



**MILITARY INTELLIGENCE
PROFESSIONAL BULLETIN**

JANUARY

JUNE

2024

COLLECTION



A Mission Command Meditation: Intelligence Intent and Guidance

by Lieutenant Colonel Matthew Fontaine

This article is part one of a two-part series on employing mission command within the intelligence warfighting function.

Introduction

Commanders personally drive the operations process using the mission command approach; the best ones do, anyway. The increasing lethality of the modern battlefield, primarily from the proliferation of novel or advanced information collection systems combined with more capable long-range precision fires, will place an ever-greater premium on competent leaders who provide timely intent and guidance, drive processes, and empower their dispersed subordinates to make decisions and accept risk.¹ The mission command approach demands personal involvement in the military decision-making process and during all planning stages.

Just as commanders must drive the operations process, senior intelligence officers must *intuitively* co-drive the intelligence process with commanders during the execution of dynamic large-scale combat operations. (Doctrinally, the commander drives both the operations and intelligence process.)² The days of the senior intelligence officer having the luxury to *oversee* assembly line-like intelligence production within a large command post are in the past.

Senior intelligence officers must meditate on their role and the ways they can *uniquely* contribute to assist commanders in driving the intelligence and operations processes. Senior intelligence officers can maximize their value if they—

- ◆ Embrace the mission command philosophy.
- ◆ Sense intuitively and act appropriately.
- ◆ Build sensemaking capabilities.³

The Primary Role of the Senior Intelligence Officer

During war, the Army expects its commanders to “drive the operations process through the activities of understanding, visualizing, describing, directing, leading, and assessing operations.”⁴ The staff’s part in the commander-centric operations process “is to assist commanders with understanding situations, making and implementing decisions, controlling operations, and assessing progress.”⁵ The senior intelligence officer’s *primary role* is to “provide the commander the most complete and timely intelligence available. . . . that enable[s] commanders to make timely and relevant decisions.”⁶

The senior intelligence officer must execute two simple functions to accomplish their primary role during operations. First, the senior intelligence officer must communicate the most complete and relevant intelligence available directly (face-to-face) or electronically to the commander. Second, for it to be timely, the information transmitted must keep pace with the commander’s decision-making process—preferably, well ahead of changing conditions on the battlefield. It sounds simple, but as Carl Von Clausewitz reminds us, “everything in war is very simple, but the simplest thing is difficult.”⁷

The Future Battlefield

New or forecasted adversary capabilities and anticipated conditions of the future battlefield will challenge the senior intelligence officer's ability to execute their primary role. The increasing threat of enemy precision or massed long-range fires against command posts will necessitate greater tactical dispersion of forces.⁸ Senior intelligence officers cannot expect to direct all elements of the intelligence cell in person at one geographic location or to have routine face-to-face contact with the commander at a command-and-control node.

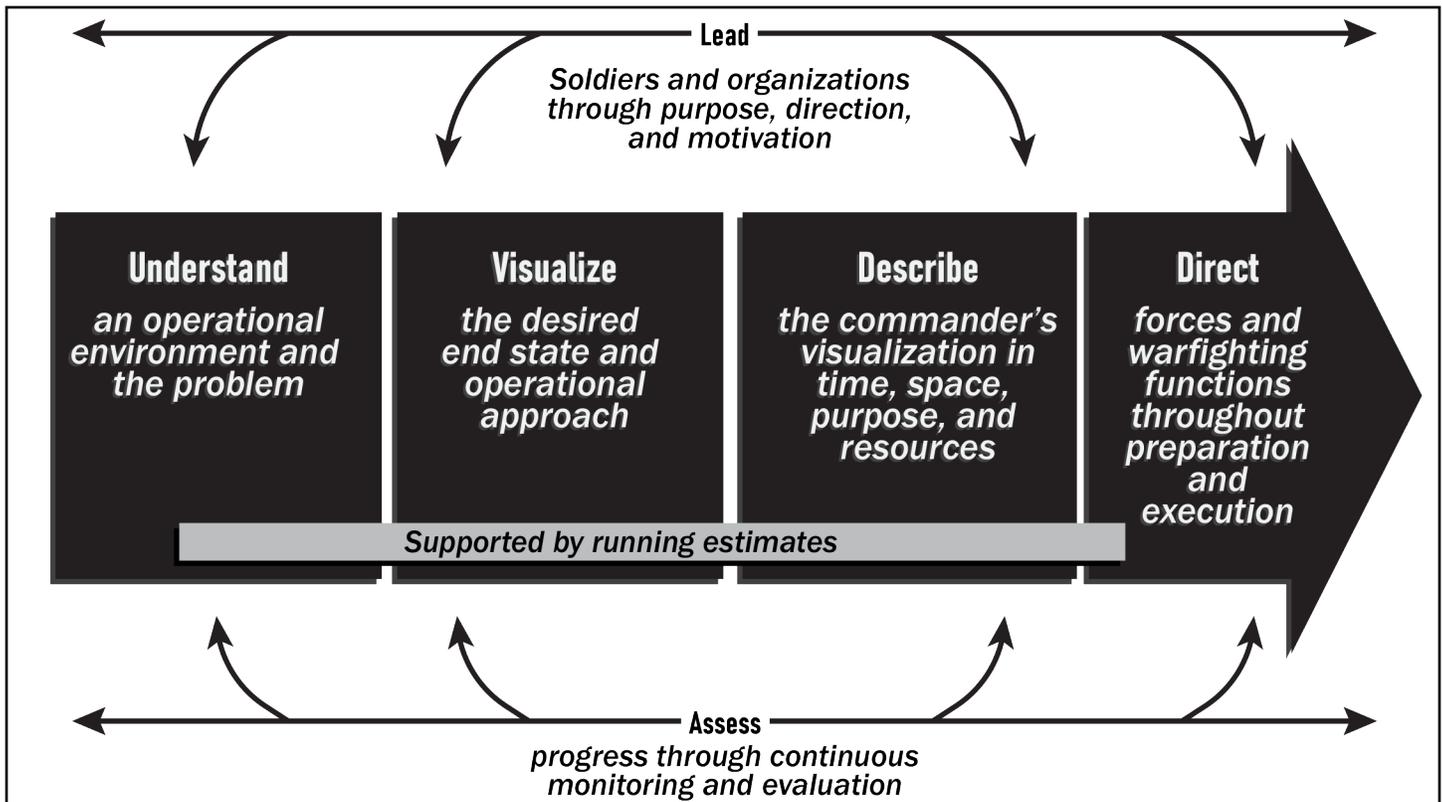
Our adversaries can contest electronic communications, meaning Army forces must be capable of operating in denied, degraded, intermittent, and low bandwidth environments.⁹ Senior intelligence officers must plan for disrupted communications rather than a continuous flow of intelligence. They will have to adapt to a future of periodic updates from the intelligence cell.

