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INTELLIGENCE, INFORMATION, CYBER, ELECTRONIC WARFARE, AND SPACE IN THE NEW WORLD ORDER

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Birds of a Feather Flock Together

Animals provide us with a host of lessons learned. My favorite is from a passage in Rudyard Kipling's *The Jungle Book*, "For the strength of the pack is the wolf, and the strength of the wolf is the pack,"¹ displayed on a challenge coin bestowed on me by a now retired all-source intelligence technician chief warrant officer. Every wolf has a role in ensuring the pack's success, and each role is different. These diverse roles deliver a united effort that applies to the Army's newest formation—the Intelligence, Information, Cyber, Electronic Warfare, and Space (I2CEWS) battalion. We do more when operating together than we are able to do alone. This is exemplified by the various roles Soldiers perform when operating in a squad. Each Soldier is a wolf—loyal, committed, and deadly. However, history reveals that in the modern era, wolves cannot survive, much less thrive, without the support and intervention of other creatures that are not wolves.

Leaders prepare their subordinates to operate in their stead, accepting that every individual is replaceable but the function they perform is not. Every military occupation is essential and interdependent with every other occupational specialty in achieving tactical mission success. This is also true of the I2CEWS formations.

The separate fields of intelligence, information, cyber (signal), electronic warfare (EW), and space are employed individually within cylinders of excellence in support of various functions. Similar to the individual wolf, the power of differing individual enablers is multiplied when employed together in the I2CEWS battalion pack. Allow me one more quote, a proverb this time, to underscore the synergy realized by the comprehensive and collaborative employment of the I2CEWS capabilities in multi-domain operations within large-scale combat operations: "If you want to go fast, go alone. If you want to go far, go together."²

Ambiguous Boundaries

Ambiguous boundaries exist between planning, preparing, training, and conducting each separate I2CEWS function. Where does military intelligence (MI) stop and cyber begin? When does information become intelligence? Who coordinates Army Space support to operations for the other I2CEWS elements? The answers are neither clearly delineated nor specified in a single authoritative doctrinal reference. The U.S. Army Cyber Center of Excellence (USACCoE) is the proponent for signal, cyber, and EW. MI used to have proponency for EW, fielding organizations in which MI Soldiers performed EW operations. The U.S. Army Intelligence Center of Excellence (USAICoE) is the

proponent for intelligence, which includes the signals intelligence (SIGINT) collection discipline. While I'm not old enough to have served as an "Old Crow" in the Army Security Agency, I was an "EWok" performing both SIGINT and EW in an EW platoon, Company C, 109th MI Battalion (Combat Electronic Warfare Intelligence [CEWI]), 9th Infantry Division (Motorized).³

ATP 3-19.94, *Techniques for the Multi-Domain Task Force*

This new Army techniques publication (ATP) is under development by the U.S. Army Fires Center of Excellence. The purpose of ATP 3-19.94 is to describe the role, organization, and capabilities of the Multi-Domain Task Force (MDTF). It will primarily focus its discussions on the non-prescriptive ways the commander and staff will perform the missions, functions, tasks, and roles of each warfighting function in support of the MDTF. Included in the discussions is the I2CEWS Battalion. The Fires Center of Excellence expects to conclude critical exercises, ensure the publication nests with FM 3-0, *Operations*, and incorporate all feedback into a final draft of the ATP in late summer/early fall 2021.

While "EWok" was intended as a pejorative nickname the unit ground surveillance platoon members bestowed upon the SIGINT Soldiers, the SIGINT Soldiers embraced it as a recognition of the tactical field craft and operational skills needed to survive combating a numerically superior enemy. The EWoks operated both SIGINT and EW systems when training on the portion of Joint Base Lewis-McChord, Washington, formerly known as Fort Lewis. Practical application of both SIGINT and EW was routine during battalion-sized force-on-force exercises at the training center in Yakima, Washington, and while operating as a brigade-sized opposing force against a U.S. light infantry division's certification exercise at Fort Hunter-Liggett, California. A key lesson learned was the laws of physics dictated that the EWoks could do either SIGINT or EW, but never both at the same time. Well-camouflaged, effectively emplaced SIGINT system passive operations were immediately compromised when the jamming of enemy communications commenced. SIGINT elements were able to mitigate transforming from a passive to an active signature when using radio transmissions to report on enemy activity. Mitigation measures included using terrain-masking and field-expedient directional antennas (built and rehearsed during home station training), and employing brevity codes in very short transmissions. Unfortunately, the initiation of EW operations increased the electromagnetic signature a hundredfold. Like their *Star Wars* namesakes, the Charlie Company "EWoks" felt more secure operating as denizens of the misty, dense

ferns and pines surrounding Rogers Drop Zone, performing only SIGINT missions, rather than in the dry, sparsely vegetated environments of Yakima and Hunter-Liggett where an enemy can easily detect, identify, and engage EW systems.

