholders contributing their very best personnel to the fight. On-

site representation from double-digit numbers of U.S. intelligence and law enforcement community members, U.S. governmental departments other than the DOD, and representatives from the five eyes (United States, United Kingdom, Canada, Australia, New Zealand) consortium streamlined and optimized analytical output and sharing by orders of magnitude. Similarly, the task force maintained a healthy cadre of liaisons throughout key American and foreign military, government, and academic organizations. More uniquely, the presence of allied and partner country publicly available information and law enforcement personnel—with combined linguistic and cultural expertise covering in excess of 50 languages and regions—was decisive to both intelligence information generation as well as law enforcement and lethal targeting. Nowhere else on the planet, neither within the DOD nor the Department of State, does an assemblage of such diversity in critical skill sets and experience exist. While this heterogeneous team comes with its own challenges in communications, sharing legalities, workspace classification logistics, and national tasking, the benefits far outweigh the inconveniences.

As the Marine Corps progresses in the development of IO and intelligence support to IO, the necessity of strong

connective tissue and touch points both laterally and vertically throughout the joint, multinational, interagency, and interdepartmental (JIIM) IO, CoI, and course of action will only continue to grow. Whether in high-end conflict, low-intensity operations or Phase 0 shaping, the likelihood that the Marine Corps is the single actor or belligerent on the blue side is low. More importantly, the probability that Marine Corps operations in the physical domain across the range of military operations occur in or across the sovereign spaces of one or multiple allied, partnered, neutral, or adversary nations is almost assured. Language and cultural expertise is more important now than ever before, especially regarding IO. Specifically, respective of virtual signatures and their authoritative effect on resulting cognitive signatures and the perceptions and orientations of TAs and TIs, contextualized and resident knowledge of cultural and linguistic nuance can easily be the difference between success and catastrophic failure. Even near-native cultural and linguistic expertise is virtually impossible to artificially reproduce, particularly in adults. Attempting to cross-train Marine Corps intelligence or other IO personnel in niche JIIM functional areas is similarly a non-starter. Most practically, the Corps should invest in a robust liaison network at the intelligence battalions and MIGs, the Marine Corps Information Operations Center, the Marine Corps Intelligence Activity, and the DCI, specifically missioned with focusing on collaboration and sharing to facilitate Marine Corps steady-state (Phase 0) IO activities, and feed operations plan/concept plan development and refinement.

Thinking Without the Box

Producing and providing information advantageous to exploiting the cognitive domain, the bread and butter of intelligence support to IO, is also poorly understood and often inadequately executed. Because the nature of required intelligence information is often unconventional and non-traditional, it is uncomfortable to consider. This discomfort frequently leads to de-prioritizing or overlooking the requirements

completely, especially when competing with intelligence requirements for kinetic operations or other activity designed solely for the physical domain (a mistake in itself). This reality became apparent as the task force began working the IDP camps problem set mentioned above. The task force was regularly producing or consuming intelligence information reports, tactical interrogation reports, cable reports, and other intelligence information and finished intelligence products, but identification of information that was not indisputably of value to IO was overwhelmingly infrequent or entirely absent.

The intelligence professionals comprising the task force were incredibly competent “inside the box,” and even “outside the box.” However, they were relatively unfamiliar with IO and not

standoff from an adversary or increase an adversary’s vulnerability to other combined arms effects. Under this construct, intelligence collection (and subsequent analysis and production) provides critical planning information for operations: the traditional “intelligence drives operations” paradigm. In the vein of “no box” thinking, however, the task force conceived initial ideas for employing IO in support of intelligence operations, specifically intelligence collection against targets for whom conventional collection assets had insufficient placement or access. For the task force, that was consideration of employing niche IRCs with the ability to gain entrance to the camps to conduct actions that produced or elicited feedback that responded to some of the task force’s outstanding intelligence re-

Producing and providing information advantageous to exploiting the cognitive domain, the bread and butter of intelligence support to IO, is also poorly understood and often inadequately executed.

habituated to analyzing or producing intelligence with an opportunistic eye for influence potential or leveraging other opportunities. A leveling brief on IO definitions, objectives, processes, and intelligence requirements significantly increased collective understanding of information and intelligence of influence value, but sustaining the sensitization will require frequent periodic re-education. For a nascent concept and capability like intelligence support to IO, unnecessary constraints and restraints are anathema to progress. Thus, intelligence professionals supporting IO need to embrace that outside of applicable policy and legal bounds (which should also be debated, where warranted) for collection, analysis, assessment, and production of “influence intelligence.” *There is no box* (yet).

Traditionally, IO is considered and planned for as fires in support of “finishing effects.” IO is most often employed to either increase blue forces’

requirements. Special operations forces do not hold a monopoly on innovative use of IO, and the Marine Corps, owning a range of organic IRCs, should stimulate and encourage conceptualization and experimentation that pushes the advancement envelope.

Likewise, a paradigm shift might be necessary regarding intelligence products and influence-specific analysis, assessment, and information. Many tradecraft concepts in tactical and strategic intelligence community doctrine have persisted—largely unchanged—for decades, their successful employment having stood the test of time. However, American military acceptance of the IE, and the virtual and cognitive domains and signatures that define it, requires a reassessment and eventual expansion of the intelligence industry standard concepts and lexicon to adequately meet the current and future needs of intelligence support to IO as it grows into its own. By way of example, the following defini-

tions of a few core intelligence concepts adapted for the influence construct are offered:

- Influence named area of interest: A physical or virtual area of interest in which activity can confirm/deny the relevance and relative importance of ASCOPE (areas, structures, capabilities, organizations, people, events) factors to TA/TI decision making.
 - Influence target area of interest: A physical or virtual area of interest in which factors are present that, if successfully engaged, could cause a TA or TI to take decisive actions or display behaviors favorable to desired influence goals or objectives.
 - Influence priority intelligence requirements: Who, what, when, where, why, and how questions related to behavior or decision-making factors that will critically affect influence operations planning or execution.
 - Development, standardization, and professionalization of influence-specific intelligence products should be approached in the same manner. Examples might include:
 - FLASHREP: Rapid dissemination analytic product that alerts the influence community of interest to a phenomenon in the IE with a reasonable potential to directly or indirectly impact Marine Corps or other theater equities.
 - Notice of influence potential: A rapid response and dissemination analytic product that alerts the IO CoI to a phenomenon in the IE that could be exploited in support of influence goals or objectives.
 - Influence factor analytic report: A deliberate analytic product of synthesized multi-source data that provides a contextualized assessment of the relative impact of an influence variable in the IE, as well as opportunity analysis for its exploitation or mitigation.
 - Intelligence information report/intelligence cable addendum postscript to serialized reporting that provides analytic commentary from an influence perspective on the intelligence information presented.
- Codifying and standardizing influence-related intelligence products will



Marines and partner nations must identify and receive updated intelligence that impacts operational decision making. (Photo by SSgt Jordan Gilbert.)

inevitably drive efficiency by systematizing and optimizing the information for reliability, utility, and sharing. Here again, special operations forces are not the arbiters of innovation, whether in the IC or IO CoI. The Marine Corps, through the ICCs and MEF information groups, is well-postured to wade forward in the introduction and development of influence-specific intelligence products and procedures; the Corps' global presence through MEUs afloat, shore-based crisis response special purpose MAGTFs, and worldwide theater security cooperation activities are viable vehicles for concept development and evaluation against real-world problem sets and targets.

The Information Environment and the Unblinking Eye

Lastly, although the sum of JIIM personnel within the task force represented a considerable and unique intelligence analysis and production capability, their overall effectiveness with respect to IO was much less than it otherwise could have been owing to the absence of a shared, graphically visualized, real-time, and persistent understanding of the IE. The task force lacked a combined operations and intelligence picture of the IE. As a result, friendly IE activities (deliberate or unintentional) across the transregional CTIO operational area of

operations were not tracked for even rudimentary effects and causation correlation assessment. Adversary IE actions and general IE baseline activities were only nominally followed. This deficit was due in part to a lack of personnel for the tasks, but largely because of the unavailability of systems and software necessary to satisfactorily access, monitor, search, and interact with the unclassified, open source IE.

Although the volume of data present and available with and through the World Wide Web today seems infinite, access to much of that data—even data that is non-proprietary—comes with an ever-increasing price tag, and often with specific hardware and software requirements to gain access (also at a cost). Unfortunately, it is exactly data that, if appropriately managed, can enable:

- Target individual and target audience development.
- Threat network illumination.
- Threat tactics, techniques and procedures discovery and tracking.
- Indications and warning within the IE.
- Influence opportunity identification and IO planning.
- IO assessment.

Equally, unclassified information and data must be available in a usable format and timely manner on analytic and production systems of higher classifications

to facilitate enrichment and fusion with classified data. The unclassified information space is the principle battlespace and workspace for IO, and a primary area for collection of information of influence-intelligence value. For at least a quarter century, the IC has struggled to effectively consolidate information and analytic systems within single classification levels (such as the Secret Internet Protocol Router Network), and there is no reason to believe that issue would be solved in the intelligence support to IO arena. However, experiences at the task force indicate that, with some effort, the Marine Corps could successfully bring together applications like command and control of the information environment, Palantir, and the Conflict Zone Took Kit to make possible the geographic and temporal display (and subsequent analysis) of both persistent and target-searched news and social media big data; additionally, anonymized surface, deep and dark web crawling is promising.

Parting Shot: Gotta Give Some to Get Some

The observations and recommendations presented above are those of one individual and are neither represent nor endorsed by the Marine Corps or the DOD. These observations and recommendations may turn out to be inconsequential or impractical when truly placed against the particularities of Marine Corps IO and intelligence support to IO development, and the value of the article may subsequently reflect that futility. The singular takeaway that should be incontrovertible, however, is that only experience can drive progress. Progress is possible only through opportunity. The occasions for Marine Corps intelligence practitioners to exercise intelligence in support of IO in forward deployed environments dealing with real-world problem sets and threats are exceedingly few. While many of the billets exist inside joint commands over which the Marine

Corps has no direct say or influence, that fact should not be a deterrent. Rank agnostic, any solid Marine Corps intelligence professional assigned to a billet or deployment outside the Corps will step out smartly on tasking to deliver routine and relevant lessons learned and after-action reports to HQMC Intelligence Department, DCI, MCIOC, and any other stakeholders identified as such. Better yet would be that the Marine Corps prioritizes these billets and ensures the absolute best we have to offer are assigned to these challenging positions, supported throughout, and intelligently retained and employed in follow-on assignments that will make good use of their experiences and skill sets. Anything short of this, and we squander the opportunity to forge and hone the Marine Corps' IO blade—and the intelligence that wields it—at our own risk.



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The PLANMC

Will the PLA Marine Corps become its own Service

by Steve Ostrosky

In September 2016, shortly after President Xi Jinping announced the People's Liberation Army (PLA)'s most recent reform, Chinese and international media reported that the PLA Navy Marine Corps (PLANMC) was going to increase from the previously assessed 10,000 personnel to 100,000 personnel, this increase was hard to believe because the PLANMC's parent service, the PLA Navy (PLAN), totals approximately 235,000 personnel, meaning the PLANMC will be nearly half the size of the PLAN. However, more than two years into the reform effort, reputable sources are still reporting that the PLANMC will increase to 100,000 personnel.¹ This development was even briefed to the U.S. Congress.² One plausible explanation for this substantial increase is that the PLANMC will become the PLA's sixth service.

Prior to the 2016 reform announcement, the idea of a PLANMC expansion did not seem plausible. For decades, the PLANMC was a small unit made up of two brigades and approximately 10,000 to 12,000 marines with a narrow mission (island/coral reef assault/defense) in the South China Sea.³ Presently, reporting indicates that the PLANMC consists of a corps-level headquarters, an estimated 30,000 marines, and 6 brigades (possibly expanding to 9). Potential additional brigades include an aviation brigade (air assault/air mobility), a special operations brigade, and an operational support brigade.⁴

In hindsight, the Central Military Commission (CMC) and the PLA telegraphed the PLANMC's expansion before Xi announced the reform. The PLA was caught flat-footed in Libya in 2011 and was still under-prepared and under-equipped for the noncomba-

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tant evacuation in Yemen during 2015. The 2015 Defense White Paper pointed to an increased focus on protecting China's resources, infrastructure, and citizens overseas, as well as protecting maritime routes in the New Silk Road (Belt Road Initiative/One Belt One Road).⁵ In 2014, the PLANMC began to conduct basic expeditionary training to prepare for operations in a variety of environments.⁶ The PLA's base in Djibouti, on the Horn of Africa, was

The PLA was caught flat-footed in Libya in 2011 and was still under-prepared ...

opened in August 2017, and China's Ministry of Foreign Affairs stated that the base's purpose—and presumably the marines stationed there—was to protect Chinese interests in the region, provide humanitarian assistance and disaster relief, and conduct counterterrorism operations. These activities suggest that the PLANMC's mission has expanded significantly by moving away from its narrow focus of amphibious assault in the South China Sea to a broader focus of securing China's resources, infrastructure, and citizens beyond China's periphery. This expanding mission requires a larger PLANMC.

Brief History

The PLANMC's origins date back to the 1950s, presumably out of the central government's frustration with the PLA's inability to seize Taiwan from Chinese separatists. That organization was soon disbanded, but a 1974 battle with Vietnam over the Paracel Islands partially motivated the PLA to reconstitute its marine corps.⁷ The current PLANMC was created in 1980 with the establishment of the 1st Marine Brigade; 18 years later, the 164th Marine Brigade was created. The PLANMC's original mission was to defend PLAN mainland bases in the South Sea Fleet and China's outposts in the Paracel and Spratly Islands.⁸¹ The Chinese media often referred to the PLANMC as a national rapid-reaction force; this reference was typically noted during PLANMC responses to natural disasters in China. One could surmise that this mission was given to the PLANMC because it was an easily deployable small force with few operational responsibilities that would need to be backfilled, unlike larger PLA forces focused on internal security missions and securing China's land borders. These deployments provided opportunities for internal and external propaganda, allowing the PLANMC to demonstrate how quickly it could respond to and aid China's citizens, but the missions did very little to advance the PLANMC's combat capability. The PLANMC's size and mission did not change between 1980 and 2016, and it remains untested in combat.

PLANMC Compared to Other Marine Corps/Naval Infantry Units

At its current estimated size of approximately 30,000 marines, China now has the second largest marine corps/naval infantry force in the world, surpassing South Korea (29,000 per-

sonnel), Mexico (25,000 personnel), Colombia (24,000 personnel), and Russia (12,000 personnel) (see Figure 1).⁹ Out of those four countries, only South Korea's marine corps is a separate service. The U.S. Marine Corps is the only amphibious/naval infantry force that operates on a global scale with permanent overseas bases and marine expeditionary units deployed around the world. The remaining amphibious forces—all belonging to either island nations or countries that border oceans or seas—operate as elite combat forces to fight insurgencies, combat domestic and international terrorism, operate as counter-trafficking forces, or perform as asymmetric warfare units in defense of their homeland.

