

Back to Basics with C2

Relearning how to sustain decentralized action in the face of denied C2

by 1stLt Davis R. Vercher

If the Marine Corps is going to evolve the MAGTF to counter future electronic warfare (EW) threats to command and control (C2), basic EW training must be integrated into entry-level officer training at The Basic School. This EW training must specifically be tailored to address the problems that combat arms commanders face when being forced to exercise C2 in an electromagnetic spectrum (EMS) denied/degraded environment. Through the use of studying past examples of EMS denied/degraded combat operations and training exercises, as well as formally including EW in the curriculum for student officers at The Basic School, the Marine Corps will begin to “relearn” how to fight despite EW setbacks to C2.

A 20th Century Threat Made New

The first major modern conflict that we can draw examples of the importance of EW with C2 from is the First World War. During the opening days of the conflict, the German General Staff, or *Oberste Heeresleitung* (OHL), led by Moltke the Younger, was surprised to learn that the planned invasion of France they had spent years developing under Field Marshall von Schlieffen was becoming delayed and derailed by the unforeseen consequences of hindered electronic communications:

Schlieffen [the architect of the invasion] had envisaged a Commander in Chief who would be no Napoleon on a white horse watching the battle from a hill but a ‘modern Alexander’ who would direct it ‘from a house with roomy offices where telegraph, telephone and wireless signaling apparatus are at hand’ ... Here in a comfortable

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chair by a large table the modern commander overlooks the whole battlefield on a map. From here he telephones inspiring words and here he receives the reports from army and corps commanders.¹

Schlieffen had envisioned for the OHL a reality where advanced technology would allow the German General Staff to more efficiently and rapidly execute C2 along the frontage of the invasion

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into France than had ever before been possible in history. A failure to train to fight without this new C2 capability before the war proved to be a heavy point of friction once Moltke’s adversaries began actively using EW to counter German communications:

Reality marred this happy picture ... Nothing caused the Germans more trouble, where they were operating in hostile territory, than communications. Belgians cut telephone and telegraph wires; the powerful Eiffel Tower

wireless station jammed the air waves so that messages came through so garbled they had to be repeated three or four times before sense could be made of them. OHL’s single receiving station became so clogged that messages took from eight to twelve hours to get through. This was one of the “frictions” the German General Staff, misled by the ease of communications in war games, had not planned for.²

Despite decades anticipating and planning for the invasion of France, ignoring the importance of EW to C2 allowed the French to significantly delay and disrupt a German push toward Paris.

More than six decades later, the Marine Corps was facing its first real foray into operating in an electronically denied/degraded combat environment. Following the end of the Vietnam War, where Marines fought in a generally uncontested EMS environment, the general threat of fighting the Soviet Union reemerged and with it came the reality that any direct conflict with the USSR would involve combating their robust electronic attack (EA) capabilities.³ This realization pushed the Army and Marine Corps to conduct large joint training exercises where conventional opposition forces would be able to degrade and deny C2 capabilities of ground and air combat units for an extended period of time over large areas of the battlefield through the use of EA.⁴ Despite tactical proficiency gains made via tough and realistic EW training being conducted at the time to support combat unit’s readiness against a potential Soviet threat, the Marine Corps failed to solidify the necessity that the capability to understand EW be pushed down to the lower, “trigger-puller” levels

of leadership in the MAGTF. By 1990 in fact, the Marine Corps still did not have an effectively robust program put into place to push a legitimate understanding of EW to even the MEU or MEB staff levels of leadership.⁵ Further compounding the problem was the inadvertent neglect EW considerations received from combat arms commanders during almost two decades of counter insurgency operations beginning in 2001.

Because of a relatively unchallenged EMS environment in Iraq and Afghanistan, as Maj Paul L. Stokes explains in his 2016 *Gazette* article, the Marine Corps has lulled itself into a sense of misleading certainty with regard to C2 and must start to retrain itself tactically on how to operate in EMS denied/degraded environments:

The days of unimpeded global MAGTF communications are over, and the time has come for the Marine Corps to relearn how to exercise

command and control ... in a denied/degraded environment ... Commanders and their staffs must also train to operate in a denied/degraded environment because the decentralization of decision-making authority inherent in this concept mitigates the impact of loss of network connectivity. In essence, we, as leaders of Marines, must re-embrace the basic tenet of uncertainty when it comes to C2 because we can never eliminate uncertainty—we must learn to fight effectively despite it.⁶

Just as Marines identified a tactical weakness that needed remediation across the Marine Corps post-Vietnam, so too exists this same weakness that requires that it be addressed and remedied if the Marine Corps is to combat future EW-capable threats.

The Solution So Far

Attempts have been and are currently being made throughout the Marine

Corps to reawaken the subject of EW as it pertains to the combat arms commander and his ability to execute C2. The *Marine Corps Operating Concept* from September 2016, despite mentioning EW only once, does explain that in order to “evolve the MAGTF” and improve C2, “we must ... balance the need to move information across and within a more diverse base of users and producers with the need to reduce vulnerabilities induced by electronic signatures.”⁷ Additionally supporting this slow resurgence into EW and C2, the latest version to the *Marine Corps Concept for Command and Control* (a document written to explore the subject of how future commanders will utilize C2), mentions operating in an EMS denied/degraded environment four times with these mentions explaining each time how vital it is for commanders to train their units to fight in EMS denied/degraded environments if they are to combat future threats to executable

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C2.⁸ Perhaps most importantly though, insight into why commanders at every level need to train to operate in an EMS challenged environment comes from one of our tactical tenets as described in *MCDP 1-0*. *Adapting* is one of the keys to success at the tactical level and consists of both anticipation and improvisation. Successful anticipation requires a commander to “forecast future actions” based on “experiences learned through trial and error in training, exercises, and actual combat.”⁹ Without training to fight when denied use or degraded access to the EMS, tactical and strategic commanders are willingly choosing to rely on discovery learning on the subject when it arises in combat—a mistake paid for in lives.