I Can See Clearly Now the Rain Has Gone⁴

I'm sure it's still raining at Joint Base Lewis-McChord. However, the Cyber, EW, Fires, Intelligence, and Space Centers of Excellence Lessons Learned elements are working together to clear away some of the fog and mist obscuring the authoritative and proponent lanes of the differing I2CEWS functions. Some of you may be wondering how Fires entered this discussion because it is not even in the I2CEWS acronym. The answer lies in something a general officer said when making a plea for MI personnel to revise their situational understanding and purpose: "Intelligence supports fires; fires drives maneuver." When I first heard the general's comment, I thought, "Nope. That's wrong." Luckily, I kept my mouth shut at the time but sought confirmation from several others immediately after the Leader Professional Development session. "Did he really say that? Does he not know that *intelligence drives operations*?" It took me a while to appreciate the intent behind the general's statement. The general was identifying and describing an actual paradigm shift to us. What he said tied to the purpose of the (then) newly established MDTF formation. Reading (and re-reading) FM 3-0, various MDTF concept writings, exercise after-action reports, and our own firsthand lesson learned observations reveals the initially unappreciated wisdom of the general's statement. The general's clarion call of the reordered priority of MI Soldier support addresses the antiaccess and area denial (also known as A2AD) conditions we will face across multi-domain operations within large-scale combat operations. The MDTF has matured since the general's comment. In addition to refining tactics, techniques, and procedures of the various elements, the MDTF gained an I2CEWS battalion. "Don't even think about calling it a CEWI battalion" was the advice of multiple capability developers when discussing the emerging formation.⁵

Like most people, I initially resist change. Take away my M-1911 pistol and give me an M-9 pistol in its place? No, thank you. Now I hear we're moving back to the venerable .45 ACP. Eliminate my rifle's capability to fire full auto by limiting me to burst? Doesn't seem smart to take away a capability that might be needed. Oh, full auto is back? Good. Put an EW jammer on the same platform as SIGINT collection. We tried that before, and I wasn't too keen on being one of the Soldiers on the team tasked to perform both functions at the tactical level. With an assumed (urban myth?) large-scale combat operations life expectancy of 7 seconds after switching from listening to jamming, no one was happier

than the tactical-level EWoks when the U.S. Navy and U.S. Air Force assumed airborne jamming in support of ground operations. Let the communist artillery formations try to take out a grid square when the jammer is moving at hundreds of miles an hour at thousands of feet over the battlefield. Not to mention that the power of a turbofan engine running an EW transmitter greatly exceeds what a ground vehicle slave cable or generator can provide. Even if we were to change the meaning of the letter C from *combat* to *cyber*, CEWI is out, and I2CEWS is in.

tions. The revision also corresponds to each of the phases and across all domains of unified land operations. While the order in which we currently sing the cadence is more rhythmic, the new word order provides a more logical sequence of the traditional exuberant exclamation “communicate, move, shoot...bang-bang!” I hear the reluctant acceptance of *communicate* being the first operation, but there is probably still some resistance to the order of move and shoot. Bear with me as I explain.

Communicate. We (the Army) are an orders-based profession and culture. We don’t unilaterally decide to initiate combat operations. To do so would be illegal as well as putting the cart before the horse. Every operation begins with some type of an order. After receiving an initial order, we continue operations as directed upon receipt of other orders (WARNO, FRAGO,⁷ etc.) or take appropriate action (within the commander’s intent) in the absence of orders. It’s logical then to declare that “communicating” is the first task in implementing an action.

Regardless of which method a leader employs (for example, verbal, text, graphic, or visual), communicating the order will always be the first action.

Move. Once our leaders tell us to begin, we have to go somewhere to do it. Whether we physically move units across the physical domains or enter a few keystrokes to navigate within cyberspace, we move to operate within the boundaries of the associated domains. Only after we arrive at our area of operations can we begin shooting. This may involve putting steel on target or firing electrons across physical or information dimensions.