Country	Number of Personnel in Naval Infantry/ Marine Corps
United States	180,000
China	30,000
South Korea	29,000
Mexico	25,000
Columbia	24,000
Russia	12,000
United Kingdom	7,700
Philippines	7,500
Argentina	5,500
Netherlands	2,300

Figure 1: Naval Infantry/Marine Corps personnel world-wide.

However, does it make sense to turn the PLANMC into a separate service within the PLA? The United States Marine Corps and the Republic of Korea Marine Corps are the only separate services within their military structures. China's goal may be to emulate the United States Marine Corps—with Chinese characteristics—but it is unlikely that the PLA will make the PLANMC a separate service simply to match the Marine Corps. It made



Is the Chinese goal to create a separate Marine Corps? (Photo provided by the author.)

historical sense to put China's marines under the PLA Navy; it is unknown whether the PLANMC will outgrow the PLAN in size, stature, and mission. The PLANMC will need to be a separate service if the CMC's goal is to grow the PLANMC to 100,000 personnel. The CMC has already taken the necessary administrative steps to separate the PLANMC by creating a headquarters element and transferring the responsibility for the mission to man, train, and equip the PLANMC from the PLAN to PLANMC. Standing up an aviation brigade and a support brigade will also create the necessary infrastructure to establish the PLANMC as an independent service. The PLANMC will then only be reliant on the PLAN for the sealift mission. Expanding PLANMC training beyond its amphibious mission and toward expeditionary operations is another indication the PLANMC is preparing to meet strategic mission requirements beyond those of the PLAN. Lastly, the seemingly permanent deployment of a PLANMC combat unit to Djibouti, and the potential for future PLANMC deployments to new PLA military bases in other countries, serves as a strong indicator that the CMC, not the PLAN, needs to manage the PLANMC's command and control.

There are operational, administrative, and political reasons to support the

PLANMC becoming the PLA's sixth service. Operationally, the move will flatten operational control to increase combat effectiveness (a primary CMC goal from the 2016 reform effort). Administratively, the PLANMC will be too large for the PLAN to manage. Politically, Beijing needs to ensure it knows the activities and behaviors of PLANMC units deployed to foreign countries. China is still learning how to cohesively work with other governments and populaces where it is economically invested, and there is evidence they are not faring well. To ensure stability, the CMC must closely monitor the operations of China's forces overseas.

As a separate service, the PLANMC will have a more impactful role in the PLA's effort to become a joint force. By removing the PLAN from the administrative and operational chain of command, PLANMC leaders will be able to work directly with the other services and theater commands. Becoming its own service will streamline operational tasking and increase communications and interoperability with the army, air force, and rocket forces while still maintaining the PLANMC's connection with the PLAN for amphibious operations. The PLANMC will be a more effective rapid-reaction force if its leaders and staff were able to manage PLANMC logistics, mobility, and

training for humanitarian assistance and disaster relief operations as well as a host of other military operations short of war—including non-combatant evacuation operations.

However, there are also reasons to keep the PLANMC under PLAN control. The PLANMC is the ground combat arm of the PLAN. Keeping the PLANMC under PLAN will ensure continuity and unity with the PLAN when securing and protecting key sea lines of communication and ensuring freedom of navigation and economic security for China. A sixth service in the PLA also creates additional organizational issues. Although the organiza-

South America and potentially the global commons). China's leaders have likely realized—albeit grudgingly—that they cannot rely on military forces to deploy from China to protect assets abroad. Protecting assets in other countries will require China to have a dedicated military service that is lethal, scalable, mobile, trained to operate independently, and skilled in regular and irregular warfare. Establishing the PLANMC as a separate service will optimize China's ability to protect its assets outside its borders.

Collectively, the points presented in this article are valid arguments for and against the PLANMC becoming a

policies and motives in an effort to promote China's positive intentions.

2. James Fanell, "China's Global Naval Strategy and Expanding Force Structure: Pathway to Hegemony," *Naval War College Review*, (Newport, RI: Naval War College, May 2018). This article is derived from a transcript of Mr. Fanell's testimony before the Senate Armed Services Committee.

3. Dennis Blasko and Roderick Lee, "The Chinese Navy's Marine Corps, Part 1: Expansion and Reorganization," *The China Brief*, (Washington, DC: The Jamestown Foundation, February 2019). The Jamestown Foundation is a research and analysis institute based in the United States that professes to educate policymakers about events and trends that are considered of current strategic importance to the U.S. Key areas of focus are Russia, China, and terrorism.

4. Office of the Secretary of Defense, *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2018*, (Washington, DC: May 2018).

5. U.S. Naval Institute, *China's Military Strategy*, (Annapolis, MD: May 2015). This is an English translation of full document without editorial comment or analysis.

6. *The China Brief*.

7. Bernard D. Cole, *The Great Wall at Sea*, (Annapolis, MD: Naval Institute Press, 2001). See also "China is Building to a 100,000 Strong Marine Corps."

8. Toshi Yoshihara, "The 1974 Paracels Sea Battle: A Campaign Appraisal," *Naval War College Review*, (Newport, RI: April 2016). The Naval War College is staff college for the U.S. Navy contributing to naval history, doctrine, weapons and tactics development, and naval leadership development.

9. These are estimated numbers based on publicly available information available at: <https://en.wikipedia.org> and <https://blog.usni.org>.

Protecting assets in other countries will require China to have a dedicated military service that is lethal, scalable, mobile, trained to operate independently, and skilled in regular and irregular warfare.

tional problems are largely unknown, service rivalry is always a concern, and additional services can lead to budgetary issues. New processes and infrastructure will need to be created for the PLANMC's intelligence and communications, equipment procurement, recruiting, and professional military education. But these issues are certainly not insurmountable; the PLA's focus on military-civilian integration and current logistics organization could lessen some of the operational concerns.

There are many reasons for the CMC to make the PLANMC a separate service. Arguably, not doing so might negatively impact PLANMC operations and curtail PLA strategic intentions. If the PLANMC triples in personnel and becomes a force operating outside of China's borders, the PLANMC will need to remove the PLAN yoke and achieve a higher level of autonomy within the PLA. The Belt Road Initiative is creating a requirement to protect China's resources, infrastructure, and citizens throughout Africa, Eurasia, and the Middle East (forecasts indicate that this requirement will eventually include

separate service. The one near-certainty is that if the PLANMC does grow to 100,000 marines, it will become the sixth service in the PLA.

Notes

1. Franz-Stefan, Gady, "China is Building to a 100,000 Strong Marine Corps," *The Diplomat Magazine*, (Online: March 2017), available at <https://thediplomat.com>. *The Diplomat* is an international current affairs magazine for the Asia-Pacific region. Topics that are covered include geopolitics, defense, and intelligence issues; Minnie Chan, "As Overseas Ambitions Expand, China Plans 400 Percent Increase to Marine Corps Numbers, Sources Say," *South China Sea Morning Post*, (Online: March 2017), <https://www.scmp.com>; Jeffrey Lin and P.W. Singer, "China's Marine Corps is Getting Bigger and Stronger," *Popular Science*, (Winter Park, FL: Bonnier, March 2017); Staff, "China Poised to Expand its Marine Corps," *The People's Daily*, (Online: March 2017), available at <http://en.people.cn>. *The People's Daily* (*Renmin Ribao* in Chinese) is the official newspaper of the Chinese Communist Party and is published internationally. The English version of the website focuses less on internal issues in China and more on providing editorials about China's foreign



A Language-Ready Force

The world's first
by Benjamin Nagy

Computer translation technology continues to advance at a steady pace and has already surpassed the capabilities of much of the functionality provided by DOD-trained linguists. If the United States Government plans for, invests in, and implements that technology, we could create the world's first true language-ready military.

This argument is based on several assumptions about the future. First, the average military linguist will continue to speak at approximately the same level, knowing the same quantity and breadth of words, and with the same quality of grammar and pronunciation. Individual capabilities may fluctuate, but the aggregated average will remain relatively consistent as new linguists join the military and old linguists depart. The second assumption is that computer-translation will increase in capabilities indefinitely. There has never been a time in recent history where one could reasonably expect that the average computer translation tool would know fewer words tomorrow than today, become rusty in the art, or perform slower as technology becomes continually smaller and more powerful. The third assumption is that commercial superpowers, such as Google and Facebook, will continue to lead the way with automated translation so customers in any part of the world can use their services.

The Federal Government spends tens of millions of dollars each year on training and testing linguists. After a year or more of training, most of these linguists are capable of basic communication in the language they were taught and will likely struggle

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with normal conversation with a native speaker, especially when dealing with dialects and slang.

The Defense Language Aptitude Battery (DLAB) assesses whether a person is likely to be able to learn a foreign language because not everyone is wired for it. Most Federal employees will never be trained as linguists and will never be able to communicate directly with foreign language speakers.

Most Federal employees trained in a foreign language will only learn one language during their entire career. Out of those who manage to learn a foreign language, relatively few will achieve a 3/3 or higher proficiency. When not regularly engaged in training or actively using their learned language, many linguist will decrease in proficiency. Many of the more-qualified linguists, especially those working in intelligence fields, will leave the Service to work in higher-paying contractor jobs.

Commercial translation capabilities are advancing at a rapid pace. Apps such as Google Translate are capable of instantly translating text found in images while retaining the appearance and formatting of the source.¹ The Google Translate phone app now supports conversational translation, where two speakers can take turns with a single mi-



Most linguists are capable of basic communications. (Photo by LCpl Christopher Mendoza.)

crophone. The app detects the language of the speaker, translates automatically, and then speaks the translation. With the aid of Google Translate, most people are currently capable of communicating better in Chinese than most military Chinese linguists are capable of doing after a full year of language training. They can then instantly switch to German, Norwegian, French, Korean, or any one of the other 51 languages Google supported as of early 2018. This number increases to over 80 with add-on app packs, although accuracy normally decreases with less-common languages.

The translation earpieces seen in classic science fiction films such as *Star Trek* are now a reality. Several translation earpieces are already available for purchase, including Google Pixel Buds and the Waverly Labs Pilot Speech Translator. Cellphone apps and Internet-connected earpieces will likely remain the translation tool of choice for the general public, but disconnected translators, such as the “ili Hand-Held Translator,” prove how uncomplicated it is to download language libraries to an offline device that could be carried into the deepest cave in Afghanistan and still enable communications with the Turkish refugee living there.²

Future vignette: A Russian, an Israeli, and a Swede are all sitting a bar in Colombia having a conversation using their respective native languages with their instant-translation earpieces installed. An English-speaking DOD linguist approaches. How will he communicate, and in which language will he communicate? If the DOD starts moving in the right direction now, he will simply join the conversation using his translation earpiece.

The DOD normally prioritizes language training based on probability of need but was surprised by a decade in Afghanistan with too-few U.S. citizens with security clearances who could speak Pashtu. The Pashtu linguists were of no use with Persians. Once the military had some linguists proficient in Pashtu, attention shifted to activities in North Korea with guaranteed involvement from China. The DOD could start training more Korean and



We can graduate linguists from formal schools and provide Marines with translation-capable technology. (Photo by GySgt Alexis Mulero.)

Chinese linguists now who would be capable of basic communication within a year or two; or, in a year or two, we could issue translation devices to an entire military division so every single one of them, regardless of Armed Services Vocational Aptitude Battery or DLAB scores or MOS, would be capable of basic communication with nearly every joint military partner, local-national, or tourist they meet during deployment.

Many of the concerns against pursuing computer translation over human linguists are based on lack of knowledge about current off-the-shelf capabilities or are based on the way things were yesterday rather than how things will be in the foreseeable future. Other concerns can easily be resolved during planning and procurement. Common objections and their answers include:

- Computer translations are not always perfect, but they are significantly better than many, if not most, DOD linguists' translation abilities and have more extensive vocabularies.
- Translation software can get confused by dialects and slang, so can military linguists.
- Translation software is less effective with low-density languages, and military linguists are less available for low-density languages.

- Network and electro-magnetic pulse attacks could disable translation tools, but shielding and offline libraries could prevent either from being a significant impact.

- Speaking with a translation device feels awkward and could intimidate people today, but when the majority of the world's civilian population is using Pixel Buds for translation, the awkward conversations will be with the heavily-accented military linguists, many of whom will likely resort to their Internet-connected translation apps if the DOD doesn't provide them with a more-secure alternative.

It is no longer a question of if; it's a question of when.

While a linguist can forget the language over time if not regularly used, the translation services will continue to improve until they achieve true fluency. Teaching a military linguist one new phrase improves his capability slightly and teaching a translation library one new phrase improves communication capability for the entire force. As machine-learning capabilities improve, translation software will pass a threshold where it is no longer necessary for system administrators to manually enter words or phrases. The software will begin to learn directly from Internet-connect smart-device users in every corner of the world.

It is unlikely there will never be a time when computer translation capabilities are less capable, less available, or less used than the previous year. Voice-synthesis software could eventually allow translation to be heard as the voice of the speaker, rather than the voice of a human translator recorded for the app. The recorded human voices currently heard in translation software will eventually become obsolete in favor of software that generates the speaker's voice on the fly. As algorithms and processing power improve, software could enable realtime separation of audio streams so multiple foreign-language speakers could be heard by the recipient in his native language and in the voice of the original speakers.³

The DOD is increasing emphasis on readiness and the ability to deploy ready units at a moment's notice. None of these units are currently capable of providing linguist support outside of their current language capabilities. Furthermore, none of these units are 100 percent manned with dual-language capable personnel. Instant translation devices will remove this limitation and result in a true language-ready force.

Recommendations

1. Reduce uncertainty by meeting with industry translation leaders such as

Google to determine when they plan to deliver automatic translation products capable of replacing various levels of Defense Language Proficiency Test-qualified military translators for each language. If they predict five to ten years, update long-term strategies so we are ready when it happens. If they predict two years, then we are already late because students enrolling in the Defense Language Institute this year will be superseded by technology by the time they graduate.

2. Reduce allocation of money and time toward training a fraction of the military to perform basic communications in a single language. Invest the savings into improving DOD software language libraries intended for disconnected devices.

3. Retain native-speaking and exceptionally proficient linguists for non-face-to-face translation activities such as signals intelligence and for reach-back support.

4. For human intelligence collectors, increase emphasis on non-verbal indicators (body language) and cultural knowledge, allowing them to better focus their attention on the speaker rather than dividing their attention between analyzing and translating.

5. Establish a virtual language center where cleared native speakers can

be easily reached over secure lines by deployed personnel for translation assistance. When the native speakers are not actively providing support to deployed personnel, they will review actual recorded translations from deployed instant translation devices and improve the translation libraries, capabilities and readiness improving daily. These disconnected devices would require no more encryption or security that the digital voice recorders currently used by human intelligence collectors.

6. Begin the contract process to develop or procure disconnected instant translation devices. No training should be needed other than telling people to speak clearly into the device. These will be out-of-the-box ready except for basic maintenance such as charging and downloading updated dictionaries.

Computer translation has advanced to a point where the DOD can confidently evaluate, plan for, and implement technology that will make us the world's first true language-ready military. This will ultimately save money and reduce training times while expanding current capabilities and agility.

Notes

1. Google, "Google Translate vs. 'La Bamba,'" YouTube video, 1:40, (Online: July 2015), available at <https://www.youtube.com>.