Furthermore, large-scale combat operations are inherently high-tempo, uncertain affairs where conditions can change rapidly, and leaders will struggle to keep pace.¹⁰ Modern sensors further compound the mental bandwidth challenge. These sensors provide an "increasingly powerful firehose of data" capable of overwhelming the senior intelligence officer and intelligence cell's processing capability.¹¹ Despite these challenges, the senior intelligence officer must support the commander's activities to understand, visualize, describe, direct, lead, and assess operations while also seizing opportunities to effectively mitigate risks.¹² See figure below.

If the senior intelligence officer cannot communicate electronically or transmit data to the commander, they must be with the commander. Commanders must "assess the situation up front as often as possible,"¹⁴ so the senior intelligence officer should also operate and lead from up front. This arrangement is nothing new. What is new is the contested communications environment, the risk of destruction when emitting an electromagnetic signal, and the increased requirements of tactical dispersion. In this operational environment, the senior intelligence officer must know and understand the complete intelligence picture because when forward with the commander, there is no guarantee that communications with subordinate intelligence personnel will be possible. The senior intelligence officer must also develop effective ways to lead, guide, and collaborate with the intelligence cell in this challenging environment. They will find themselves in an unenviable position—required to provide the commander with relevant intelligence in a rapidly changing situation with contested access to their dispersed analytic bench that is processing ever greater feeds of data.

Fully Embrace the Mission Command Philosophy

To overcome the anticipated challenges of large-scale combat operations, the senior intelligence officer must adapt how they lead by fully embracing the mission command philosophy. One way they can uniquely influence the intelligence process is by adopting and modifying mission command tools long used by commanders: the commander's intent and planning guidance. However, before we can discuss the intersection of mission command philosophy with the



The commander's role in the operations process¹³

intelligence warfighting function, we must first understand the commander's unique role within mission command and the importance of competence.

Mission command empowers subordinate leaders to take the initiative in dynamic situations where dialogue with the commander is not possible and to act within the boundaries of the commander's intent to accomplish the desired end state.¹⁵ The mission command philosophy's emphasis on intent and initiative makes it particularly advantageous to overcoming the challenges faced in war. Its successful implementation requires a high degree of leader and team member competence.¹⁶

Highly competent Army leaders provide and align "purpose, direction, and motivation" among their subordinates.¹⁷ Using the mission command approach during large-scale combat operations, a commander codifies purpose and direction in their intent, which is doctrinally defined as "a clear and concise expression of the purpose of an operation and the desired objectives and military end state."¹⁸

The commander typically issues planning guidance in addition to their intent, key tasks, and end state.¹⁹ Planning guidance provides the commander's approach to the mission, may outline initial courses of action, and "reflects how the commander sees the operation unfolding."²⁰

Critically, commanders "often address conditions for *transition*" to spur planning for follow-on operations within their intent.²¹ The commander's intent and guidance ensures the mission can continue even if communications become degraded, command posts are destroyed, or the commander is incapacitated.²²

Subordinates expect their leaders to provide purpose, direction, and motivation. The obligation of leadership underscores why the commander's intent and planning guidance is so important. It is the commander's *unique* means to communicate with subordinates and staff their vision for accomplishing the unit's objectives. It is something only they can provide. If these mission command tools are so powerful, isn't it time for senior intelligence officers to fully leverage them within the intelligence warfighting function?

The Senior Intelligence Officer's Intelligence Intent and Guidance

Senior intelligence officers can take the commander's intent and planning guidance to produce something I will label the *intelligence intent and guidance*. This is a concise, *structured* addendum to the commander's intent and planning guidance that adds additional depth and clarity specific to the intelligence warfighting function based on the senior intelligence officer's experience, judgment, and expanded access to the battlefield and senior leaders. It complements the commander's intent and planning guidance and is a nested staff

version of what subordinate commanders do after receiving their higher headquarters end state. The intelligence intent and guidance is the senior intelligence officer's tool to conceptually frame topics, such as the concept of intelligence for the operation, anticipated enemy options or transitions, and collection guidance.

The Purpose. While the information in the intelligence intent and guidance may change, its purpose remains the same. The intelligence intent and guidance should—

- ◆ Ensure unity of purpose within the intelligence warfighting function, even if tactical dispersion and limited communications reduce interaction between the senior intelligence officer and the intelligence cell.
- ◆ Enable better and more rapid integration and synchronization of intelligence and collection assets.
- ◆ Incorporate the senior intelligence officer's experience and often unique situational awareness.
- ◆ Serve as a common point of reference that is easy to update during degraded communications between the senior intelligence officer and the intelligence cell.
- ◆ Guide future intelligence activities to support disciplined initiative if the situation (or plan) deteriorates and contact with the senior intelligence officer is impossible.
- ◆ Set the conditions to "predict, preempt, or prevent" enemy action.²³

Ten Questions. The 10 questions are a way to rapidly examine the commander's intent and planning guidance and develop the intelligence intent and guidance. It includes any initial thoughts on predicting, preempting, or preventing the enemy action most likely to place the unit at risk of not achieving its desired end state. The intelligence intent and guidance should provide a concise visualization and written narrative of what the enemy is doing, will do, and could do because of friendly actions. Key intelligence intent and guidance components should address these 10 questions:

- ◆ What is the enemy doing now?
- ◆ What is the enemy commander's intent, key tasks, and end state?
- ◆ How might the enemy commander achieve their desired end state in the immediate to near term?
- ◆ What could the enemy commander and higher headquarters do to improve their chances of success in the immediate to near term? Identify options and branches.
- ◆ What will the enemy commander and higher headquarters do if they fail to achieve their objectives? Identify sequels. For example, failure options.
- ◆ What will the enemy commander and higher headquarters do if they achieve their objective? Identify sequels. For example, exploitation options.