The Way Ahead

Young Marine leaders, especially combat arms platoon and company commanders, are acutely aware of the constantly evolving need to forecast and anticipate future threats to their Marines and rightfully understand the need to adapt to meet these threats. However, because of the seemingly abstract and highly technical nature of EW, combat arms commanders cannot be expected to be able to legitimately comprehend the art and science of both enemy and friendly EW capabilities and operations if they have no common background on the subject. As explained by Paul Bowen in his November 1990 *Gazette* article, merely designating one staff officer from a MEU or MEB staff as an electronic warfare officer and telling them to “seek out the training” required to legitimately understand EW was not enough to disseminate an understanding to that MEU’s or MEB’s subordinate commanders, let alone the entire MAGTF.¹⁰

Rather than designating one electronic warfare officer at the MEU or MEB staff level and assigning them to self-study the complex world of EW and the countermeasures to adversary EA, a simpler and far more pervasive solution lies in adjusting the curriculum at The Basic School (TBS). Both the Basic Officer Course and Warrant Officer Basic Course consist of approximately 1,500 and 1,000 hours of instruction

spread between 6 and 3 months respectively. Both TBS courses are generally designed to teach all new Marine officers the skills and leadership required to be provisional rifle platoon commanders. That said, none of the periods of instruction for both of these courses mentions EW as a subject or devotes any formal instruction or training on how to operate in a communications denied/degraded environment from

a potential EW-capable adversary. By adding a few hours of formal classroom instruction via academic presentations and case studies, and by altering scenarios during field exercises to include simulated denial of the EMS, student officers will gain a valuable and shared understanding of EW, how it pertains to combat operations, and why they need to be prepared to operate in the face of an EW-capable force in future



Originally upgraded in 1985 to be capable of operating in an EW denied/degraded environment against the Soviets, the M1A1 tank accumulated several C2 upgrades in the last nineteen years before it was divested in 2020. Pictured here is the author’s tank commander’s station and all the cables that supported modern C2 upgrades like the AN/PSN-13 DAGR and FBCB2 “Blue Force Tracker.” These modern C2 systems made the M1A1 an EW liability for a peer threat. (Photo from the author.)

operations. Case studies on both EW success and failure stories at the tactical/operational level can easily be integrated into one- or two-hour packages to aid student learning. A study of Egyptian dominance of the EMS utilizing Soviet technology against the Israelis in the 1973 Yom Kippur War, as well as 2/8 Mar actions during Joint Exercise SOLID SHIELD in 1976, would provide consummate examples of both poor and superior EW actions relevant to the curriculum of TBS.¹¹ By placing these additional two to four hours of coursework into the Rifle Platoon (Phase II) or Rifle Platoon, Reinforced (Phase III) phases of the Basic Officer Course and Warrant Officer Basic Course, the Marine Corps will slowly gain a dispersed and basic understanding of EW throughout the officer corps that can more easily be built on by follow-on training at schools such as Infantry Officer Course,



Pictured is the COC for 1st Tank Battalion during Exercise STEEL KNIGHT 20 in December 2019. Although this COC was successful at C2 of a battalion in an EW denied/degraded environment, conducting C2 in this manner is still not the norm. (Photo provided by the author.)

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Expeditionary Warfare School, or any number of senior-level command and staff schools.

To be sure, there are several large-scale challenges facing our service as we transition to meet the demands of *Force Design 2030*, such as overhauling infantry formations, operationalizing information, and combating adversarial artificial intelligence capabilities. However, altering the curriculum at TBS to include a formal introduction and practice of EW applied to ground combat would be a first step toward addressing this particular growing problem within the Marine Corps. Getting the Marine Corps, especially its tactical and operational combat arms commanders, to relearn lessons on how to dominate an adversary despite being denied unfettered access to the EMS will require a concerted and prolonged effort from all levels of leadership within the Corps. Updating the TBS curriculum is a quick and cheap first step but must be fol-

lowed by larger and undoubtedly more expensive actions. Regardless, if we are going to quickly remedy this deficiency, Marine leaders must take it upon themselves to have a genuine concern for the Marines they lead and devote time and energy toward creatively and effectively combating this growing threat.

Notes

1. Barbara Tuchman, *The Guns of August*, (New York, NY: Penguin Books, 2014).
2. Ibid.
3. Paul L. Stokes, "The Will to Communicate," *Marine Corps Gazette*, (Quantico, VA: September 2016)
4. Ibid.
5. Paul E. Brown, "Basic Electronic Warrior Training," *Marine Corps Gazette*, (Quantico, VA: November 1990).

6. "The Will to Communicate."

7. Headquarters Marine Corps, "Marine Corps Operating Concept," (Washington, DC: September 2016).

8. Headquarters Marine Corps, *Marine Corps Concept for Command and Control*, (Washington, DC: September 2015).

9. Headquarters Marine Corps, *MCDP 1-0, Marine Corps Operations*, (Washington, DC: August 2011).

10. "Basic Electronic Warrior Training."

11. Richard A. Stewart, "Electronic Warfare: Realities and Readiness," *Marine Corps Gazette*, (Quantico, VA: July 1980); and E. L. Gunn, "A Marine Battalion Succeeds in EW," *Marine Corps Gazette*, (Quantico, VA: July 1977).