2. Geoffrey Morrison, "ili Hand-held Translator—First Look," YouTube video, 2:53, (Online: November 2018), available at <https://youtube.com>; similar products can be viewed at the following websites: <https://support.google.com>, <https://www.engadget.com>, and <https://www.waverlylabs.com>.

3. Additional information on translation devices mentioned in this paragraph can be viewed at <https://www.theverge.com>, <https://audionamix.com>, and <https://manual.audacit/team.org>.



During combined operations, linguists capability enhances unit coordination. (Photo by LCpl Christopher Mendoza.)



21st-Century CLIC

As the threats facing the U.S. military evolve,
so must the company-level intelligence cell

by 1stLt Evan J. Allard

I leaned against a box of MREs, just glad for a brief respite. The handset crackled in my ear, another radio check from Reaper 1—one of my scout sniper teams. It was the third day of the Marine Corps’ first large-scale force-on-force exercise, and I was the battalion intelligence officer and scout sniper platoon commander for 1st Bn, 3d Marines. The Lava Dogs, reinforced with tanks and AAVs, were doing battle against a fully fortified MAGTF. There was an incredibly rapid flow of information; reports from scout snipers, unmanned aircraft systems assets, and the individual companies were non-stop. It was roughly 0300 in the morning when I closed my eyes and roughly 0400 when I opened them to hear one of my analysts telling me, “Sir, Bravo Company has been destroyed.”

“Intelligence drives operations,”¹ the 29th Commandant of the Marine Corps, Gen Alfred M. Gray, used this oft-repeated quote to illustrate the essential and inseparable relationship between the two warfighting functions. The vignette above was the result of interruptions in the intelligence cycle and a lack of cohesion between intelligence and operations. According to an article published by LtCol Jeffrey Dinsmore in the *Marine Corps Gazette*, “While the [company-level intelligence cell (CLIC’s)] development was driven by a [counterinsurgency] mission, the future of the Marine Corps operations demands the capability remains intact.”²

On the surface, the practice of embedding intelligence Marines into infantry companies seems to make tactical sense. Having a Marine who knows the intelligence cycle and is able to apply it to infantry operations can greatly increase the effectiveness of the

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company. However, the reality is that most CLIC Marines are underutilized. Many are even “tasked away” to mundane requirements, such as driving or radio watch, or given additional duties such as headquarters platoon sergeant (which, albeit, important but is still a misuse of personnel).

This leads to a three-fold problem. On one side, junior Marines who are thrust into a billet with immense responsibility are seldom prepared to excel. The training is not designed to produce 02XX or 03XX Marines who are capable of fulfilling the intelligence requirements of an infantry company. This often results in a

lack of confidence from the company staff in their assigned CLIC Marine. A junior Marine armed with only two weeks of CLIC training is not ready to brief or advise company commanders and their staff. Company commanders want to receive a finished product that requires little supervision of the intelligence Marine as he conducts intelligence support to operations. When they realize the discrepancy between their expectations and the reality, it can change the view of that Marine from “force multiplier” to “burden.”

On the other side is the outdated way the Marine Corps “paints” adversary threat pictures during Service-level exercises. Intelligence as a whole is often overlooked during training exercises when the enemy is “notional.” For example, the long-running intelligence scenario for the Weapons and Tactics Instructor Course (known as



TALONEX is a predeployment exercise that gives the GCE an opportunity to work directly with the ACE. (Photo by Cpl Thomas Miller.)

TALONEX for the infantry battalions which support it) features enemies who only vaguely correspond to real-world threats and who are given ridiculous names that do little to focus the efforts of the infantry units conducting planning. It is already a challenge to mission commanders and operational planners to convey the seriousness of training exercises to young Marines when combating a notional enemy; the difficulty of that task is exacerbated when the adversary is given a strange or funny-sounding name. Infantry Training Exercise has long featured an adversary force based on pacing threats. While this enemy utilizes consistent weaponry and assets, almost none of the tactics resemble anything an actual adversary would employ. Compounding this issue is the fact that during live fire training, CLIC Marines simply do not have a role. Enemy reactions to friendly maneuvers are entirely based off of paints from safety personnel. Overall, with a poor intelligence picture and no role during live fire training, there is almost no value for these Marines during Service-level exercises.

The last part of the problem is that in the time between training exercises and deployments, the Marines who serve as the CLIC often return to work for their intelligence shop with little training to keep them current with their skills. Oftentimes, between these exercises, CLIC Marines are at best utilized as glorified weather forecasters for their companies. While dealing with environmental factors that affect operations is a critical task for intelligence Marines, it should not be what these Marines are known for.

CLIC Marines, when properly trained, are capable of serving as force multipliers for company commanders. They can serve as enemy subject-matter experts or small unmanned aerial systems operators to conduct reconnaissance, provide indications and warnings of enemy activity, lead debriefs of patrols, act as a conduit between their battalion's intelligence shop and their company to facilitate map requests, answer requests for information, and disseminate intelligence.



Have our 03XX Marines received the training they need to succeed as a member of the CLIC?
(Photo by Cpl Thomas Miller.)

It All Starts with Training

Currently, 02XX and 03XX Marines both serve in CLIC Marine billets. There are issues with how each is trained. The CLIC course for 03XX Marines does not provide the tools they need to succeed. It is most often a two-week introduction course on the fundamentals of intelligence preparation of the battlespace (IPB). The 03XX Marines learn about defining the battlespace, effects, and the enemy; however, they do not learn how

... the Marines who serve as the CLIC often return to work for their intelligence shop with little training to keep them current with their skills.

to conduct tactical intelligence on the ground. When sent back to their unit, they arrive with a wealth of knowledge on the IPB process but little in the way of debriefing an infantry patrol or conducting tactical battle tracking at the company level.

Conversely, the 02XX Marines who are nominated as CLIC Marines are thrust into a billet they are ill-prepared for. The CLIC course, as it stands, does not teach these Marines any new information they would not have learned at their entry-level schoolhouse the (MAGTF Intelligence Specialist Entry Course). According to the *MCIP 2-10.11, Company Level Intelligence Cell*:

The RITC (Regional Intelligence Training Center) CLIC curriculum is more basic (1000 level) than those listed in the infantry training and readiness (2000 level). Therefore the unit must be prepared to train itself on 2000-level tasks in the Infantry Training and Readiness Manual.³

Solutions

The first and most obvious solution is to update the curriculum of the CLIC course. IPB should be dropped entirely. While it is important for the CLIC Marine to understand IPB and contribute to the process, it is more important to learn how to conduct tactical-level intelligence. The current course is ten days long, and in those ten days, more emphasis should be placed on leading debriefs, battle tracking, enemy threat recognition, and tactical site exploitation operations. The 02XX CLIC Marine will pick up the necessary

skills to conduct IPB in their entry-level schoolhouse. As for 03XX Marines, the intelligence shop should get them up to speed during the training time between exercises and deployments. This will enhance commanders' confidence in their CLIC Marines' ability to serve in their billet and will give those Marines the necessary tools to thrive in their role.

The second solution (and perhaps the less costly to the Marine Corps) is the centralization of the CLIC Marines. Moving them from the company into the intelligence shop will enable the S-2 to allocate training time as part of a joint effort between the intelligence and operations shop. Intelligence shops across the Marine Corps need to take ownership of their CLICs and their training, employment, and utilization. The billet of "CLIC chief" (as outlined in *MCIP 2-10-II*⁴) is responsible for supervising CLIC operations and personnel; however, in reality, the billet is non-existent. As a collateral billet, the assistant intelligence officer in a battalion could serve as a CLIC officer and in charge implement a training schedule for current and future CLIC Marines (regardless of MOS). Additionally, according to *MCIP 2-10-II*, the company commander has a number of responsibilities for CLIC Marines, such as,

Publish a written plan for CLIC development and implementation . . . Intelligence is an inherent responsibility of command, with the commander being the most important part of the success or failure of the CLIC.⁵

By centralizing these Marines, CLICs in the future could be placed in direct support of infantry companies, developing working relationships and receiving the training that would build up trust in their company commander.

Following changes to the training continuum, the foundations of a culture could be laid for future CLIC Marines. Instead of sending junior Marines with very little time in the Fleet, the CLIC should be a position for an experienced NCO. By manning the position with an NCO who is confident and capable, the confidence that commanders have in their CLICs will rise. Additionally, that NCO will be



An experienced NCO should be the lead in the CLIC, not so a Marine with little time in the Operating Forces. (Photo by Cpl Thomas Miller.)

able to conduct a turnover with his replacement. As in most billets in the Marine Corps, a good turnover greatly increases the chance of success for the oncoming billet holder. The knowledge and failures of the former CLIC Marine can be shared and learned from. Having a period of transition will address some of the major problems as outlined in this article by increasing the abilities of the CLIC as a whole and instilling a sense of confidence in the abilities of these Marines.

The centralization of the CLIC is critical for the Marine Corps to stay ahead of pacing threats. An appropriately trained and confident NCO has the ability to breathe fresh air into the tired scenarios that often emphasizes higher-level staff planning but paint little realism for the junior Marine in the fighting hole. The 03XX Marines would see the CLIC as an extension of the intelligence shop and, rightfully, a resource to use as the force prepares itself against current pacing threats. Combined anti-armor team leaders could seek them out for knowledge about enemy threat weapons systems. Scout snipers could leverage them for guidance in ground threat recognition and leading reconnaissance debriefs. Infantry platoon and company commanders could submit requests for information about enemy tactics.

By improving the quality and training of these Marines, the relationship between intelligence and operations during exercises and deployments will improve. This is a relationship that is absolutely crucial for the Marine Corps to outpace its adversaries in the future and sustain its ability to fight and win in any situation.

Notes

1. Headquarters Marine Corps, *MCWP 2-1, Intelligence Operations*, (Washington, DC: 2003).
2. LtCol Jeffrey Dinsmore, "The CLIC in EF 21: Perspective from the GCE," *Marine Corps Gazette*, (Quantico, VA: August 2015).
3. Headquarters Marine Corps, *MCIP 2-10-II, Company Level Intelligence Cell*, (Washington, DC: 2016).
4. Ibid.
5. Ibid.



The Intelligence Planner's Guide

Improving intelligence support to operational planning teams
by LtCol Jonathan M. Donigan, USMC(Ret)

Operational planning teams (OPTs) formed at the MEF, MEB, and major subordinate command levels are led by MAGTF planners holding the 0505 MOS. These officers earn a master's degree primarily from the Marine Corps' School of Advanced Warfighting, the Navy's Maritime Advanced Warfighting School, or the Army's School of Advanced Military Studies; through this experience they receive a graduate-level education in planning. The same cannot be said of many officers assigned by assistant chiefs of staff for intelligence (AC/S G-2) to participate in and support OPTs. At best, intelligence planners are field-grade officers who have completed resident or non-resident Command and Staff College. At worst, the OPT is supported by com-

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pany-grade officers who have completed resident or non-resident Expeditionary Warfare School but have little or no practical experience planning or operating at the MEF and MEB command element levels. This situation creates an imbalance in expectations and performance between the OPT leader and the intelligence officer assigned to the OPT. This can result in planning inefficiencies detrimental to the development of a detailed operations order.

Because of the importance of intelligence throughout the Marine Corps

Planning Process, this article focuses on the techniques, procedures, trends, and pitfalls associated with the integration of intelligence into the overall planning effort. Based on the MAGTF Staff Training Program's *Intelligence Planner's Guide (MSTP Pamphlet 2-0.2*, February 2017), this article also identifies the specific roles and responsibilities of intelligence planners and highlights the OPT leader's expectations.

For intelligence officers, the planning process begins not only with *intelligence preparation of the battlespace (IPB)* but with the preparation of the planning space first. Too frequently, MSTP has observed OPTs wherein the planning spaces were devoid of maps and intelligence preparation of the battlefield products on the first day of planning. As the OPT leader and other planners occupied the OPT room, there were no products from which to build situational awareness or conduct initial briefings. As a result, the OPTs lost time and momentum as the intelligence planner reached back to the MAGTF Intelligence Center for relevant maps and IPB products. Success or failure in the ability to prepare the battlespace is related to another MSTP concept: *the intelligence planner's dilemma*. While a standing OPT oriented on an existing operation plan will generally have a library of finished IPB products from which to draw, this is not necessarily the case in an emerging crisis or no-notice contingency. In these instances, the intelligence planner must still deliver any available IPB products in order to "prime the planning pump." He must anticipate the demand and use his initiative to populate the planning spaces before the OPT leader defines specific requirements.



Task organization and tasks for the intelligence cell will take place during COA development and are refined based on wargame reviews. (Photo by LCpl Juan Bustos.)

A footnote to preparing the planning space is the identification of proper scale maps and the methods used to display them. MSTP has often observed MEF- and MEB-level OPTs using maps too small in scale (meaning the representative fraction is relatively small) to conduct detailed planning. Plotting adversary battalion and brigade icons on a 1:500,000 scale map or smaller leads to false impressions and insufficient detail regarding the impact of terrain. While a MEF is the largest warfighting organization in the Marine Corps, it still operates at the tactical level of war. In order to obtain sufficient detail to support course of action development, larger scale maps such as 1:250,000 joint operations graphics and 1:50,000 or 1:100,000 topographic line maps are required. Hard-copy maps should be prominently displayed for easy access. Additionally, electronic maps using software such as command and control personal computers should be used to complement hard-copy maps. In fact, these electronic maps allow for more precise plotting of units and control measures during planning and provides a further detailed representation of known or template adversary positions. This also facilitates the transition from conceptual to detailed planning and the capture of minutiae on overlay files to support orders development. The most effective OPTs employ a combination of appropriate scale hard-copy and electronic maps, particularly during course of action development and wargaming.

After anticipating requirements and adequately preparing the planning space, the intelligence planner is ready to participate in the OPT's activities. But he does not do this alone. *Intelligence planning is a team sport.* The intelligence planner is the AC/S G-2's direct representative on the OPT and provides an initial intelligence staff estimate based on the G-2's appreciation of the situation, to include initial guidance regarding priority intelligence requirements and the adversary's center of gravity, critical vulnerabilities, and potential courses of action. To be sure, the OPT will refine these throughout the planning process, but the AC/S G-2 must provide guidance to the intelli-

gence planner before the commencement of planning.

The AC/S G-2 also ensures that the intelligence planner receives dedicated support, be it from a multifunctional direct support team assigned to the OPT or from the entire MAGTF Intelligence Center. In either case, these entities will provide initial and continuously updated IPB products to the OPT based on the requirements identified by the intelligence planner through his in-

... SMEs provide capability and limitation inputs ...

teraction with the OPT. The key point is that the intelligence planner does not have the time to "do" IPB while he is engaged in the planning process. The intelligence planner is also assisted by subject-matter experts (SMEs) from across the MAGTF's intelligence enterprise. Principal among these SMEs are the G-2's collection manager and target intelligence officer. These officers are instrumental in ensuring organic collection assets as well as theater and national resources are optimized to support a selected course of action and that MAGTF fires planners receive relevant information to inform decisions regarding what to target and what not to target.