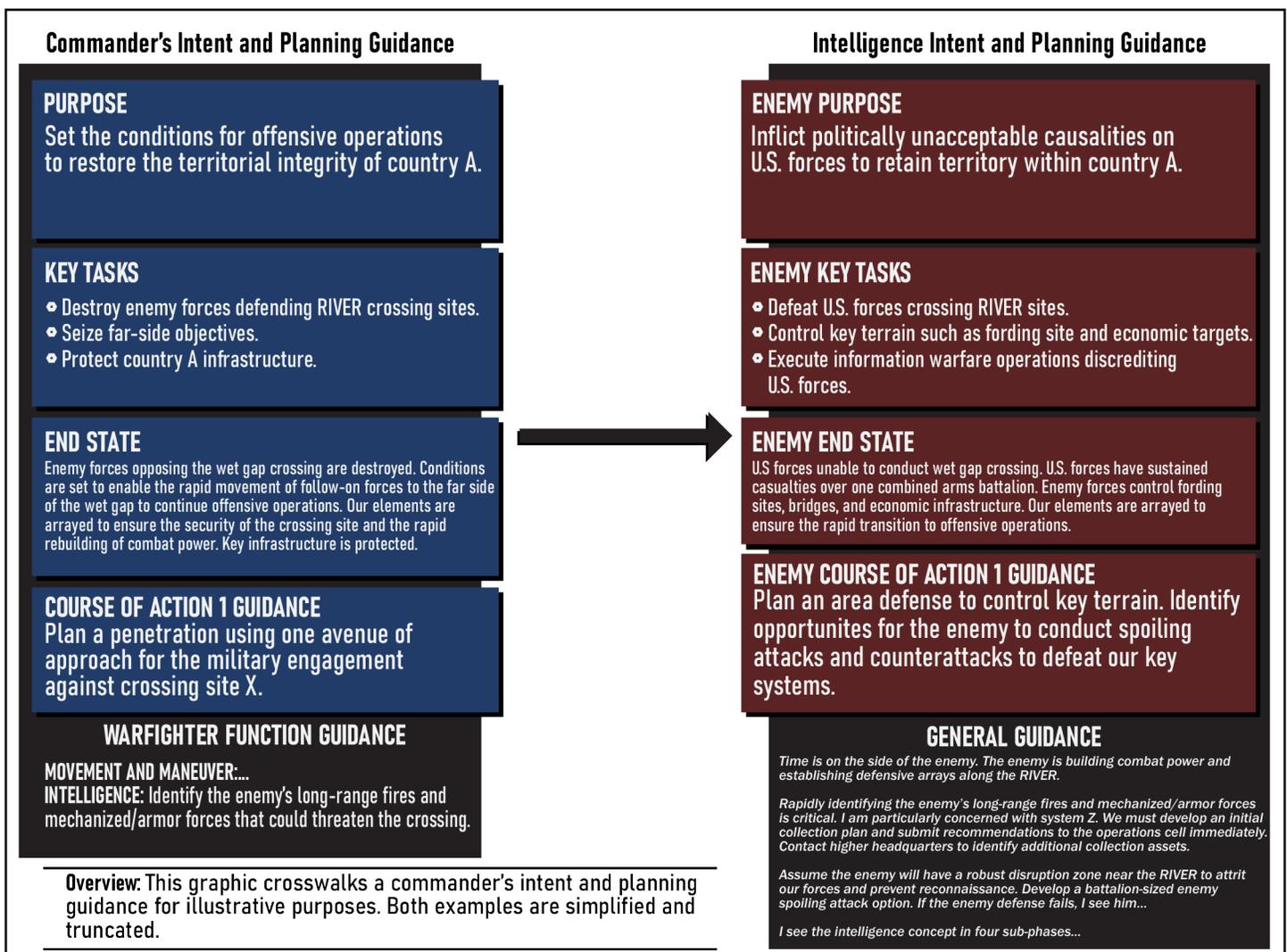
- ◆ How will the other METT-TC (I) factors influence enemy and friendly decisions?²⁴
- ◆ How might the enemy react to friendly force actions in pursuit of the commander's end state?
- ◆ What is peculiar about the enemy, friendly forces, or situation that could influence future events?
- ◆ What if we are wrong? Provide an alternate analysis of the situation.²⁵

When answering these 10 questions, the senior intelligence officer, in conjunction with the rest of the staff, identifies potential indicators or high-value targets to kickstart information collection. They also consider any enemy action likely to earn a "most dangerous" moniker during intelligence preparation of the operational environment²⁶ that would require immediate collection. Finally, the senior intelligence officer must define "near term" according to their situation (for example, the next 0 to 72 hours). As with the commander and their intent, the senior intelligence officer modifies their guidance based on input from the intelligence cell and as the situation develops.²⁷

Intelligence Intent and Guidance Benefits

The concepts and direction contained in the intelligence intent and guidance benefits execution of mission command for the intelligence cell during large-scale combat operations in two primary ways. First, the commander's intent and the intelligence intent and guidance allow the intelligence cell to immediately begin detailed planning and movement, which saves critical time during high-tempo operations. Second, the shared understanding gained from the intelligence intent and guidance *primes* the senior intelligence officer and intelligence cell members to be on the lookout for critical indicators that better predict enemy activity.²⁸

A deep, shared understanding of the anticipated indicators increases the likelihood of detecting "exceptional information."²⁹ Exceptional information signals that a previously unconsidered opportunity or calamity may be underway that requires action. Exceptional information starkly contrasts with the expected indicators associated with the anticipated situation.³⁰ For example, suppose we expect an enemy armored thrust along a particular avenue of approach to our front



Intelligence Intent and Guidance Crosswalk³¹

and then receive reports of tanks in our rear area. If this occurs, we need to recognize that we may be in an exceptional situation! While this example appears obvious, exceptional information can appear like background noise in an environment flooded with data if the senior intelligence officer and intelligence cell do not understand what *should* happen according to the commander's visualization.