Shoot. In the midst of these recent changes to the way we operate, a key principle remains intact: the first engagement is always the reconnaissance/counterreconnaissance (recon/counterrecon) fight. Reconnaissance forces seek to gain information on their adversaries, and correspondingly, adversaries seek to thwart us from collecting and communicating information or intelligence. Sometimes the “fight” portion of recon/counterrecon engagement involves the physical effects of munitions, smoke, or decoys. Other times it may involve communications deception, EW, or information



U.S. Air Force photo

A General Dynamics EF-111A Raven at the National Museum of the U.S. Air Force in Dayton, Ohio. The EF-111A Raven, known affectionately as Fat Tails and Spark Varks (the F-111 is known as the Aardvark), served as tactical electronic jamming aircraft in the 1980s and 1990s.

We’ve Been Saying It Wrong All Along

What other terms must we revise to reflect the new world order? I made a mistake. I meant to say new *word order*, not new world order. The technological advances that necessitated multi-domain operations and led to the creation of I2CEWS also drive a change to the Army’s axiom of “shoot, move, communicate.” We’ve heard this phrase a bajillion times in our careers. Say it with vigor: “*shoot, move, communicate!*” How many of you just recited the double-time cadence in your head, ending with the obligatory “bang-bang.” It’s okay, I did it. We’ve been saying “shoot, move, communicate” in the wrong order. Our profession has corrected inaccurate word order for other Army slogans or mnemonics. Initially, I didn’t like the change from OCOKA to OAKOC.⁶ However, rearranging the letters in the order of tactical importance makes sense. The same reasoning applies to shoot, move, communicate. This isn’t my idea. The credit belongs to my colleague Mr. Rick San Miguel, the USACoE Lessons Learned government lead. He recommends the re-ordering of shoot, move, communicate to better align with the manner in which we will conduct multi-domain opera-

operations (including misinformation or disinformation). The modern multi-domain operations engagement shoot function could involve a trigger, a lanyard, a keypad, a dial, or all simultaneously. This is only a slight shift from legacy Cold War tactics and techniques in which forces used electrons in communicating, moving, and to a limited extent, “shooting” electrons in electronic countermeasures (jamming). Current and future engagements will see differing types of shooting in each of the domains in all phases of operations. The modern and future multi-domain operations recon/counterrecon fight will involve cyber, EW, and information effects, with the last category attaining a level of importance unheralded until now.

Information Convergence and Information Dominance

Information Advantage Enables Decision Dominance

Gaining and maintaining the initiative during competition, crisis, and armed conflict largely depends on a commander’s ability to attain an Information Advantage. Maintaining this advantage contributes to decision dominance by enabling superior situational awareness by sensing, understanding, deciding, and acting faster and more effectively than an adversary. How does the Army effectively employ doctrine that enables capabilities, techniques, and activities across all dimensions of the operational environment to gain and maintain the Information Advantage that enables Decision Dominance?⁸

As the Army refines a conceptual framework that is the foundation for information advantage, the USAICoE Lessons Learned team wonders who is ensuring that lessons and best practices are discovered and applied to Army doctrine, organization, training, materiel, leadership and education, personnel, facilities, and policy (DOTMLPF–P)? Each of the Army’s six warfighting functions depends upon, and assumes, we will have an information advantage over our adversaries.

Which one of the I2CEWS force modernization or branch proponents (AR 5-22, *The Army Force Modernization Proponent System*) ensures we are discovering, validating, and integrating pertinent lessons and best practices? Is there a central coordinating authority across the multiple domains and proponents? At the Army and centers of excellence level, the answer is yes. The Center for Army Lessons Learned ensures the cross-function, multiple center of excellence, or branch proponent integration of lessons learned requiring action within DOTMLPF–P.

Lessons Learned Support for I2CEWS Soldiers

The Army’s current lessons learned enterprise lacks a comprehensive unified I2CEWS **Soldier-level** lessons

learned exchange venue. Differing I2CEWS proponent organizations unilaterally discover, validate, integrate, and assess lessons learned from MDTF and I2CEWS training and exercises. Each of the I2CEWS lessons learned proponents routinely shares lessons and best practices with each other, but these exchanges rarely make it down to the Soldiers in the operating force. To address this short-term challenge, one action taken by the Cyber, Intelligence, Fires, and Space Centers of Excellence was to establish an online forum to identify, discuss, and exchange I2CEWS lessons learned and best practices with Soldiers and leaders conducting I2CEWS operations.