Other SMEs, representing MAGTF-level collection capabilities from the force reconnaissance company, unmanned aerial vehicle squadron, intelligence battalion, and radio battalion, must also be present at the OPT or on call to answer requests for information. These SMEs provide capability and limitation inputs to the intelligence staff estimate and offer employment recommendations during course of action development and wargaming. The contributions of these SMEs are essential; without them, the intelligence planner would be writing checks during course of action development that the units would have to cash during orders de-

velopment and mission execution. The potential exists that absent these SMEs, the selected course of action would not be feasible, acceptable, supportable, distinguishable, or complete from the perspective of the intelligence warfighting function. Too often, the intelligence planner is "alone and unafraid" as the OPT conducts the planning process.

As the process continues, the intelligence planner will participate in the *identification of specified, implied, and essential tasks.* While essential tasks will rarely include intelligence-related tasks, the intelligence planner will identify many implied intelligence tasks that support specified and essential tasks. He must then begin to organize these tasks for assignment to the appropriate major subordinate command, intelligence unit, or subsection within the G-2. These tasks will be refined during course of action development and wargaming for eventual inclusion in the Annex B and its associated appendices during orders development. However, it is important to begin capturing and refining these tasks during problem framing. A critical aspect regarding the assignment of tasks to intelligence units, in particular, is the *identification of the correct command and support relationships.* For example, collection teams organic to the intelligence and radio battalions are often assigned a specific command or support relationship with maneuver units as far down as the battalion (and now even the company) level. Getting these relationships "right" and ensuring a common understanding of what is meant by general support, direct support, or attached is often lacking. *Army Doctrine Reference Publication (ADRP) 5-0, The Operations Process* (May 2012), provides excellent matrices that define the full range of command and support relationships available for consideration.

An important result of task identification is task organization. Depending on the desired command and support relationships determined during course of action development, elements of intelligence units will be task organized under various subordinate headquarters and maneuver units. While the tasks will be captured primarily in the Annex

B, the task organization will be reflected in the Annex A. In order to ensure accountability and proper employment, the intelligence planner must verify that high-demand, low-density assets such as counterintelligence/human-intelligence detachments and signals intelligence support teams are reflected in the Annex A with the correct command and support relationships identified, as prescribed in *MCWP 5-10, The Marine Corps Planning Process* (Washington, DC: HQMC, May 2016). Intelligence planners must coordinate with other planners to ensure greater fidelity in the Annex A than has typically been observed by MSTP during recent exercises.

The initial task organization of, and tasks assigned to, intelligence units will take place during course of action development and will be refined based on the results of the war game. During course of action development and wargaming, however, a form of “staff schizophrenia” exists because *the intelligence planner has two roles to play*. First, he contributes to friendly course of action development by generating tailored concepts of intelligence support based on the intelligence staff estimate. Concepts of intelligence support summarize the means available to direct, collect, process, exploit, analyze, and disseminate intelligence. They also describe how assets will be allocated across the MAGTF and provide a functional level of detail necessary for a complete friendly course of action. To accomplish this, the intelligence planner leverages the SMEs discussed previously to understand how available assets can best support the courses of action under development. While the focus is generally on collection assets, the intelligence planner must also consider the intelligence analysis, production, and dissemination resources available to the MAGTF and how they can be task organized to better support the major subordinate commands.

Second, the intelligence planner must develop adversary courses of action based on IPB inputs from the G-2 section or a dedicated red cell (if one is established). Adversary courses of action must be developed to the same level of detail as friendly courses of action, to

include tasks and purposes for the designated main effort, supporting efforts, and reserve. Adversary courses of action must be graphically displayed on a map with the appropriate symbols and task graphics along with close, deep, and rear areas with associated boundaries and control measures. Furthermore, each course of action must be accompanied by a detailed narrative that discusses the main and supporting efforts and the reserve, as well as the adversary’s concept for decisive, supporting, and sustaining actions. The narrative and graphics should also address adversary decision points and triggers associated with each course of action. The intelligence planner must also highlight the adversary’s ability to collect intelligence on friendly forces and to sense (and make sense of) friendly deception efforts. Unfortunately, MSTP has observed that adversary courses of action generally lack sufficient detail compared to friendly courses of action, consisting of merely a brief narrative and “big red arrow” graphics. This makes for a lopsided war game and deprives the rest of the OPT the opportunity to test

The commander then selects a course of action, and the OPT turns to orders development.

friendly courses of action against a sufficiently detailed and realistic threat.

Once friendly courses of action have been wargamed against detailed adversary courses of action, the results are analyzed and presented to the commander. The commander then selects a course of action, and the OPT turns to orders development. Up to this point, the intelligence planner and the designated SMEs have done most of the heavy lifting for the G-2. Now, the deputy AC/S G-2 assigns other SMEs within the G-2 to draft portions of the Annex B and its associated appendices. The intelligence staff’s estimate and the concept of intelligence support developed by the

intelligence planner serve as the base documents for this effort. The intelligence planner’s job, however, is not done. *A common pitfall is tunnel vision on the Annex B*. During orders comparison and crosswalk, the intelligence planner must review other relevant annexes and appendices in order to ensure agreement with the Annex B. For example, he must review the Annex W (Aviation Operations) to ensure that any discussion of unmanned aerial system operations in that annex is consistent with the collection plan as outlined in Appendix 13 to Annex B. Failure to do so could result in a disjointed or contradictory order. *MSTP Pamphlet 2-0.2* provides a baseline listing of the other annexes and appendices the intelligence planner must review in order to ensure consistency with the Annex B.

While much of this content may seem obvious to experienced planners and intelligence officers, MSTP has seen these errors and oversights consistently repeated during several MEF and MEB exercises conducted between 2015 and 2017. *MSTP Pamphlet 2-0.2* also includes detailed topics such as the development of priority intelligence requirements, the conduct of relative combat power assessments, and center of gravity analysis. Through awareness and anticipation of these trends and pitfalls, intelligence officers assigned to OPTs can improve intelligence support to the planning process and enhance the Marine Corps Intelligence, Surveillance, and Reconnaissance Enterprise’s ability to support commanders and staffs. The intelligence planner’s significant responsibilities often fall on the shoulders of relatively junior company- and field-grade officers lacking MAGTF-level experience and the graduate-level planning background held by most OPT leaders. This article and *MSTP Pamphlet 2-0.2* are intended to level the playing field and prepare these officers to serve as intelligence planners on OPTs.



Professionalizing Air Intelligence, Part IV

What makes a good squadron S-2?

by Capt Christopher A. Denzel

At 0530, 14 September 2012, the twenty students of Air Intelligence Officers Course (AIOC) 12-02 sat down in a classroom in Dam Neck, VA. We had fourteen hours to finish our final exam. Eight hours later, at 2200 Afghan time, fifteen Taliban fighters cut through the fences of Camp Bastion/Leatherneck in Helmand Province, Afghanistan. During the ensuing attack, they killed two Marines, wounded seventeen, and destroyed a squadron of AV-8B Harriers.

A few days later, I checked into Marine Medium Tiltrotor Squadron 264 (VMM-264). We were deploying to Bastion in three months. My CO said, “We have an all officer meeting on Friday. I want you to brief the Bastion attack.”

This was how I began my tour as a squadron intelligence officer, thrown into the fray before I had changed out of my Service Alphas. Three years and two deployments later, I disembarked from the 24th (MEU) with orders. At the same time, MAG 26 had just received a new AIOC graduate. I took her to the Officer’s Club for lunch, armed with a notebook full of notes. I said, “This is what I wish someone had told me over lunch when I first checked in.” It was the same pass-down that has occurred for ages, from Marine to Marine, senior first lieutenant to junior second lieutenant, off-going to on-coming. So why am I writing this article at this point in time?

Changes in Force 2025

When fully implemented, Force 2025 will remove intelligence Marines from most squadrons and reduce the size of MAG S-2s and MAW G-2s, consolidating all these Marines into

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Wing intelligence support companies (WISC). The WISCs form direct support teams (DST) that undergo specific training geared toward their supported unit before being attached for the pre-deployment training and deployment.

Debating the merits of the WISC is a topic for another article. But as with any concentration of “low density, high demand” assets, the WISC will unfortunately place additional distance between that “asset” and the customer it serves.

Before we create that gap, the community deserves an accounting of what makes a good squadron S-2.

Why focus on squadrons? The squadron is where the rubber meets the road in aviation. MAGs and MAWs fly no aircraft. This already places a certain distance between MAG and MAW intelligence Marines and those flying sorties. Squadrons S-2s (mostly led by lieutenants and staff sergeants) are junior in rank and experience, meaning they will benefit more from such lessons. Finally, MAGs and MAWs will retain some of their organic intelligence structure, mitigating the creation of this gap.

By capturing lessons from successful squadron S-2s, this gap might be closed somewhat for future WISC Marines.

Since my experience is limited, I asked other Marines (intelligence and aviators) for their perspectives. What follows is advice validated by the collective wisdom of three Weapons and Tac-



The CO wanted a briefing on what happened at Camp Bastion on 14 September 2012. (Photo by Sgt Keonaona Paulo.)

tics Instructors (WTI) pilots, two Marine Helicopter Squadron One pilots, one WTI Instructor Pilot, two squadron COs, a MAG XO and Operations Officer (OpsO), three AIOC directors, a Marine Aviation Weapons and Tactics Squadron One (MAWTS-1) S-2, four MEU composite squadron S-2s, two special purpose MAGTF composite squadron S-2s, and a Harrier squadron S-2.

Your Training Was Important

During safety briefs, a warning to not do something that is absurdly stupid yet oddly specific, can be attributed to some Marine who actually did it; your training is no different.

On my first day at VMM-264, I was slapped in the face with the relevance of many things the schoolhouse taught me. A list of things I had once chalked up to “schoolhouse-isms” immediately became essential in that first brief to my squadron and every brief that followed.

We also learned some questionable “lessons.” We were told that we would never get high-demand satellite to collect on our requirements. We were told, “If you ever face a real integrated air defense system (IADS), the Air Force will destroy it before you get into theater.” When we groaned about producing an intelligence preparation of the battlespace (IPB) brief, our instructors admitted that “the Marine Expeditionary Force (MEF) will produce an IPB for you.” We were told these things were in the curriculum not because we needed them for our jobs but because we needed to be tested on them for the course.

Instead, I viewed their inclusion in the curriculum as wisdom locked in from previous generations.

In December 2014, the 24th MEU S-2 directed us to assemble an IPB for our contingency mission in Yemen. There was no MEF to build it for us. There was no MAW to build the ACE intel slides.

My corporal quickly noticed that some images of surface-to-air missile sites were woefully out of date. He requested updated imagery and within days we had fresh images for all the surface-air-missile sites from those satellites that “we’d never get.”

When the Embassy began planning for a deliberate evacuation, the MEU began planning for if things went wrong. The terrain made a ground convoy to the Embassy impractical. Planning quickly shifted to the ACE. Just as quickly, I was facing a real IADS with no Air Force assets in sight.

When someone says “You won’t ever (insert difficult task),” what they often mean is “I never had to (insert difficult task).” Our training carries the roots of lessons learned over decades and across various operations. While those with low-threat counterinsurgency experience found the training contrived, today’s students look at Syria and no longer need to be convinced of the importance of planning operations within or against an IADS.

Out training has been paid for in blood, sweat, and lives; it deserves to be paid attention to.

Your Training Is Important

It is almost a rite of passage for an air intelligence officer to arrive at a unit and complain that no one has sufficiently trained their Marines for deployment. Training is often seen as a one-time, good forever “inoculation” received at the schoolhouse (or from “someone else”). This is wrong.

Just as the recruit depot produces a “basically-trained Marine,” the schoolhouse produces a basically-trained air intelligence Marine. It does not have the time, resources, or expertise to do more than train Marines in the common skills required across every billet for that MOS. Any training specific to unit or billet is designed to be taught through managed on-the-job training.

To the lieutenant who exclaims, “No one trained my Marines!” one might reasonably reply, “No kidding, that’s your job.” Equally important is training yourself.

Respect the Aviator’s Trinity

There are 25 officers in single-seat FA-18 squadron (20 at 80 percent staffing goal). Only six are not aviators. By comparison, an infantry battalion has 48 officers, 18 of whom are non-infantry officers. Who is the S-1 officer at a squadron? A pilot. Who is the S-4

officer? A pilot. Who is the S-6 officer? A pilot. Every staff officer is a pilot, none have any formal training in the role, and each is expected to perform their job as if they were a school-trained 0102 (administration), 0402 (logistics), or 0602 (communications). This also applies to the many maintenance section positions. Each requires pilots to “figure it out” and teach themselves an entirely different MOS. All while they are still on the continuous learning curve of “pilot progression.”

The adjutant (a pilot) at my first squadron described it simply as, “One job gets you fired, one job gets you killed.” Because pilots are surrounded by other pilots, being good at either of those jobs is not enough. As a pilot, you must also be a “good dude(tte)” because the S-4 today was doing your new collateral job yesterday and may just be the pilot instructing and evaluating a critical evolution in your pilot training tomorrow. Furthermore, the pilot you might not get along with will eventually sit beside you in the cockpit for a mission. Interpersonal conflict between aviators may be the difference between a mistake being caught and a serious mishap. For these reasons, “transactional” relationships do not exist in squadrons. No aviator is “just” the S-1; they are also an instructor, student, peer, and co-pilot.

This is the aviator’s trinity: be good at your ground job, be good in the cockpit, and be a good dude(tte).

The consequence for intelligence officers is that pilots will have little patience for an S-2 who does not excel at their job or one not willing to gracefully accept a series of collateral duties. Some S-2s may wonder how they are expected to accomplish their primary job well when they have so many secondary jobs to do. They miss the point: every pilot has a collateral job in the squadron even before any of the truly collateral duties are divvied up. While the intelligence officer arrived fully trained for their MOS, the aviator is still learning their MOS, their collateral primary staff job, *and* their truly collateral duty.

This brings us to penguins.

Save the Penguins

The *MV-22 Training and Readiness*



Managed on-the-job training is required to augment the “basically trained” Marines’ understanding of what his MOS really entails. (Photo by Cpl Mackenzie Gibson.)

Manual is 483 pages long, its *Air Naval Tactics, Techniques, and Procedures Manual* is 710 pages long, and its *Naval Air Training and Operating Procedures Standardization Manual* is 996 pages long.¹ Add to this the knowledge required as the command’s adjutant, the legal policies and regulations, and the *Manual for Courts Martial* (772 pages) as the command’s legal officer.² You can begin to see how much a pilot is required to keep in his head throughout the day. Even worse, when a pilot is on the flight schedule, they are not learning their ground job. When they are doing their ground job, they are not studying flight manuals.

You can only fit so many penguins on an iceberg before others get pushed off. Keep in mind, “One job gets you fired, one job gets you killed.” Some penguins are more important than others.

With this information and responsibility overload for pilots as a *baseline*, intelligence Marines must closely inspect how they support aviation operations.

Even the flight brief for the most straightforward mission will last close to an hour. Some can run two hours long. Most of the time, the blue threat (a mishap) is more likely and consequential than the red threat (the enemy), pilots will naturally focus on the plan more than the threat.