The senior intelligence officer issues their intelligence intent and guidance soon after receiving the commander's intent and guidance. The delivery of the intelligence intent and guidance does not mean the senior intelligence officer stops thinking about the 10 big picture questions. The senior intelligence officer and intelligence cell must continuously assess and reframe enemy activity and conditions within the operational environment as a situation unfolds.³²

You may ask: How is the senior intelligence officer supposed to craft their intelligence intent and guidance before conducting intelligence preparation of the operational environment? In the same way the commander writes their intent before the military decision-making process. The commander leverages anything and everything to craft their intent to include higher headquarters products, running estimates, and available expertise.³³ The senior intelligence officer must do the same.

Conclusion

The intelligence intent and guidance is how the senior intelligence officer uniquely contributes value to the intelligence process. Fully embracing the mission command philosophy means conveying the commander's intent and having the confidence and competence as the unit's "chief of the intelligence warfighting function" to refine that intent further.³⁴ Mission command was built for war, and one can only truly exercise the philosophy during war or in realistic, war-like training conditions.³⁵ Competence is critical in these demanding environments.

Watch for part two "A Mission Command Meditation: Building Intelligence Intuition," to publish soon! It discusses the development of competence and intuition. 

Endnotes

1. Department of the Army, Field Manual (FM) 3-0, *Operations* (Washington, DC: U.S. Government Publishing Office [GPO], 1 October 2022), 1-4, 3-2.
2. Department of the Army, Army Doctrine Publication (ADP) 6-0, *Mission Command: Command and Control of Army Forces* (Washington, DC: U.S. GPO, 31 July 2019), 2-13; and Department of the Army, ADP 2-0, *Intelligence* (Washington, DC: U.S. GPO, 31 July 2019), 3-1.
3. Recent seminars and conversations influenced my thinking for this article. A presentation by LTG Milford Beagle influenced me to reflect on the unique role of the senior intelligence officer in large-scale combat operations. I am paraphrasing, but he recommends that all leaders reflect on and do those tasks only they can accomplish because of their unique organizational position. Separately, discussions during a seminar led by LTC Mark Kelliher influenced my thinking on mission command and its relationship to large-scale combat

operations. I also benefited from presentations by COL Blue Huber, retired COL Matt Gill, and retired MG Robert Walters on the need to master intelligence fundamentals to meet the challenges of large-scale combat operations. COL Huber discussed the need for sensemaking in large-scale combat operations (not just sensing), the need for senior intelligence officers to provide compelling narratives (technology will not do this for us), and the need for the senior intelligence officer to support the commander's activities during the operations process. Any errors are mine.

4. Department of the Army, ADP 6-0, *Mission Command*, 2-13.
5. Department of the Army, ADP 5-0, *The Operations Process* (Washington, DC: U.S. GPO, 31 July 2019), 1-5.
6. Department of the Army, FM 6-0, *Commander and Staff Organization and Operations* (Washington, DC: U.S. GPO, 16 May 2022), 2-10.
7. Carl von Clausewitz, *On War*, ed. and trans. Michael Howard and Peter Paret (Princeton, NJ: Princeton University Press, 1976), 119.
8. Department of the Army, FM 3-0, *Operations*, 1-4–1-5.
9. *Ibid.*, 8-6.
10. *Ibid.*, 1-5.
11. Dan Parsons, "Array Of Sensors, Unmanned Systems Creating Data Headaches For Army Commanders," *The Warzone*, *The Drive*, November, 11, 2022, <https://www.thedrive.com/the-war-zone/array-of-sensors-unmanned-systems-creating-data-headaches-for-army-commanders>.
12. Department of the Army, ADP 6-0, *Mission Command*, 2-6.
13. *Ibid.*, 2-14. Graphic adapted from original.
14. Department of the Army, FM 3-0, *Operations*, 8-2.
15. *Ibid.*, 3-2.
16. *Ibid.*, 1-7; and Department of the Army, ADP 6-0, *Mission Command*, vii, 1-3–1-4, 1-9. The principles of mission command are competence, mutual trust, shared understanding, commander's intent, mission orders, disciplined initiative, and risk acceptance.
17. Department of the Army, ADP 6-22, *Army Leadership and the Profession* (Washington, DC: U.S. GPO, 31 July 2019), 1-1, 5-2. Change 1 was issued on 25 November 2019.
18. Office of the Chairman of the Joint Chiefs of Staff, Joint Publication 3-0, *Joint Campaigns and Operations* (Washington, DC: The Joint Staff, 18 June 2022), GL-8.
19. Department of the Army, ADP 5-0, *The Operations Process*, 1-9.
20. *Ibid.*, 1-10.
21. *Ibid.*, 2-11 (emphasis added).
22. Department of the Army, FM 3-0, *Operations*, 8-6.
23. According to a handout from the Command and General Staff School's 2015–2016 Intermediate Level Education, the "questions the friendly should ask the enemy" are: "How can we predict an enemy action? How can we preempt an enemy action?" and "How can we prevent an enemy action?" These are good questions to consider.
24. Department of the Army, FM 5-0, *Planning and Orders Production* (Washington, DC: U.S. GPO, 16 May 2022), 1-5. Change 1 was issued on 4 May 2022. The mission variables are represented by the mnemonic METT-TC (I), which stands for mission, enemy, terrain and weather, troops and support available, time available, civil considerations, and informational considerations. FM 5-0 provides more details about the mission variables and informational considerations.

25. Department of the Army, Army Techniques Publication (ATP) 2-01.3, *Intelligence Preparation of the Battlefield* (Washington, DC: U.S. GPO, 1 March 2019), 5-1. Change 1 was issued on 6 January 2021. Besides branches and sequels, consider options the enemy may employ to improve their chances of success, including using specific capabilities such as nonlethal effects and chemical weapons.

26. Department of the Army, FM 2-0, *Intelligence* (Washington, DC: U.S. GPO, 1 October 2023), xiv. The term intelligence preparation of the operational environment replaces the term intelligence preparation of the battlefield.