I2CEWS Lessons Learned Forum

USAICoE volunteered one of its monthly MI Lessons Learned Forums to serve as the inaugural I2CEWS Lessons Learned Forum. This was an easy decision for us because the forum’s purpose nests within the fiscal year (FY) 2021 training guidance priorities specified by Desert 6, USAICoE Commanding General MG Anthony R. Hale:

- ◆ Objective 1: Build Leaders.
- ◆ Objective 2: Drive Change.
- ◆ Objective 3: Inform.

The premier I2CEWS Lessons Learned Forum on 18 February 2021 leveraged the intent specified in objective 2 of the FY 2021 training guidance—to drive change “through efforts which are inclusive and collaborative, sharing of best practices with other [centers of excellence] COEs, and ensuring we look externally across the Army.”⁹

We developed and conducted the first I2CEWS Lessons Learned Forum to capitalize on these assumptions:

- ◆ Rapidly sharing I2CEWS lessons learned information provides an information advantage and supports decision dominance for I2CEWS and MDTF training, planning, preparation, and readiness.
- ◆ Increased I2CEWS and MDTF Soldier readiness supports multi-domain operations.
- ◆ I2CEWS lessons learned exchanges support a culture of learning and Army readiness by helping to build leaders, drive change, and inform those preparing to conduct multi-domain operations.

Time for the I2CEWS Herd to Be Heard

We consciously strive to keep the lesson and best practice exchanges limited to current conditions and I2CEWS lessons learned from the past several years. While we have identified and integrated EW lessons from the era of CEWI battalions and the past several years of MDTF involvement in warfighter exercises, our focus is on what I2CEWS



U.S. Army photo illustration

The Army is looking to incorporate the Electronic Warfare Planning and Management Tool in the military decision-making process.

Soldiers are learning and applying today. Our first set of firsthand I2CEWS operator lessons learned originates with the I2CEWS battalion's MI company commander. The commander has compiled lessons and best practices from the initial MDTF exercise to the present. These lessons and best practices form the centerpiece of the first I2CEWS Lessons Learned Forum. To participate, contact your respective branch or proponent organizational lesson manager to receive participation instructions. We look forward to the opportunity for the I2CEWS herd to be heard. 🌟

Endotes

1. Rudyard Kipling, *The Jungle Book* (London: Macmillan, 1894).
2. The source of this saying is unclear. Some believe it may be an African proverb.
3. The term Ewok comes from the *Star Wars* trilogy. Ewoks first appeared in the 1983 film *Return of the Jedi* and are a fictional species of small, furry mammaloid bipeds. They inhabit the forest moon of Endor and live in various arboreal huts and other simple dwellings. Wikipedia, s.v. "Ewok," last modified 28 January 2021, 05:08, https://en.wikipedia.org/wiki/Ewok#Return_of_the_Jedi.
4. Johnny Nash, "I Can See Clearly Now," *I Can See Clearly Now*, Epic, originally released in 1972.
5. The combat electronic warfare and intelligence, or CEWI, battalion dates back to 1976. The first of these was the 522nd Military Intelligence

(MI) (CEWI) Battalion, formed at Fort Hood, TX, in 1976 and assigned to the 2nd Armored Division. Ruth Quinn, "522nd MI (CEWI) Battalion passes tactical intelligence test. April 7, 1977," U.S. Army Worldwide News, April 4, 2014, https://www.army.mil/article/123363/522nd_mi_cewi_battalion_passes_tactical_intelligence_test_april_7_1977.

6. The acronym OCOKA means observation and fields of fire, cover and concealment, obstacles, key terrain, and avenues of approach. "OCOKA Military Terrain Analysis," *Vicksburg National Military Park: Cultural Landscape Report* (Atlanta, GA: National Park Service, 2009), 242. OAKOC stands for observation and fields of fire, avenues of approach, key and decisive terrain, obstacles, cover and concealment. Department of the Army, FM 3-0, *Operations* (Washington, DC: U.S. Government Publishing Office, 27 February 2008 [obsolete]), 5-6.

7. Warning order and fragmentary order.

8. Department of the Army, *White Paper on Information Advantage and Decision Dominance*

(working paper, U.S. Army Cyber Center of Excellence, Fort Gordon, GA, 2021).

9. Department of the Army, *U.S. Army Intelligence Center of Excellence (USAI CoE) Training Guidance for Fiscal Year 2021 (FY21)*, memorandum (22 January 2021).