This means that intelligence Marines must cut to the point and ruthlessly focus only on the things pilots will use to make decisions during planning and in the cockpit. Pilots are good at studying volumes of material. They *can* remember anything. They cannot remember *everything*. Thus, intelligence Marines must be realistic about which “intelligence penguins” will get pushed off the iceberg, and they must be judicious about what penguins they put there in the first place.

The phrase, “Be brief, be right, be gone,” is not just a pithy motto for intelligence officers—it may be the most essential rule.

Prepare To Be Alone

My OpsO once asked me, “Harold, what’s it like to be all alone? I’m an Osprey pilot. The CO’s an Osprey pilot. The XO and MO are Osprey pilots. We’re all Osprey pilots. You’re the only intel officer here. How do you know if you’re doing a good job?” The question struck me. I started thinking about how I held myself accountable. It is not hard to look like you are doing a great job to people who do not really understand what you do. So when I began assembling a turnover binder, I highlighted things that I punted.

Despite being based in Helmand, the long range of the Osprey meant that we

had a tertiary mission to reinforce or evacuate the U.S. Consulate in Herat province, 200 miles away. I had no information about the area. I did not try to maintain even a peripheral awareness of the threat in Herat. No one at the squadron or MAW seemed to care either. When my replacement arrived in theater on 15 July 2013, I encouraged him not to repeat my mistake.

Less than two months later, a car bomb detonated at the Consulate gate and seven Taliban fighters attempted to storm the compound. The MEF dispatched a quick reaction force aboard Ospreys to reinforce the Consulate and provide security as it recovered from the attack. Because I called attention to my failure, my replacement had points of contact, threat assessments, landing zone imagery, and all the intelligence he needed to enable the rapid launch of his squadron’s aircraft.

Doing your job well is a balance of implementing suitable practices while constantly looking for methods to improve upon. Critical analysis of what you have done right *and* what you have done wrong not only helps the Marine replacing you, but it will help you fix the problems before then. When there is no senior air intelligence officer looking over your shoulder, you will often be the only one who can truly hold yourself and your Marines truly accountable.

Integrate With Maintenance

A squadron S-2 who has not integrated their shop with maintenance has not mastered their craft. Maintenance does not need intelligence to know what wrenches to turn on what aircraft. But intelligence can make important contributions to the moral component of the maintenance effort.

Imagine spending an entire deployment fixing aircraft, twelve hours a day, seven days a week, never knowing what those birds are going off to do or what the results are when they return. When big missions go, the wrenches turn twice as hard to get extra aircraft up for the mission and to also fix them when they return.

Instead, letting these Marines know how their hard work is helping the squadron take it to the enemy adds in-

valuable motivation to the daily maintenance grind. Every Marine wants to know how his efforts are contributing to the fight. Knowing that you are turning “down” birds into “up” birds is not enough. A daily intelligence brief during maintenance meetings that shows how their contributions are impacting the enemy is a low-cost, high-payoff contribution.

Additionally, almost without exception, every squadron flight schedule begins with “0730 FOD [foreign object debris] Walk (All Hands).” The squadron gets on-line up at the back of the hangar and marches slowly forward out of the hangar and a hundred yards or so onto the flight line, scanning the ground for FOD that can get sucked into an engine and damage it. It takes ten minutes.

In the two squadrons I have been with, my Marines were the only ones in cammies at FOD walk. This is not a trivial point. The “upstairs” Marines in the S-shops wear cammies (maintainers wear flight suits and coveralls). S-shop Marines sit in climate-controlled spaces all day, while maintenance Marines are sweating it out (or freezing) on the flight line and in the hangar. Worse, S-shop Marines often show up at 0800 (after FOD walk ends) and leave by 1600. It is not uncommon for maintenance Marines to work nights, weekends, or twelve-hour shifts, especially when the squadron is flying a lot.

It is the smallest thing to make your Marines show up at 0725, grab a cranial, and get a little sweaty outside in the early morning humidity. You will probably be the only cammies on the flight line, and people will notice.

Caring about maintenance is less about your role as an intelligence Marine and more about your role as a contributing member of the unit. When your penguins are fighting to stay on that iceberg, these small gestures matter.

Know Your Place

My first CO said, “You have more MOS credibility than most of the pilots here.” He meant that most pilots are in some form of training (gaining new qualifications) until they are senior captains. Air intelligence Marines come

with all of the formal training they need to execute their job.

The intelligence officer also has a direct line to the XO and CO. The majority of captains in any given squadron will work for another captain who works for a major who, in turn, reports to the XO and CO. Despite the intelligence officer’s junior rank, he speaks for the CO on the intelligence staff section and warfighting function.

As a “one-deep” officer, intelligence officers will also have more exposure to broader squadron operations than many pilots. While I was involved in planning every operation we conducted, many junior pilots were involved in planning only one small component, unfamiliar with the broader scheme of maneuver until the final mission brief.

Intelligence officers will also have more leadership experience than some junior captains in the squadron.

Intelligence officers will also have more leadership experience than some junior captains in the squadron (an aviator may have one or two years as a captain before they lead their first Marines). This creates a bizarre mix of experience with junior rank. Captain Victor Tenbrink put it this way:

An intelligence officer at the squadron is without natural peers—you are the only one of your kind and frequently the most junior officer. It is necessary to gain respect, including of the most senior pilots, to effectively perform your job.

It is a delicate balance to strike, and the commandment goes both ways.

Intelligence officers must never forget that while the S-2 sits next to the S-3 and the Maintenance Officer on an organization chart, it is a junior partner in the unit. While any aviator would be a fool to discount the enemy, any intel-

ligence officer would be a fool to ignore the fact that intelligence is but one item on a long list of things important to effective squadron operations. You must know when to assert yourself and when to get out of the way.

You’re Not That Kind Of SME

Pilots regularly designate subject matter experts (SMEs) in certain areas (e.g., “AIM-120 SME” or “Aircraft Survivability Equipment SME”). But this just makes that aviator the *relative* SME in the unit. It does not denote true *expertise*. They are careful to be the conduit to the true SMEs and not confuse a knowledge management tool with special qualifications. In the same sense, the S-2 is the *relative* threat SME for the unit, but not a true threat SME with *unique* expertise. Additionally, with some exceptions, your pilots will (or should) have very little interest in your analysis of threat *capabilities*. The segment of the intelligence community focused on air threats is filled with experts who have been working their respective target areas for longer than most of us will spend in uniform. Many air threats rely on highly-technical systems exploiting complex math, science, and engineering principles to make their systems work. These intelligence community SMEs often have advanced degrees in these subjects.

Therefore, when it comes to threat *capabilities* (distinct from situational assessments), “VMM-264 S-2 assesses (insert scenario)” is a poor substitute for “According to the Missile and Space Intelligence Center (insert scenario).”

None of this is to imply that you should not know the threat cold. You must know what the experts say, but you are not the expert. You are a different kind of SME. Your *unique* expertise is in your unit’s mission and intelligence requirements, in understanding the intelligence resources available, and in tailoring it to the mission and your customers. Without you, that intelligence community SME does not know your mission, and your pilots do not know the intelligence community SME exists.

Your job is to anticipate your unit’s intelligence requirements. As these come from operational requirements,



You have to know where to find the SME for the answers you are looking for. (Photo by Cpl Patrick Osino.)

you must be adept at operational planning to anticipate them. As one of my pilots stated, “A good wingman anticipates what the lead aircraft’s next move will be or what lead needs without being told.” But many answers to your intelligence requirements will have inescapably technical components and should be answered by true threat SMEs. So you must know how to find them and what to ask. Rarely will you be given the information or a product that does not require being reframed or adjusted to fit your unit’s mission; so you must understand the material in order to safely tailor it. You are, therefore, expected to be a SME in your unit’s mission and a SME in the resources available. Capt Tenbrink put it this way:

True professional nirvana is achieved when you know more about the tactical employment of the aircraft than any copilot and more about threats than anybody whatsoever in the squadron.

Among other elements of the MAGTF, you must be the acknowledged SME for intelligence factors that impact the ACE. He continues:

Frequently, your command element (CE) S-2 will not have the background to be able to offer detailed analysis on an IADS. So don’t let them try. It will not be hard to sell, even to the CE S-2,

that all things ‘air intel’ are your domain. This will take a lot of production and briefing requirements off the CE S-2. When the MAGTF Commander directly requests assessments from the ACE S-2, you are doing your job right.

The only way to do this is to train for it. Injecting yourself into aviator training (while not getting in the way) trains yourself, your Marines, and your pilots. It builds trust, demonstrates competence, and ensures intelligence is not an afterthought. In this, your squadron’s pilot training officer (PTO) and WTIs are your first stop.

Think beyond the Squadron

Ironically, the best squadron intelligence officers often end up focusing beyond their squadron. As they try to improve their shop, they cannot help but look at the entire “kill chain” of intelligence support (training, personnel, processes, resources, etc.) with a critical eye. Inevitably, they conclude that the things that will improve their S-2 can improve S-2s at other units as well.

These Marines do not stop at developing a new intelligence support technique, they write a how-to guide and ensure the rest of the community is aware of it. Such work does nothing to help themselves; they already under-

stand the technique and how to employ it. But they want to see others make *new* mistakes, not the same old ones.

Because this is so rarely done, intelligence officers who do so will very quickly gain a reputation as the “go to” person. This *community* focus will almost never make it into an award or fitness report. In many cases, the aviators may not be aware of it, understand it, or even care. But the Marines who feel compelled to make the community better, despite this, are often the ones who hold themselves to the highest standards of intelligence support.

The Bottom Line

These all boil down to two tenets: be a competent intelligence Marine and achieve a deep understanding of integration with your unit. This can be said of nearly any occupational field in the Marine Corps, so while those tenets are comprehensive, they are not adequate by themselves.

I have little doubt that others will modify a few of these commandments, remove some, and add others. Every squadron S-2’s experience will differ, but all of these lessons should more or less apply and may certainly be applicable to other intelligence fields or other MOSs entirely. But at minimum, this should provide future squadron S-2s a starting point and some guidelines for figuring it out themselves, as we all must do to some extent or another.

Notes

1. Commander Naval Air Forces, *NAVMC 3500.11E MV-22B Training and Readiness Manual*, (Patuxent River, MD: 2018); Commander Naval Air Forces, *Air Naval Tactics, Techniques, and Procedures 3-22.3-MV22 Combat Aircraft Fundamentals*, (Patuxent River, MD: 2017); and Commander Naval Air Forces, *A1-V22AB-NFM-000 NATOPS Flight Manual Navy Model MV-22B Tiltrotor*, (Patuxent River, MD: 2018)
2. President of the United States, *Manual for Courts-Martial*, (Washington, DC: 2019).

>Editor’s Note: This article is a continuation of Capt Denzel’s articles on professionalizing air intelligence that ran in the January 2016, May 2017, March 2018, and September 2018 issues of the Gazette.



Air Intelligence Is a MAGTF Critical Enabler

Let's resource it that way
by Col Michael Lindemann

Air intelligence elements of the Marine Corps Intelligence, Surveillance, and Reconnaissance Enterprise (MCISRE) are currently inadequate for the fight envisioned in the 2018 National Defense Strategy (NDS).¹ Not only are these units generally inadequate to meet the specific needs required to conduct successful air operations in that fight, shortfalls in air intelligence broadly undermine the effectiveness of the ACE in supporting both the MAGTF and the joint force. When properly resourced and employed, air intelligence can be a critical enabler for MAGTF combat operations against a peer adversary in a multi-domain contested environment. However, absent the investment and operational integration seen across the rest of the MCISRE in the years immediately following 11 September 2001, air intelligence will remain a weak link in the MAGTF chain.

In the wartime years following the 11 September terrorist attacks, Marine Corps intelligence rapidly matured and performed in ways that leaders could have only aspired to achieve in preceding years. New requirements drove a substantial growth in structure, the development of advanced capabilities, and the transformation in how intelligence elements functioned for commanders within their operations. This outcome reflected the necessity of the situation. Combat operations against determined foes in places such as Afghanistan and Iraq demanded effective intelligence. Anything less resulted in reduced op-

"The Joint Force must be able to strike diverse targets inside adversary air and missile defense networks to destroy mobile power-projection platforms. This will include capabilities to enhance close combat lethality in complex terrain."

"Investments will prioritize ground, air, sea, and space forces that can deploy, survive, operate, maneuver, and regenerate in all domains while under attack. Transitioning from large, centralized, unhardened infrastructure to smaller, dispersed, resilient, adaptive basing that include active and passive defenses will also be prioritized."

—National Defense Strategy

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erational effectiveness and avoidable casualties in some cases. However, the nature of the counterinsurgency and counterterrorism fight did not stimulate the equivalent maturing of Marine Corps air intelligence capabilities and their operational employment. At most, this conflict prompted the MAGTF to

become more proficient in employing aerial ISR capabilities available from the joint force and the modest resources of the ACE.

As a result, the intelligence personnel structure, systems capabilities, and operational integration within the ACE substantially lagged or atrophied rela-



Enemy positions were provided to the ACE during Exercise BOLD ALLIGATOR, May 2017. (Photo by LCpl Koby Saunders.)

tive to counterparts in other elements of the MAGTF and various intelligence disciplines. Even worse, while intelligence was viewed as integral to other aspects of the fight, a 2011 RAND study titled *Alert and Ready* noted a “vicious cycle in aviation: intelligence not well prepared to support aviators; aviators view intelligence as irrelevant.”² Arguably, an equally difficult perspective to overcome is the complacent belief that receiving a few geopolitical briefs and regular presentations regarding threat weapons systems is the hallmark of a good air intelligence section. Although there have been several notable improvements in subsequent years, both as a community and as a functional area, Marine Corps air intelligence is currently not postured to support mission accomplishment within an airspace contested by a peer threat.³

As the Marine Corps assesses the implications of the NDS and designs the future force, it should address this deficiency in air intelligence. Because MCISRE air intelligence is only one element of several interrelated war-fighting systems, it is possible to draw incorrect conclusions by trying to identify specific requirements for MCISRE air intelligence directly from the NDS. Any consideration for specific air intelligence requirements must be made

within a broader context of how the future MAGTF will contribute to the joint force and how the ACE will likewise evolve to support that MAGTF. Since that framework is itself subject to the upcoming force design review, this article is anchored in the following three assumptions:

- The Marine Corps will prepare to engage in multi-domain operations against a peer threat.
- The Marine Corps may substantially change the overall composition of the MAGTF, but the Corps will remain committed to the fundamental proposition that an enduring competitive advantage is its ability to provide task forces that integrate combat elements for command and control (C2), ground, air, logistics, and information warfare.
- The MAGTF will be committed to future battles before the joint force has established air superiority or substantively reduced the threat of long-range missiles.

With these assumptions in place, there are broad tenets regarding the role of air intelligence which clearly align to the guidance of the NDS. These tenets are also applicable to current and emerging concepts for joint force employment and the upcoming Marine Corps force design effort. If properly resourced and

integrated, air intelligence will contribute to the ACE and MAGTF role with in the NDS by embracing the following arguments.