27. The Command and General Staff School Intermediate Level Education handout previously cited in endnote no. 23 recommends, friendly forces should ask themselves, “Will the enemy action prevent me from accomplishing my task and purpose?” ADP 5-0, *The Operations Process*, provides a discussion outlining the need for commanders to modify guidance as the situation warrants.

28. Karl E. Weick, Kathleen M. Sutcliffe, and David Obstfeld, “Organizing and the Process of Sensemaking,” *Organization Science* 16, no. 4 (July–August 2005): 409-421, 411. The authors cite Klein et al., in press, for insights into how “mental models might be primed” by environmental cues or “a priori” permit noticing. Gary Klein, Jennifer K. Phillips, Erica L. Rall, and Deborah A. Peluso, “A Data-Frame Theory of Sensemaking,” in *Expertise Out of Context: Proceedings of the Sixth International Conference on Naturalistic Decision Making*, ed. Robert R. Hoffman (New York: Psychology Press, 2007).

29. Department of the Army, ADP 6-0, *Mission Command*, 3-7.

30. Ibid.

31. Figure adapted from author’s original.

32. Department of the Army, ADP 6-0, *Mission Command*, 3-17, 4-5.

33. Ibid., 2-5. Discusses intuitive decision making. Of course, commanders use analysis whenever possible based on the situation and available time. I also recommend ATP 5-01.1, *The Army Design Methodology*, for information on framing tools.

34. Department of the Army, FM 6-0, *Commander and Staff Organization and Operations*, 2-10.

35. A senior intelligence officer is not practicing mission command in garrison when they choose not to micromanage their subordinates or when they allow a junior Soldier to brief the commander. Basic task delegation and stretch tasks are simply examples of good management practices. Mission command is a philosophy for war.

LTC Matthew Fontaine is the G-2 for the 1st Infantry Division, Fort Riley, KS. He previously served as the G-2 for the U.S. Army Joint Modernization Command. He has deployed twice to Iraq and twice to Afghanistan, serving as an executive officer, platoon leader, battalion S-2, military intelligence company commander, and analysis and control element chief. He holds two master of military art and science degrees, one in general studies and the other in operational art and science, from the U.S. Army Command and General Staff College.



This article is part two of a two-part series on employing mission command within the intelligence warfighting function.

Introduction

Part one of this series discussed commanders driving the operations process using the mission command philosophy and their personal involvement in decision making. They furnish subordinates with their intent and planning guidance to provide purpose, direction, and motivation.¹ This transitioned into a discussion of senior intelligence officers building upon commanders' intent and guidance to develop their own intelligence intent and guidance. This is how senior intelligence officers uniquely contribute value to the intelligence process and fully embrace the mission command philosophy to convey topics such as the concept of intelligence for the operation, anticipated enemy options, and collection guidance. The senior intelligence officer must have the confidence and competence as the unit's leader of the intelligence warfighting function to accomplish this warfighting function specific refinement of the commander's intent and planning guidance.²

Sense Intuitively and Act Appropriately

Competence is the basis of mission command.³ The senior intelligence officer and the intelligence cell must be competent in fundamental intelligence tasks, which include the following:

- ◆ Provide intelligence support to force generation.
- ◆ Provide support to situational understanding.
- ◆ Conduct information collection.
- ◆ Provide intelligence support to targeting.⁴

The detailed planning and execution of these four tasks before and during large-scale combat operations are primarily the responsibility of the intelligence cell. This analytical work is the science of intelligence.

A Mission Command Meditation: Building Intelligence Intuition

by Lieutenant Colonel Matthew Fontaine

To sense indicators of enemy actions and act appropriately is the basis of the fundamental intelligence tasks. There are two aspects of sensing. First, is the *observation* of a threat signature by a sensor. A well-thought-out and executed collection plan makes this easier. Second, is *recognizing* the *meaning* of a threat signature. The senior intelligence officer and intelligence cell impart meaning to a threat signature by examining it within the context of the commander's visualization of the situation. The senior intelligence officer acts appropriately by communicating this meaning in support of the decision-making process. These intuitive aspects of indicator sensing and communication are the art of intelligence. They are the *unique* contribution that the senior intelligence officer makes during execution of operations. To further understand the senior intelligence officer's unique contribution to the success of the unit and commander during the execution of operations, we must examine the concepts of *coup d'oeil* and sensemaking mental models.

The Coup D'oeil Moment

One of the most remarkable qualities a military leader can possess is the uncanny ability to see or value what others cannot and to use that insight to seize an emerging opportunity or avert disaster. Military theorists refer to this quality by the French phrase, *coup d'oeil*. (Its exact translation being "blow/stroke of the eye.")⁵ Prussian general and military theorist Carl Von Clausewitz discussed the term in his book *On War* in the chapter "On Military Genius," describing the quality as "the quick recognition of a truth that the mind would ordinarily miss or would perceive only after long study and reflection."⁶

Broadly, *coup d'oeil* is the “idea of a rapid and accurate decision” during any military operation.⁷ Author Malcolm Gladwell, in his book, *Blink: The Power of Thinking without Thinking*, notes, “brilliant generals are said to possess ‘coup d'oeil’,” which he defines as the “ability to immediately see and *make sense* of the battlefield” thanks to a leader’s “careful attention to the details of a very thin slice, even for no more than a second or two.”⁸

Another essential attribute of a *coup d'oeil* moment is criticality. The commander and senior intelligence officer make many adjustments throughout an operation, but few, if any, qualify as *coup d'oeil* moments. *Coup d'oeil* moments involve those unique battlefield appraisals made during crucial moments in the engagement that few leaders could make and even fewer could effectively operationalize. The decisions made, or not made, during these decisive periods can overwhelmingly influence the ultimate success or failure of the operation. As Clausewitz infers in his definition of *coup d'oeil*, these moments often pass us by. Subordinates admire those commanders who apply combat power precisely when needed to accomplish the mission in the din and confusion of war. We ask ourselves, how did they know to do that?

The Commander as Grandmaster

Competent commanders are like grandmaster chess players, which studies have shown “think differently than amateurs do.”⁹ Unlike amateur chess players who must examine their next move laboriously, grandmasters rapidly select their following best action based on “cues that are noticed on the board,” usually in as little as five seconds.¹⁰ A grandmaster’s expert intuition is possible thanks to the thousands of hours devoted to studying and playing chess, an example of the “10,000-hour rule” promoted by Gladwell in another of his works, *Outliers: The Story of Success*. The 10,000-hour rule posits that an individual must commit 10,000 hours of deliberate study and practice to master an activity. All experts in every vocation, including military leaders, develop expertise and intuition similarly.¹¹ In the military, expert intuition is part of the art of command.

How does expertise increase the speed and accuracy of decisions? According to Nobel laureate Herbert Simon, many people would attribute an expert’s ability to respond quickly and effectively to a situation in their area as owing to “intuition” or “judgment.”¹² This presents an unsatisfying answer. Instead, Simon imagines that if we peek inside the mind of an expert, “one would find that he had at his disposal repertoires of possible actions; that he had checklists of things to think about before he acted; and that he had mechanisms in his mind to evoke these, and bring these to his conscious attention when the situations for decisions arose.”¹³ Intuition, therefore, is a result of deep expertise.

The expert’s “checklist of things to watch out for” is built after long study and practice (the 10,000-hour rule).¹⁴ Mental

models enable the expert to “recognize a very large number of specific relevant cues when they are present in any situation, and then to retrieve from memory information about what to do when those particular cues are noticed.”¹⁵

Intuitive decision making works best in stable, rule-based situations where we can get a lot of practice and immediate feedback on our actions. The game of chess is a perfect example. Intuition often falls short in complex situations with people and forces that adapt to changing conditions.¹⁶ In these situations, we are urged to rely more on “our rational brain” and “less on our subconscious gut.”¹⁷

Unfortunately, war may be the most complex and adaptive situation humans face. A commander or senior intelligence officer cannot count on having the time to engage in a lengthy, rational decision-making process in a high-tempo engagement. We must use our gut and our brains. Fortunately, even military members can acquire applicable mental models (checklists) for war by “learning how the world works” if we study “time-tested ideas.”¹⁸

What Are Mental Models?

Mental models are how we understand the world. Not only do they shape what we think and how we understand, but they shape the connections and opportunities that we see. Mental models are how we simplify complexity, why we consider some things more relevant than others, and how we reason. A mental model is simply a representation of how something works. We cannot keep all the details of the world in our brain, so we use models to simplify the complex into understandable and organizable chunks. Some of the most easily recognized mental models are maps, ecosystems, hierarchical organization, and feedback loops.¹⁹

The *unique* quality we are after in competent commanders is intuitive (and accurate) decision making in rapidly evolving situations, such as large-scale combat operations. It is that special quality—that spark of military genius—that a commander leverages in concert with accuracy-boosting, analytic decision-making processes (such as the military decision-making process, the Army design methodology, and the rapid decision and synchronization process) or with *automated aids* (such as artificial intelligence algorithms) whenever possible, but alone if the situation necessitates it.²⁰ The unique contribution of the senior intelligence officer is to support the commander’s intuitive decision-making process in these situations.

The Aim of Intuition

What do commanders aim to intuit specifically? If we look to the definition of intent in doctrine, we see it necessitates *transitions*.²¹ “Successful commanders,” we are told, “anticipate future events by developing branches and sequels instead of focusing on details better handled by subordinates during current operations.”²² Fortunately, mission command enables the staff to “unburden higher commanders,” allowing them to focus on the “broader perspective...and critical issues” by empowering subordinates to act on the things

they understand best due to their proximity to the issue.²³ The critical issues the commander focuses on include specific transitions such as culmination and when and where to mass effects.

Benefits of Mission Command for the Senior Intelligence Officer

Mission command provides the same benefits for the senior intelligence officer that it does for the commander. The intelligence staff *frees* the senior intelligence officer to focus on delivering their *unique* contribution of understanding transition points and future operations (primarily from the perspective of the enemy commander) instead of focusing on oversight. Therefore, the relationship between the senior intelligence officer and the intelligence staff is reciprocal. The senior intelligence officer *owes* their subordinate staff their intelligence intent and guidance to provide purpose, direction, and motivation upon a mission's receipt or anticipated receipt. The intelligence cell, operating with minimal oversight, *owes* the senior intelligence officer refined plans and intelligence that answers priority intelligence requirements. This allows the senior intelligence officer to use their mental energy to scan the environment for essential cues, act on them appropriately, and prepare future, broad view intelligence intent and guidance. The senior intelligence officer is primarily the "subconscious gut," and the intelligence cell is the "rational brain."

Embracing mission command will help the senior intelligence officer meet the first half of their primary role in large-scale combat operations—to provide the most complete intelligence picture available, even when tactically dispersed or in an environment of contested communication.

The Senior Intelligence Officer as Curator

The senior intelligence officer provides insights to the commander as an act of *curation*. Of the hundreds to thousands of reports and assessments flooding the intelligence cell in a large-scale combat operations environment, the senior intelligence officer must select those indicators or those assessments of enemy action or intent that mean more than others. Competent senior intelligence officers can detect and provide meaning to the hard to anticipate pieces of exceptional information because of their deep level of expertise. Or, in flashes of insight, they fuse a mass of previously unlinked reports or assessments to develop a single imperative requiring action. These insights represent the senior intelligence officer's *coup d'oeil*-like moments and enable them to deliver *timely* intelligence to the commander, thus fulfilling the second half of their primary role in large-scale combat operations.²⁴

I use the word "unique" when referring to the senior intelligence officer's "unique contributions" to denote the special quality formal leadership positions provide for unifying

effort among their subordinates. Others may be more intelligent, capable, and experienced, but within a unit, only one commander and one senior intelligence officer exist. Only the senior intelligence officer has the access and freedom (thanks to the intelligence cell) needed to develop immediate insights in some situations. Of course, the best senior intelligence officers realize insights can, and often do, come from another team member or emerge from a collaborative session. Sometimes, leaders have their most significant *coup d'oeil*-like moment or act of curation in the realization that a team member has recognized some profound truth and humbly acts on it! However, it is the senior intelligence officer that ultimately is responsible for enabling the commander's visualization and understanding of the battlefield.