Make the ACE more lethal and survivable. Marine Corps concepts to operate within the threat of advanced enemy integrated air defenses dramatically increase the demands on air intelligence to support mission planning and execution. This also includes both the offensive and defensive aspects of ACE operations in the information environment. These requirements are additive to existing intelligence requirements associated with addressing low-altitude threats to close air support and assault support missions.

Contribute to ACE capability for forward force maneuver and posture resilience. Air intelligence capabilities and capacity are integral to the implementation of Marine Corps concepts for distributed operations, expeditionary advanced base operations, and advanced naval bases. Even while attempting to minimize the overall “footprint” at any given site, these concepts will necessitate a net increase in the aggregate intelligence capacity to provide adequate capability and posture resilience across a distributed force.

Make the ACE and MAGTF more agile and adaptive. Tactical agility for the ACE includes building an increased capacity for dynamic targeting and cooperative engagements that support high-tempo operations in complex terrain. It also includes consideration for potential increases in reactive requirements that are infrequently exercised at scale, such as intelligence support for the recovery of downed aircraft and personnel. Being operationally adaptive includes building sufficient capacity that can be realigned when mission requirements change. In one scenario, there may be increased intelligence requirements associated with supporting the Marine Corps’ air control group in performing sector air defense coordinator responsibilities.

Provide the MAGTF and the joint force with situational awareness and predictive analysis regarding threat air and air defense. These aspects of air intelligence become increasingly important to the entire MAGTF when

the enemy poses a credible offensive air support threat or possesses advanced air defenses that challenge freedom of action for MAGTF offensive air support and assault support. The larger the overall effort in terms of the size of the battlespace, the quantity and capability of threat forces, and the diversity of domains contested, the greater the need to expand existing modest air intelligence capabilities within the MAGTF.

Present the combat reporting and sensor data of the ACE to the MAGTF and potentially the broader joint force and intelligence community. The ACE is gaining dramatically increased capabilities to sense the battlespace. While most of these sensors have the primary purpose of assisting the lethality and survivability of aircraft or helping with airspace control, nearly all are capable of generating data of potential intelligence value. This capability becomes increasingly important if the majority of theater-level ISR assets are unable to operate within contested airspace. While ACE sensors may not all be “tasked,” as is the case with traditional ISR collection management, there will be a continued need to manage how the battlespace and intelligence requirements are covered by sensors, assemble and manage the vast databases and sensor feeds, and identify signatures and patterns of interest to translate into combat information and intelligence reports the MAGTF and joint force can act on.

Having affirmed the criticality of air intelligence in enabling MAGTF multi-domain operations against a peer adversary, force design also entails the evaluation of required capabilities and capacity for air intelligence. MAGTF air intelligence efforts can be broadly grouped into three categories: support to planning and debriefing of each air mission (or sortie), support to the broader ACE-level operations planning and execution, and support to MAGTF and joint force operations planning and execution.

Mission-level support is typically accomplished at a squadron-level or group-level flightline intelligence center. This support is exercised infrequently at the scale or tempo associated with actual combat operations. In the case

of 3d MAW, there are approximately 300 aircraft assigned across 4 MAGs. In a combat situation, these MAGs will likely generate between 250 and 400 sorties per day, with the potential to surge to over 600 when needed. To support this requirement, the MAGs and subordinate squadrons are assigned a total of approximately 200 intelligence Marines; however, they are typically staffed at lower levels ranging from 160 to 180 Marines. This level of staffing was adequate during the last eighteen years where the primary air threat was man-portable surface-to-air missiles and optically guided guns, and ACE aircraft operated from a few consolidated airbases. Despite this, the current staffing model is inadequate to meet the challenges of the emergent threat and resulting *Marine Corps Operating Concept*.⁴

A significant increase in the MAGTF capacity for mission-level air intelligence integration is required to mitigate enhanced threat capabilities, increase ACE collection of intelligence-related combat reporting and sensor data, and support employment of aircraft from distributed, dispersed, and frequently shifting bases. It is important to note that because mission-level intelligence support is directly linked to aircrew interaction, it generally must be physically co-located. These numbers also do not address intelligence support to establishing and operating air bases (expeditionary advanced bases through major airfields) or sector air defense. While there are a small number of Marines associated with the Marine wing support group and Marine air control group responsible for these missions, they are not staffed to address these tasks in the type of conflict envisioned in the NDS.

ACE-level operational planning and execution is typically associated with the MAW G-2 and its air combat intelligence section as well as the few intelligence personnel of the Marine air control group. Extending the previous example, 3d MAW G-2 assigned structure includes just over 40 all-source intelligence officers and Marines in addition to nearly 15 geospatial and signals intelligence analysts. With this pool of personnel, the MAW G-2 must assign

representatives to support the operational-level planning of MAGTF air operations, to C2 airspace and air operations by the agencies of the Marine air C2 system, and to perform a variety of critical underlying intelligence functions. This structure is adequate to replicate key functions for limited periods of time such as in an exercise (which typically only replicates a fraction of the activity), combat reporting, and intelligence traffic associated with the simulated conflict. For actual combat operations against a peer adversary, this structure is demonstrably inadequate to perform critical functions in the face of the substantially greater volume and velocity of information as well as the level of detail necessary to support the wing-level tasking, support, and assessment of combat operations across an extended battlespace.

During most exercises and current real-world operations, only a couple of Marines are available to maintain situational awareness of threat air defense as well as threat air locations and activities. Looking to future conflicts, where the MAGTF may face threats such as multiple highly mobile advanced surface-to-air missile battalions and peer-threat air forces capable of offensive air support, there will be a demand to develop and maintain the greatest possible situational awareness of that threat. Solving this challenge will entail additional personnel to supplement awareness provided in the theater common intelligence picture by closely tracking multiple other sources of sensor data, combat reporting, and intelligence updates to maintain the greatest fidelity of current situational awareness for the MAGTF.

The ability to develop enhanced situational awareness will be of limited value if the threat cannot be quickly targeted. The intelligence section's inability to substantively support targeting at the scale and tempo associated with combating a peer threat is another pronounced shortfall. Currently, the ACE does little targeting and target development. Its role in targeting is to strike targets directed by the joint force or MAGTF. To accomplish this role, the ACE still employs a modest target intelligence section to assist with the

assignment of specific targets to each air mission. It must ensure executing units have current intelligence regarding the disposition of each target and track initial battle damage assessments to support reattack decisions. In a fight where the MAGTF operates in a contested airspace, the ACE must identify which shaping fires (lethal and non-lethal) are necessary to set conditions for planned operations. The effects of shaping against a peer threat likely will be temporary because of a combination of active efforts by the enemy to present a robust and resilient air defense threat and our own reliance on a mix of destructive and disruptive means to temporarily gain access to a given airspace. Based on these factors, there will be an increased demand for rapid target analysis and target development to support high-tempo ACE operations and accomplish MAGTF objectives in the deep battle.

The scale of emerging air intelligence requirements cannot be solved solely through the allocation of more personnel; it will necessitate a comprehensive approach. Inherent in this solution is the need to develop air intelligence personnel with the expertise to address increasingly technically and tactically complex aspects of these requirements, properly equip them, and integrate them into operations and realistic exercises. There are no panaceas that sidestep the need to increase the allocation of personnel to match the increase in mission. The following alternatives will assist, but not resolve, this shortfall:

Reliance on the joint force and intelligence community. Any intelligence operation has inherent dependencies on the foundational data, ongoing collections, subject-matter expertise, advanced tools, and assessments of the intelligence community. Intelligence agencies often provide support teams to assist with the integration of their capabilities with tactical formations. However, these teams generally are not assigned to conventional units below flag-level commands. Any move to request robust air intelligence teams from a Service or national agency to support the needs of each MAGTF will come with a corresponding sourcing require-

ment back to the Marine Corps. Similarly, while the MAGTF must leverage air intelligence provided by the joint intelligence operations centers and air operations centers, they are not structured to provide any of the mission-level intelligence integration and only a fraction of that associated with ACE-level operational requirements.

Additional intelligence Marines will be needed to manage the resulting collection of huge volumes of content ...

Reliance on MAGTF assets. There are multiple models for a division of labor between intelligence elements within a MAGTF. Increasingly, the ACE is viewed as a contributor of air intelligence to the MAGTF and MC-ISRE. There is an argument to be made whether air intelligence is better performed by units organic to the ACE or sourced by an intelligence battalion and radio battalion. Regardless, it is a moot point as the intelligence battalions have previously evidenced a modest capacity to meet even initial growth in air intelligence requirements. The radio battalions recently gained an air support platoon for the primary purpose of supporting F-35B/C squadrons, which is a start, yet this is an incomplete solution.

Increased integration of automation and machine learning. The application of machine learning technologies to assist with tasks such as threat recognition, sensor cross-cuing, and automated report generation is not likely in the near term to significantly reduce personnel requirements so much as to increase the demand to use everything available. Additional intelligence Marines will be needed to manage the resulting collection of huge volumes of content and leverage the capabilities of Marine-machine teaming to exploit the value it offers to the ACE, the MAGTF, and the joint force.

Potential conflicts envisioned in the NDS necessitate that the MAGTF possesses air intelligence capabilities that are substantively greater than what is available today. At the risk of oversimplification, the shift in air intelligence requirements is analogous to the differences between supporting a battalion attacking a single objective with three company maneuver units and supporting the same unit conducting numerous squad-sized infiltrations to attack multiple objectives. Most importantly, air intelligence is not “just” about intelligence, nor is it exclusively for the ACE. Air intelligence contributes to the ACE’s integration within and support to the MAGTF. If the MAGTF intends to operate within the threat of peer-level air and air defense forces, it will also need greater air intelligence capabilities. Likewise, air intelligence will serve as a key enabler for the MAGTF’s sensing of the information environment and ACE participation in MAGTF operations in the information environment. While air intelligence will not be the driving consideration in Marine Corps force design review, there needs to be a well-resourced paradigm shift to recognize air intelligence as a key enabler for multi-domain operations by all elements of the MAGTF against a peer adversary.

Notes

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Accurate Intelligence

Case studies for future warfare

by Maj Jeff M. Brewer

The notion that a president exercises command and control during times of national crisis or when the Nation is at war is a truism that most take for granted as a given feature of our American system. However, the main corollary to that truism is that a president's command and control capability is directly and wholly related to the amount of evaluated, timely, accurate, and useful information he has at his disposal. Even if he possesses information of this quality about a given situation, a president and his closest advisors must exercise good judgment—or else the country can be led to ruin. The counterinsurgent experiences in both Vietnam and Afghanistan suggest either the National Security Council—and others pledged to keeping the president informed—*underperformed* in serving the executive adequate and timely information or the executive and his decision-making cadre did not always make sound decisions during the course of those two conflicts. These two case studies are instructive in the context of the Great Power competition. In these two cases, played against relatively lesser powers, failure to convey accurate intelligence—or failure to forcefully question accepted sentiments about a conflict—led to poor decisions but arguably survivable consequences. In the future operating environment, escalatory actions—driven by inaccurate intelligence or half-baked analysis—will likely lead to negative, even catastrophic, strategic consequences.

With regard to Vietnam, the information sources for Presidents John F. Kennedy and Lyndon B. Johnson were men of renown and accomplishment. It was counterinsurgent guru Gen Edward Lansdale's January 1961 report on the situation in Vietnam that cemented the idea of enhancing American support for

South Vietnamese President Ngo Dinh Diem. Lansdale, a general in the U.S. Air Force and a veteran of covert operations, had worked in the Saigon mission during the Eisenhower administration and had recently concluded his latest fact-finding tour of South Vietnam just prior to Kennedy's inauguration. As an acknowledged expert on Vietnam, his findings—written in conjunction with the Saigon Embassy's country team staff—assert that the Viet Cong were attempting to conquer South Vietnam that very year. Lansdale and the country team believed they were positioned to succeed unless immediate actions of encouragement and comprehensive

aid from the American Government arrived in time to support the South Vietnamese government. When Kennedy's National Security Council's Southeast Asian specialist, Walt Rostow, insisted the President read Lansdale's report, Kennedy obliged; in late January, Lansdale even pitched his report personally to Kennedy. The consequences were immediate. Based on vivid and accurate information in the report about the dire situation in South Vietnam, the President directed that South Vietnam be made to accept the country team's basic counterinsurgency plan; a comprehensive program of anti-communist initiatives aimed at buttressing Presi-

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We shouldn't send them into combat without first knowing that our sources of information are credible and not disjointed. (Photo by Cpl Thomas Miller.)

dent Diem's government in the eyes of his own people. He then directed the creation of an executive task force on Vietnam that would regularly review current counterinsurgency operations of the Saigon Embassy's country team "to determine changes and emphasis" as needed.

Interestingly, in the same Department of State document that created the Task Force,¹ the President also moved to lift all restrictions on the numbers of U.S. military personnel in Vietnam.

When Vice President Johnson was dispatched to Saigon in May 1961 to meet with President Diem, the South Vietnamese president—coincidentally or not—asked for U.S. combat forces for direct training purposes, ostensibly to bolster the development of 20,000 new South Vietnamese troops. In October, according to author David Rothkopf, and a former Deputy Under Secretary of Commerce for International Trade Policy in the Clinton administration, the President's envoy of GEN Maxwell Taylor and Walt Rostow concluded an imperative for "expanding U.S. operations in the region from covert intrusions into neighboring states or the north to bombing missions."² The Taylor-Rostow report findings gained wide support among the President's coterie of advisors, despite the sole vociferous opposition of Under Secretary of State George Ball. Within a year, 11,000 combat troops were serving as advisors in Vietnam.

On this initial decision to intensify American involvement in Vietnam, President Kennedy can be applauded for soliciting many opinions on the subject from the moment he took office to the decision to escalate in late 1961. The quality of information making its way to the President and his closest advisors was of the depth and degree of accuracy that approaches perfection; a cursory read of several documents from the Department of State's Office of the Historian "Foreign Relations of the United States, 1961-1963," (Washington, DC: 1963) leaves no doubt that this was a man who actively solicited and was served the best information. The fact that South Vietnam was besieged by a worsening economic crisis, political

incompetence, and coordinated guerrilla subversion on a national scale was not in doubt, and in not one briefing did the President underestimate any of these afflictions.

Rothkopf and other writers argue that the decision to enhance American involvement in South Vietnam was a case of "groupthink" between Kennedy and his advisors. After all, only Ball resisted the decision for escalation and war. However, the charge is a bit specious. Groupthink is normally leveled at a group that adopts a position and then holds to that position despite evidence or reports clearly undermining that position; dissenters are normally ostracized. In this instance, groupthink did not occur at all. Ball was not arguing that Vietnam was not in peril. Rather, he argued about what our course of action should be in response. At this point in American history, the American foreign policy establishment's commitment to the containment theory directed us to war on behalf of South Vietnam, not

the massive amounts of countervailing information suggesting escalation was a mistake; rather, America purposefully went to war because credible sources of information and acknowledged experts believed, sincerely, that the whole of Southeast Asia would be jeopardized by the refusal of the United States to counter the communists in South Vietnam.