Sensemaking

Realizing a *coup d'oeil* moment personally, or setting the conditions for others to do so, is easier said than done. Understanding the concept of sensemaking is a significant first step to sensing intuitively and acting appropriately. Sensemaking is one of those time-tested ideas on how the world really works. Senior intelligence officers must build a mental model of the process.

The *coup d'oeil* quality is akin to the Army and the academic concept of sensemaking. The Center for Army Leadership describes *sensemaking* as the "*deliberate*, iterative effort to create understanding in complex situations."²⁵ Project Athena's self-awareness assessments indicate how a leader "process[es] information for situational awareness" and "create[s] understanding in uncertain, novel, and ambiguous situations."²⁶ I emphasize the word "deliberate" in the Army description of sensemaking because this explanation casts sensemaking as a "slow," analytical process rather than a "fast," intuitive process like the one grandmaster chess players use when selecting their next move.²⁷

Project Athena

What is Athena?

Athena is an Army leader development program designed to inform and motivate Soldiers to embrace personal and professional development. Adding to the Army's culture of assessments, Athena uses sequences of assessments to increase Soldier self-awareness of leadership skills and behaviors, cognitive abilities, and personal traits and attributes. Assessment batteries compliment the leadership skills developed at several Army schools. For each assessment completed, students receive a feedback report with their scores and information about how to interpret the scores.

Why is Athena Important?

Athena is all about self-awareness. By providing leaders with the tools to identify their strengths and recognize where to make improvements, as well as providing access to resources that support self-initiative and self-development, Army leaders can continuously learn new skills and improve their abilities.

Athena provides students an opportunity to expand their self-awareness and tailor self-development to their individual needs.²⁸

Intuitive Sensemaking

Authors Karl Weick, Kathleen Sutcliffe, and David Obstfeld take a different view of sensemaking. They see sensemaking as an intuitive but iterative process that unfolds in ambiguous situations, where “meanings materialize” rather than firmly develop after a linear analytic process.²⁹ Sensemaking “involves turning circumstances into a situation that is comprehended explicitly in words and that serves as a springboard to action.”³⁰ The authors identify eight facets to “the nature of organized sensemaking.”³¹ They are:

- ◆ Sensemaking organizes flux.³²
- ◆ Sensemaking starts with noticing and bracketing.³³
- ◆ Sensemaking is about labeling.³⁴
- ◆ Sensemaking is retrospective.³⁵
- ◆ Sensemaking is about presumption.³⁶
- ◆ Sensemaking is social and systemic.³⁷
- ◆ Sensemaking is about action.³⁸
- ◆ Sensemaking is about organizing through communication.³⁹

An examination of these facets will illuminate how a *coup d’oeil* moment can occur during high-tempo operations. Before delving into the sensemaking model, I will first provide an example of the sensemaking process. In the following fictional (and oversimplified) vignette, a senior intelligence officer describes the actions they take in a dynamic engagement when the situation begins to deviate from the expected enemy course of action.

Now, we will examine the vignette below employing Weick, Sutcliffe, and Obstfeld’s eight sensemaking facets. This will impart a better understanding of how this *coup d’oeil* moment occurred in part because of the senior intelligence officer’s unique contributions.

Organizes Flux. According to the authors, “sensemaking starts with chaos.”⁴¹ The senior intelligence officer in our example is “surrounded by an almost infinite stream of events and inputs” that form a “raw flow of activity from which she [they] may or may not extract certain cues for closer examination.”⁴² The inputs go beyond the fire hose of data from modern sensors and situation reports to include *all* the moments surrounding the “critical noticing.” of an indicator.⁴³ The authors call the unending “raw flow of activity” the “flux.”⁴⁴

Sensemaking Vignette

I [the senior intelligence officer] left with the Tactical Action Center (TAC) at 0200. In the previous six hours, many reports indicated that the enemy had established a weak defense and significantly increased activity within its support zone. My intelligence cell and I struggled to keep pace with the volume of tactical reports. Sometimes all we could say with certainty was that the enemy was to our front. The enemy kept their critical systems dispersed and moving, and it was difficult to determine what the indicators meant in all this activity. Nevertheless, I assessed that the enemy was preparing to withdraw to more defensible positions to their rear and would likely conduct a withdrawal under pressure once attacked. The commander saw an opportunity and ordered an attack after a short planning session.

Our reconnaissance forces contacted the enemy disruption zone elements shortly after initiating movement at 0400, achieving their initial objectives with little difficulty. The commander ordered the main attack force to conduct a passage of lines with the reconnaissance elements and to clear the remaining enemy in the sector. The attack seemed well in hand by 0900, and our command nodes in the rear initiated movement to displace forward.

The few staff officers forward with the TAC entered a planning cycle to determine how best to build on our momentum while the commander traveled to the main command post. One hour later, I received my next combat update. The situation at 1000 had dramatically changed. Communication with the rear command posts and intelligence cell had been severed 15 minutes prior, likely the result of an enemy non-kinetic effect after troubleshooting resulted in no restoral of services.

The main attack force bogged down because of unexpectedly high enemy armor concentrations, but its commander believed they could resume operations shortly. Distressingly, rear elements reported possible enemy ground reconnaissance in their sector before losing communication [*exceptional information*]. Moreover, a friendly reconnaissance report indicated significant enemy activity in the enemy support zone but provided no direction of travel.

I went to the current operations officer and said I was increasingly concerned about the attack because of the enemy armor, loss of communication, and reconnaissance activity. I recommended directing our intelligence collection assets to confirm enemy activity in the support zone. The current operations officer replied, “Let’s see how this develops first.” Thirty minutes later, the main attack force reported receiving sustained indirect fire and a determined enemy defense.

I went to the frenzied operations officer and relayed the same information I told to the current operations officer. He said, “We will talk about it after we regain communications with higher. Besides, we can commit the reserve to get the attack moving again, if necessary.” I became increasingly concerned that the enemy defense was the start of a significant, unanticipated counterattack. Still, given the indicators I observed, I could not immediately oblige the operations team to act.