In comparison to the evaluated, timely, and useful information presented to President Kennedy, the information served to President Bush and his predecessor in the aftermath of 11 September 2001 led to a disjointed campaign to oust the Taliban from power before conducting effective counterinsurgency in the ensuing thirteen years. Early on, the execution of the "Tenet Plan" (named after then-Director of Central Intelligence, George Tenet) led to Americans on the ground in Afghanistan—commanders and special forces operators alike—doling out millions of dollars to remnants of the Northern Alliance on the assump-

At this point in American history, the American foreign policy establishment's commitment to the containment theory directed us to war on behalf of South Vietnam, not groupthink.

groupthink. Vice President Johnson certainly captured the containment sentiment best in his memorandum briefed to the Cabinet upon his return from Vietnam in late May 1961:

The price of the failure to make the sacrifices now in Viet Nam will be paid for later in the increased jeopardy to the United States and other free nations. The failure to act vigorously to stop the killing now in Viet Nam may well be paid for later with the lives of Americans all over Asia.³

Whether the war's ultimate defeat had more to do with the execution of military strategy or a failure in actual policy, it cannot be doubted that America went to war not because it stumbled into Vietnam with bad information or in spite of

tion that money could stitch together enough non-Pashtun Afghans to help oust the Taliban. This was the method of co-opting Afghanistan's anti-Taliban elements. With the help of American airpower, success was ours in December 2001—or so it seemed. Articles and books are replete with accounts of how ill served America's Cabinet, war council, and President were with regard to an accurate account of the situation in Afghanistan. Following the mid-December 2001 taking of Kabul, with securing our limited gains and even attempting to consolidate the formative power of the Northern Alliance with our main quest, the United States continued to execute the Tenet Plan of buying off unsavory non-Pashtun warlords regardless of whether other

non-Pashtun tribes—much less the Pashtuns—could tolerate them. The alternative to the gigantic payola scheme was, according to author and former Central Intelligence Agency analyst Michael Scheuer, to “retrieve, collate, and use” the “checkables” of basic intelligence:

those parts of a problem that were knowable, the things on which there were classified archival records, pertinent and available human experience, current human assets to consult, or even the results of media and academic research ... to exploit to exhaustion ... to learn the problem’s history and context, determine precisely what we already knew, establish the range of things we knew little or nothing about, and, thereby, identify the information we needed to acquire before acting to resolve the problem.⁴

Had those tasked with serving the President the information needed to craft sound policy vis a vis Afghanistan, we would not have—for starters—ensconced Hamid Karzai in Kabul. Karzai and the warlords empowered to support his regime were completely lacking the bonafides required to rule Afghanistan. Karzai and most of his underlings did not fight against the Soviets, were not living or resisting in Afghanistan during the Taliban’s rule, and were decidedly Islamic-lite. Scheuer acknowledges that the most debilitating feature of these men, certainly at the outset of the effort to win the counterinsurgency in Afghanistan, was their non-affiliation with the numerous numbers of non-Taliban Pashtun mujahedeen who had teamed with the Northern Alliance to fight the Taliban prior to September 2001. Scheuer quotes an account from Steven Simon and Daniel Benjamin’s 2002 book, *The Age of Sacred Terror*, when describing the failure of U.S. leaders to consult the “knowables” as they searched for a stalwart for the Afghan presidency:

The U.S. leaders seem to have completely ignored these men, apparently agreeing with the tragically ill-informed conclusion of two former senior National Security Council

terrorism officials that “the most Islamically radical Afghan commanders, Adbul Rasul Sayyaf and Gulbuddin Hekmatyar ... [were] men who were both vicious and ineffective leaders.⁵

Going back further to the beginning of the Soviet-Afghan war, the U.S. Government’s covert action program to support the mujahedeen succeeded in creating a vast network of military professionals majoring in dozens of areas

Tomorrow’s peers can punish incompetence in seconds ...

of expertise, including topographical analysis, demolitions, logisticians, and knowledge on how to train and advise cadres. However, while they should have been consulted, it is apparent they were not. These were the folks, along with already well-developed databases of information and encyclopedic intelligence, in place to provide what Scheuer calls,

The fundamental facts and the esoterica of Afghan society, history, tribalism ... on the country’s demography and topography, and on the role of the country’s multiple ethnic and sectarian groups and their at-time-vicious rivalries.⁶

As a consequence, the American Government and its instruments of power—namely the U.S. military—developed strategies and tactics that operated largely from false premises regarding Afghan society. On the sidelines were people equivalent to Edward Lansdale who might have corrected course, but these experts were not consulted early or often enough.

In future conflicts, and in the context of the Great Power competition, decision makers’ access to timely and accurate information is as important as it ever was—perhaps even more so. The stakes in potential conflicts with China or Russia will have less room for

error, and failures will have fatal consequences. Marines must be the George Ball and the Michael Scheuer in the room: men and women who provide the devil’s advocacy, the alternative futures analysis, or the annoying but essential download of treasure-trove human terrain intelligence in an effort to dispel key assumptions and find the truth of the matter. Mistakes in the opening stages or during actions on the objective will imperil the entire campaign, as the rapidity of maneuver and fires are infinitely more advanced than what Afghan tribesmen or Vietminh guerrillas could ever deliver. While certitude is next to impossible, the military profession owes it to political leaders and the Nation to provide a sober analysis that includes—rather than omits—key sources of intelligence and raw information. Tomorrow’s peers can punish incompetence in seconds and ensure American recovery or counteraction is executed at a decidedly tactical or operational disadvantage.

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Relations with China

Perspective of defense
by MGSgt Andy B. Anderson

In the 21st century, China is a rapidly rising power that challenges the United States in all aspects of international relations.¹ Under President Barack Obama, the United States generally welcomed the rise of China and sought a constructive relationship to enhance the prosperity and security of both nations.² By contrast, President Donald Trump's administration identifies China as a long-term strategic competitor.³ Furthermore, the

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Thucydides Trap theory warns about the unavoidability of a war between the rising power (China) and the established power (the United States).⁴ The rising power's demand for influence

and respect triggers insecurity from an established power; consequently, potential conflicts become possible.

The Chinese pursuit of hegemony, namely Indo-Pacific regional hegemony in the short-term and global hegemony in the future—based on its growing expansionism as well as its military modernization, represents the primary issue of concern for the United States. According to the theory of realism, a hegemon is a “state that dominates all other states in the system.”⁵ In other words, a leading power that achieves hegemony is the one that projects its power onto the other states in its sphere of influence. China is increasingly challenging America's hegemony in Asia. Thus, in order to check China's expanding influence, containment executed through strengthening U.S. alliances, developing new partnerships, and rebuilding our military forces is the best course of action in such circumstances. Containment is a defensive strategy that serves as an alternative to war.⁶ First, I must delineate the issues of concern in the complex security environment between the United States and China.

Issues of Concern

The 2018 National Defense Strategy classifies China as a revisionist power, a state that is trying to alter the established balance of power in the “resilient, but weakening, post-WWII international order.”⁷ A rising China strives for hegemony through its expansionism, which is defined as a policy focused on territorial or economic expansion.⁸

Chinese expansionism. Although China tries to pacify the international community about its growing power, its expansionist actions affirm the revisionist pursuit of its desire for hegemony. For the past few years, assertive Chinese policies in the Indo-Pacific region have



CIA map of China. (Map provided by author.)



We will need strong partnerships and alliances within the region. (Photo by LCpl Christian Robertson.)

challenged not only the territorial status quo but also the rule of international law in territorial disputes.⁹ In so doing, China strives to undermine the current international order and its underlying principles. For example, China escalated the East China Sea disputes by declaring an “air defense identification zone” over Japan’s Senkaku Islands in 2012 and by sending its fishing boats and powerful military forces into that area in 2016. In the South China Sea, the country has denied the Philippines access to the Scarborough Shoal and has drilled oil near the contested Parcel Islands while ignoring Vietnamese protests about its historical claims to the area.¹⁰ Moreover, in 2014, China reclaimed land near the seven reefs under Chinese control in the Spratly Islands. By turning these artificial islands into military bases, the country has established the foundation for control over the South China Sea, the primary pathway between the Indian and Pacific Oceans that carries about one-third of international maritime trade.¹¹ These actions demonstrate China’s disregard for international law and its willingness to proceed with its unilateral goals while intimidating other countries in the region. Such moves cannot only hinder U.S. alliances and partnerships but also reduce our capability to project influ-

ence in Asia. An emboldened China can also pursue its strategic interests outside the Indo-Pacific region as it continues to undermine U.S. dominance globally.¹²

Military modernization. Following the strategies of past hegemonies, China is rapidly modernizing its military. China’s pursuit of hegemony replicates its behavior under the Qing imperial dynasty (established in 1636 and ruling China from 1644 to 1912), which

Containment represents the best strategy in preventing Chinese hegemony and convincing Beijing to change its behavior.

conquered “all of modern Xinjiang, and Mongolia, and reached Tibet.”¹³ Accordingly, contemporary China proves that it still believes in expanding its influence through the use of military force. For instance, over the past few years, the country has not only increased the rate of its military spending but also reformed its military organizations. Furthermore, the country’s army has enforced the doctrine of anti-access/area denial, which limits the effectiveness of U.S. deployed forces.¹⁴ The country has built coast guard vessels to control

its maritime territory and improved its conventional ballistic missiles, which can threaten U.S. naval ports and airbases in the region as far as Andersen Air Force Base in Guam.¹⁵ To proceed with its plans for global hegemony, China opened its first military base in Djibouti in 2017, with the probable intentions of building more military bases on the East African coast.¹⁶ Therefore, such military modernization increases Chinese capabilities to constrain the efforts of not only the U.S. military but also the attempts of its allies and partners to maintain both a regional and global balance of power. Chinese expansionism and military modernization represent crucial matters of concern for the United States.

Recommended Actions

Containment represents the best strategy in preventing Chinese hegemony and convincing Beijing to change its behavior. The doctrine of containment was developed during the Cold War to counter Soviet Union efforts to increase its influence and spread communism outside its borders.¹⁷ Similarly, the United States can utilize such a strategy to alter China’s plans through strengthening alliances and developing new partnerships, as well as rebuilding its military forces.¹⁸

Strengthen alliances and develop new partnerships. A network of robust alliances and partnerships is required to sustain the U.S. military advantage in its long-term strategic competition with China. Acting as a revisionist power, China undermines the U.S. system of alliances and partnerships by either calling for a new “Asian security architecture” or trying to draw away U.S. allies, such as the Philippines and South Korea, by deliberately cultivating closer relationships with these countries.¹⁹ Thus, the United States should

enhance its efforts to reassure its allies and partners about its commitment to defend them against Chinese expansionism. For example, the United States can stop being neutral in the sovereignty disagreements in the South China Sea; it can help other states to reclaim their land, build military bases, and conduct joint military exercises, and it can sell them more sophisticated weapons to deter potential interventions. Such efforts will reinforce the ability of U.S. allies and partners to protect essential waterways and maritime chokepoints from Chinese incursions.

The United States may also negotiate new agreements with states in the region to possibly obtain access to the Itu Aba Island (under control of Taiwan), the Spratly Islands (under control of Vietnam), and the Thitu Island (under control of the Philippines).²⁰ Such moves by the United States should pressure China to choose between its pursuit of hegemony and possible conflict against a strengthened U.S. alliance in Asia. Moreover, India could become a new powerful partner for the United States in balancing China within the Indo-Pacific hemisphere. India's trust deficit with China because of its relationship with Pakistan, its defeat in the 1962 Sino-Indian war, continuing border conflicts, and the rivalry over limited natural resources also challenges the stability of the region.²¹ Thus, a strong relationship with India would be ideal in the pursuit of containment.

Rebuild military forces. To supplement the first recommended action, the United States must rebuild its military forces to improve its warfighting readiness and sustain its global influence. Containment does not necessitate the war against China; nevertheless, "war is always a possibility."²² Therefore, improved war preparedness can either assist the United States in its strategy of containment or prevail in the case of a potential war. Similar to China, the United States should undertake a major military modernization program.²³ For example, among many priorities, the modernization of its nuclear forces can help counter the aggressor's coercive strategies based on the threatened use of nuclear weapons or strategic non-nu-

clear attacks. The further advancement of command, control, communications, computers, intelligence, surveillance, and reconnaissance network systems can also hinder the Chinese anti-access/area denial military strategy. In other words, while rebuilding its military capabilities, the United States not only reassures its allies and partners about the durability of its military primacy but also prevents China from further seeking hegemony. Increased investment in the buildup of U.S. military forces in the region can also benefit the strategy of containment and persuade Beijing to alter its current geopolitical course.

Conclusion

This analysis, from the perspective of defense, discusses concerns and recommends courses of action regarding the current state of the U.S.-China relations. A rising China strives for both regional and global hegemony through its expansionism and military modernization. The best course of action in such circumstances is a strategy of containment. The United States also needs to be aware that China not only denies the revisionist classification but also argues that the country defends its regional status quo from the United States threatening posture.²⁴ Thus, to reduce the Thucydidean risks in the long-term strategic competition with China, the United States must improve its understanding of how China's policymakers view their country's position in the world as well as its core national interests.

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Tomorrow's Leader

Military genius or artificial intelligence?

by MAJ Dana M. Gingrich, USA

Artificial intelligence has the untapped potential to sharpen a leader's battlefield intuition and cut through the fog of war. Tomorrow's leader must understand and leverage artificial intelligence to enhance strategic decision making. However, the machine will not replace the military genius.

Carl von Clausewitz theorized on *military genius* in *On War* after witnessing Napoleon's battlefield prowess at the Battle of Jena in 1806, a battle in which the French *Grande Armee* captured more than 15,000 Prussians—including Clausewitz.¹ Clausewitz defines military genius as the combination of intelligence and temperament demonstrated by wartime leaders. A military genius has the power find out truth amid chaos.²

Leaders close to Napoleon exuded military genius through the synergy of three factors: *coup d'oeil* (battlefield intuition), strength of mind, and pres-

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ence of mind.³ Is it naïve to think that these characteristics cannot be replaced by radically evolving technology? While artificial intelligence (AI) may heighten the leader's battlefield intuition and strengthen the leader's mind, it cannot replicate the leader's temperament. Tomorrow's military genius must harness AI to develop innovative strategies for the multi-domain battlefield while respecting the inherent limitations of computer decision making in warfare.

Coup d'oeil and Determination

In 2015, Google's DeepMind Artificial Intelligence Lab sought to develop a computer program to learn the Chinese

board game *Go*, more than 2,500-years-old and widely considered the world's most complex strategic board game. Mathematicians argued that *Go* has 2×10^{170} different possible combinations of moves and strategies—far more than any computer could efficiently process.⁴ However, within only two years, the DeepMind computer program, AlphaGo Zero, defeated the *Go* world grandmaster, Ke Jie, two games in a row, evidencing the power of advancing technology.

The competition yielded two amazing outcomes. First, the computer taught itself. After researchers coded the *Go* rules into the program, AlphaGo Zero determined the optimal strategy by playing itself over 4.9 million times, learning from its experience. Second, and most importantly, AlphaGo employed strategies that no human player had ever considered.⁵ Does that not suggest AI's superior *coup d'oeil*?

According to Clausewitz, developing the optimal strategy is not enough; the military genius must also reflect on the outcome of that strategy and act decisively to adjust when necessary.⁶ Ke Jie, the *Go* grandmaster, relied on intuition that was rooted in thousands of hours of experience and proven success. Even so, he suffered defeat as a result of AI's superior strategy. In the very next match, however, Ke Jie put aside his strategy for the computer's intuition. He proactively adjusted his strategy, becoming unpredictable and forcing AlphaGo to react. Ke Jie proved his determination and genius by employing the newly discovered approaches against the very computer that created the winning strategy.⁷

AlphaGo could teach itself because computer scientists codified the rules of the game. Ke Jie also understood the rules and deduced the logic behind



The computer will not replace the human mind's ingenuity. (Photo by Cpl Laura Mercado.)

AlphaGo's innovative decision making. In the same way, military leaders need to understand that any instrument of AI has been programmed to some extent by humans. Without knowing the rules, the leader may not always understand the logic behind a computer's recommendation. Future military leaders will be challenged when AI prescribes a strategy that countermands the recommendation of the proven battle staff. What if AI proves to develop superior military strategy consistently; will you, as tomorrow's leader, have the courage to trust your own intuition and military genius to make a different decision?

When considering AI's superior intuition, tomorrow's leader must also consider the inherent limitations of defining all necessary parameters for a wartime scenario. Ke Jie could confidently accept AlphaGo's strategy because he fully understood the rules by which the computer made decisions and the desired end state of the game. AlphaGo developed strategy based on the programmed optimization criteria. War is not that precise. The military defines end-state with respect to friendly forces, enemy forces, terrain, and civilians. AI can generate vastly different strategic approaches depending on the prioritization of these end states. This does not mean that the different approaches are irrelevant, but it does create an inherent risk to blindly accepting AI's solution. Considering this limitation, the military leader must have the confidence to determine the ultimate strategic approach.

While the military genius must embrace AI for superior *coup d'oeil*, he must still exhibit the courage to accept the decision-making responsibility.

Strength of Mind

Douglas Lenat, a Stanford University professor in computer science, decided to participate in *Traveller*, a well-known naval war game competition in Silicon Valley, CA. The war game provided a budget for each team and more than 140 factors to consider when creating its fleet. The teams could allocate funds for whatever attributes (armament, protection, maneuverability) they deemed

crucial for their fleet to survive and win.⁸

Lenat did not have military experience and was competing against highly respected strategists from across the political-military spectrum. He did, however, understand the power and capabilities of AI. Lenat developed a computer program, "Eurisko," to consider the value of all factors when determining the optimal strategy. "Eurisko" ran thousands of simulations while learning the strengths and weaknesses of different fleets. It then calculated the optimal size, speed, and lethality of the naval fleet given the constrained budget. Lenat entered the competition with a 96-ship fleet of small, defensible vessels. The average competitor had twenty well-armed, technologically advanced warships. "Eurisko" lost 50 ships in one round; its competitor lost 19. "Eurisko"

... the machine will not replace the military genius.

achieved an overwhelming victory.⁹

Lenat competed with "Eurisko" again the following year. The *Traveller* commission wanted to prevent the computer from winning decisively, so they did not release the game parameters until the week before the competition. The updated rules placed a greater importance on maneuverability than protection. In that week, "Eurisko" developed a new strategy that resulted in scuttling its own damaged ships to maintain tempo and speed. "Eurisko" achieved victory and was asked not to compete again the following year.¹⁰ This war game took place in 1982.

Strength of mind as described by Clausewitz is "the ability to keep one's head at times of exceptional stress and violent emotion."¹¹ Developing a strategy that demands scuttling friendly vessels or results in losing 50 percent combat power hardly seems palatable. A commander who experiences significant casualties or decides to sink friendly vessels would likely be under exceptional

stress; understandably, that commander may also begin to experience doubt in his strategy and resolve.

Clausewitz uses the analogy of a ship's compass to describe the commander's strength of mind. No matter how rough the seas, the commander's judgment must stay true.¹² As "Eurisko" loses 10, 20, 30 ships in the first war game, it does not feel stress or violent emotion. The computer objectively determines the optimal way to achieve the end state, given the current means. AI provides the commander an impartial assessment of the strategy, thereby piercing through the psychological impact of war.

AI provides recommendations unaffected by emotion; this impartiality strengthens the future leader's mind and enhances military genius.

Presence of Mind

The computer's unflinching objectivity is also why the machine will not replace the military genius. There are moments in battle when the emotional toll wears a human down. The soldiers have lost their will, and the commander must carry the unit forward on his will alone. Clausewitz calls this *presence of mind*.¹³

In November 1950, seven Chinese divisions attacked the 1stMarDiv at the Chosin Reservoir. Situated in mountainous terrain atop the Manchurian heights in North Korea, the Chosin Reservoir reached temperatures of minus 40 degrees that winter. Marines in Col "Chesty" Puller's regiment recalled, "The cold made men want to quit and give up—made it hard to want to fight and live for another day."¹⁴ Frozen to the bone and surrounded by the enemy, the Marines did not quit. In fact, Col Puller and Gen O.P. Smith led a breakout, saving the 1stMarDiv and rendering four Chinese divisions combat ineffective.

Even if AI had provided the *coup d'oeil* that confirmed Inchon as the optimal location to conduct an amphibious envelopment of the Korean Peninsula, and even if AI had strengthened the mind of Gen Smith and Col Puller during the Chinese attack at the Chosin Reservoir, it would not have been enough. The Marines needed Gen Smith and Col Puller present to make



Tomorrow's leaders will have to understand technology, its capabilities, and how it can be effectively employed. (Photo by LCpl Alexis Betances.)

remarks such as, "Retreat, hell, we're just attacking in another direction."¹⁵ Their will alone carried the Marines through the battle.

The Marines did not need computer assurance; they needed a military genius.

The Technology Is Here, So What Is to Be Done?

Leveraging AI to improve decision making is not a new concept. Although the *Traveller* commission asked that Douglas Lenat no longer compete, he immediately received funding from the Defense Advanced Research Projects Agency. A version of "Eurisko" has been helping to identify terrorist networks for 25 years.¹⁶ However, the proliferation of AI makes this period in history a strategic inflection point. Tomorrow's wars will be fought and won using AI. Therefore, tomorrow's leaders must understand the technology and leverage AI to retain the advantage.

Leaders should start with *coup d'oeil* by using AI to generate ideas on how to fight the next war. Douglas Lenat and Google's DeepMind were neither expert strategists nor did they know how their AI algorithms would respond. In each scenario though, AI developed strategies never considered before by world experts. The U.S. military is at

the threshold of another frontier to determine how to synchronize space, cyber, and multiple domains to avoid decisive conflict or to defeat potential threats. AI should inform our strategic options. AI can develop innovative ideas for how to fight and win in this new era of warfare, just like "Eurisko" and AlphaGo. Geniuses, like Ke Jie, learn from the computer and adopt AI's strategy as part of their own intuition. Tomorrow's leaders must demonstrate the same genius by learning from AI and incorporating the ideas into future warfighting strategy.

Are there ethical questions to be pondered in all this? Just because we can use AI to develop innovative strategies to fight and win, should we? This will be the enduring question at every step when incorporating technology in the new era of warfare. Moral and ethical decision making must still be coded into the machine by a human. What if our adversaries are willing to program different rules? What are the implications then for our potential to win? The answers to these questions may suggest why the computer should not replace the military genius, who must understand the second and third order implications of AI enhanced decision making, and its effect on the U.S. ethical principles of war.

Human intelligence will not be enough for tomorrow's battlefield. AI has the power to enhance intelligence and intuition, but intellect alone was not sufficient for Napoleon in 1806 nor will it be sufficient for tomorrow's leader.

Notes

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Logistics Intelligence is Broken

by 1stLt A.J. Olson

Throughout their career, nearly every logistician has spoken the timeless phrase, “Amateurs talk tactics, professionals talk logistics.” Over the history of warfare, few statements have consistently been proven entirely true. With this in mind, why are we not arming the portion of our ranks entrusted with this task to the best of our abilities? To date, we have neglected the unique intelligence demands of the LCE. The logistician has known none the better while their intelligence sections accepted a cursory understanding of their customer as the benchmark for success. This article is not another ground intelligence officer pining over the loss of the scout sniper platoon he never took charge of. This is an article focused on a solution by equipping the LCE with the intelligence officer it deserves.

Opponents might say, “Lieutenant, Ground Intelligence Officers are meeting the needs of the LCE. If it is not broken, why fix it?” This comfort with institutional mediocrity is insulting. While the Marine Corps has turned many battles through the non-traditional employment of its assets, this is not one of those occasions. At present, LCE intelligence is undistinguished. This is because of its essence being derivative of the GCE approach to intelligence vice a pragmatic method geared toward the needs of the logistician. Some might say ground intelligence officers do satisfy the needs of the LCE; however, upon a complete examination, there are scores of intelligence gaps left by the square peg that was placed in the round hole.

These same opponents then say that these young, inexperienced ground intelligence officers need only attend the Logistics Intelligence Planner’s Course (LIPC): a five-week course designed to immerse the junior ground intelligence officer into logistics. LIPC is structured to parallel the Intermediate MAGTF Logistics Operations Course (IMLOC). LIPC leaves much to be desired. First to mind is the course’s purely unclassified environment. Moreover, the course has no geospatial intelligence Marines on its staff to advocate for their community’s use. This is especially troubling given geospatial intelligence’s cornerstone role in creating intelligence for the logistician. While the course does give the students a repetition at the ill-defined physical network analysis, it fails to accomplish what is most necessary: a holistic understanding of the customer. This tepid grasp on the customer is indicative of the root-cause logistics intelligence faces. While LIPC generates forward momentum through its attempt at teaching physical network analysis, it treats only a symptom

of the greater problem. This issue is frequently represented by intelligence officers who do not understand their customers and logisticians who, having never observed the benefits of intelligence, lack a motive to pursue it.

In blatant opposition to the generalist vice specialist approach of the Marine Corps, this begs the question: what would a logistics intelligence officer provide that a ground intelligence officer does not? In order to draw these distinctions, let us first look at how we breed ground intelligence officers. First, he attends the Infantry Officer Course, then the Scout Sniper Unit Leader Course, then the Tactical Intelligence Officers Course, and finally the Ground Intelligence Officers Course. Through these courses, Training and Education Command aims to provide to the Fleet Marine Force a lieutenant who excels in tactical-level adversary capabilities, has a base-level understanding of intelligence disciplines, is capable of employing scout snipers as a collections asset, and—if need be—can carry out the duties of a line platoon commander. While these are undoubtedly impressive capabilities, they just as certainly do not lend themselves to success in the LCE. Just as an air intelligence officer would not be on a trajectory for first tour success in the GCE, the ground intelligence officer is also set to falter in the LCE.

The ideal logistics intelligence officer has an understanding of the functions of logistics beyond just transportation. Specific to intelligence, they must be an officer who incisively employs the full range of capabilities that geospatial intelligence Marines can provide. They must analyze the physical network and potential nodes through the lens of a logistician. They must then weigh them against each other to provide logisticians an actionable recommendation. They must have an intrinsic understanding of weather effects on roadways, beaches, airfields, and the battlefield at large. Much like a ground intelligence officer, a logistics intelligence officer ought to be able to command a motor transportation platoon with ease. However, above all, the logistics intelligence officer must be someone with a passion for it. Not only is the ground intelligence officer not trained to support the logistician, he plainly does not have the passion for it.

Altogether, the MCISRE is falling short within the LCE. The cost of this has been a needless disparity between the logistician and the MCISRE. While symptoms may be treated through other means, the only lasting solution for logistics intelligence is to provide it with a purpose-built officer who has a passion to meet their customer’s needs.



At the Chosin Reservoir

reviewed by 2dLt Ryan Casey

A lieutenant in the Marine Corps, Joseph R. Owen, offers an astonishing personal account of combat from the individual Marine infantryman's perspective. Owen articulates a dramatic account of Baker Company, 1st Bn, 7th Marine Regiment's (Baker 1/7) experience in the Chosin Reservoir. He describes how the Marines were "functioning at a primal level: they ate, slept, and fought, and they tried to get warm." The members of Baker 1/7 were miserable; day-in and day-out, they fought again the cold and a deadly enemy.

The Peoples Republic of Korea (North Korea) invaded South Korea on 25 June 1950. During this time, the young officer and his family were lounging on the beaches of Camp Lejeune, NC. Owen, a veteran of World War II, returned home to go to school at Colgate University and ac-

>2dLt Casey is assigned to 3d Platoon, Fox Company, 2d Bn, 23d Marines.

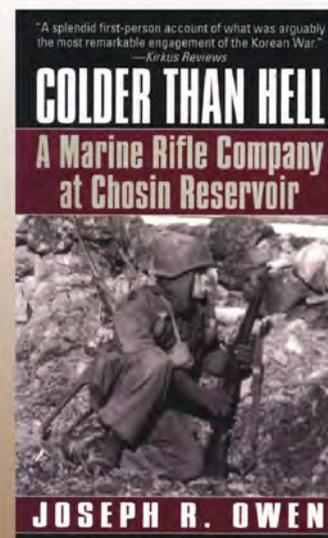
The primary message of the book is to always be prepared for the worst. This theme is laced in every sentence of the foreword written by Gen Raymond Davis, a Marine Corps Medal of Honor recipient and Owen's battalion commander during the Korean War. The General's remarks conclude with an injunction for all military leaders, stating, "Let us do all we can to ensure no future generation of young Americans need to go to war unprepared as were those heroes who went to Korea in 1950."

Owen's began his quest to prepare his unit for war immediately after checking into Baker 1/7. He had more than a few leadership challenges; he

... he explains the struggles of molding his men into combat ready infantryman, and this is when the book's second theme is revealed: willpower conquers all.

cepted a commission in the Marine Corps. He admits that no one took the threat of North Korea seriously, and they were not prepared to go to war. All of a sudden, the young lieutenant found himself on a train to Camp Pendleton, CA, with orders to Baker 1/7—a newly formed unit comprised of both "regulars" (active duty) and reservists—assigned as a mortar section leader.

explains the struggles of molding his men into combat ready infantryman, this is when the book's second theme is revealed: willpower conquers all. The author knew that he had five weeks to train these men and prepare them. The young lieutenant was not going to let their contentment win; they were going to be trained, whether they liked it or not. The trials and tribulations he and his unit faced pro-



COLDER THAN HELL: A Marine Rifle Company at Chosin Reservoir. By Joseph R. Owen. Annapolis, MD: Naval Institute Press, 2012
ISBN 9781557504166, 274pp.

vide readers with valuable insights into warfare's "human element."

Colder than Hell an account of leadership lessons that happened nearly 70 years ago, could not be more applicable today. The setting in June 1950 is the same setting in which the Americans find themselves today. The themes of the book must be tied into everyday training and instruction to avoid repeating the disastrous mistakes which led to the Korean War. These themes should be internalized by all military officers and SNCOs in today's Marine Corps.



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