Frustrated, I talked to the Sergeant Major and told him my concerns. The commander returned to the TAC for a situation update moments later. The Sergeant Major said, “The deuce is worried we’re seeing an enemy counterattack, and I don’t like the situation either.” I described the key indicators and what they meant. The commander executed the rapid decision and synchronization process and, moments later, directed a transition to the defense. The commander ordered the reserve to enable the withdrawal of the main attack force to defensive positions along the original line of departure. The commander’s quick recognition of the friendly and enemy realities on the battlefield defeated the enemy counterattack. A *coup d’oeil* moment for sure.⁴⁰

The senior intelligence officer's critical noticing of indicators of the counterattack occurred during a period where they received little sleep, conducted a final huddle with the intelligence cell, missed the morning meal, read reports, completed a tactical movement, and conducted planning. This activity forms just part of the flux that competes for the senior intelligence officer's mental bandwidth and reduces the likelihood that the senior intelligence officer will intuitively sense indicators and act on them appropriately.⁴⁵

Clausewitz captures the idea of flux in his description of *coup d'oeil* (see page 1)—*coup d'oeil* moments are rare because they require the recognition of some truth that usually is only uncovered *retrospectively* after “long study and reflection.” The commander's and the senior intelligence officer's challenge is to improve their chances of experiencing an intuitive *coup d'oeil* flash of insight during an engagement instead of reaching the awareness long after the battle.

Starts with Noticing and Bracketing. During the engagement, the senior intelligence officer noticed indicators within the flux at odds with the anticipated enemy course of action (COA). In response to this dissonance, the senior intelligence officer “orients” to these specific indicators and “notices and brackets possible signs of trouble for closer attention.”⁴⁶

Mirroring Simon's observations on expertise, the senior intelligence officer's noticing and bracketing, according to Weick, Sutcliffe, and Obstfeld, is made possible by “mental models” that are “primed” by environmental cues or “‘a priori’ permit” that allows them to “notice and make sense” of critical changes within the operational environment.⁴⁷ The senior intelligence officer must “*forcibly carve*” an acute observation “out of the undifferentiated flux of raw experience” and label what it means; for example, a counterattack.⁴⁸ We are asked to “notice that once bracketing occurs, the world is simplified,” like a blurry image that suddenly snaps into focus, revealing the subject.⁴⁹

A Priori

A priori is a Latin term that means “from what is earlier.” A priori knowledge is knowledge that comes from the power of reasoning based on self-evident truths. The term usually describes lines of reasoning or arguments that proceed from the general to the particular, or from causes to effects.⁵⁰

Competence is critical for a senior intelligence officer to forcibly carve and bracket potential cues in a complex environment. The senior intelligence officer must have mastery of doctrine, tactics, friendly and enemy COAs, and *other mental models* to be primed for sensemaking during execution. The commander must not only master these same things, but also command the unit. The senior intelligence officer, as co-driver of the intelligence process, reduces the commander's cognitive burden as they drive both the intelligence and operations processes.

The senior intelligence officer's expert understanding of the sensemaking mental model can further prime them to sense intuitively (notice) and act appropriately during large-scale combat operations. Think of sensemaking as the senior intelligence officer's cognitive operating system whose applications are other mental models like doctrine and the anticipated COAs. Increase the number of applications and the operating system becomes more powerful; have a faulty operating system, or one without any features, and the software has no utility.

The nature of large-scale combat operations presents challenges for noticing the right indicators that will test even the most experienced sense-maker. First, a senior intelligence officer cannot always expect support from higher echelon's information collection assets because large-scale combat operations may require tasking assets elsewhere. Second, a senior intelligence officer may not get information and intelligence collection reports fast enough (or at all) because of disrupted, disconnected, intermittent, and low-bandwidth effects. Then upon receipt of reports, the senior intelligence officer may not be able to make sense of them in time to influence the battle. Third, the enemy may execute deception activities that obfuscate their actual actions. Fourth, predicting indicators presumes a rational opponent who deploys their forces according to their doctrine; this may not always be the case. And finally, our own biases get in the way. We look for the indicators and warnings of threat activity that fit our preconceived notion of how the battle will unfold and ignore those that do not. Human factors are crucial in decision making, but often we do not appreciate them when developing the information collection plan.⁵¹

The senior intelligence officer must be physically or virtually present to scan the engagement and notice cues. An isolated senior intelligence officer (thanks to some non-kinetic effect in a rear command post) is useless in high-tempo combat operations. A forward senior intelligence officer can directly observe the situation and collaboratively make sense with the commander and other key personnel. A senior intelligence officer cannot expect an intelligence brief presented as part of a battle rhythm event at the main command post to meet all information requirements during large-scale combat operations.

Being forward provides another benefit in a disrupted, disconnected, intermittent, and low-bandwidth environment. Communication between the forward command post and the forces in contact may still be possible even if a non-kinetic event prevents communication with the rear, ensuring the senior intelligence officer can access the volume of tactical information at the combat edge. The senior intelligence officer's unique role is to be centerstage during large-scale combat operations, sensing intuitively and acting appropriately.

Is About Labeling. Sensemaking requires “labeling and categorizing to stabilize the streaming of experience.”⁵² Labeling transforms what was seeming chaos into a form more useful for “plausible acts of managing, coordinating, and distributing.”⁵³ In the medical field, a doctor provides a diagnosis to “suggest a plausible treatment.”⁵⁴ In military intelligence, the senior intelligence officer’s role is assessing enemy activity (diagnosis) to anticipate the enemy COA and then spur the commander to develop a plausible reaction (treatment in medical terminology).

In doctrine, plausible reactions are the “adjustment decisions” a commander executes to move the operation toward the desired end state when what was thought to happen does not occur.⁵⁵ The unit overcomes minor variances with fragmentary orders or execution of planned branches or sequels when a variance anticipated during planning occurs. Unanticipated significant variances may require reframing the problem or changing the mission to seize an opportunity or face a threat.⁵⁶ In the vignette, the commander and staff never anticipated the possibility of a powerful enemy counterattack in their area of operations.

ADP 5-0, *The Operations Process*, provides an excellent framework illustrating the essentials of the decision-making process in the face of variance and unanticipated situations. (See Figure 1.) However, doctrine does not satisfyingly describe *how* the commander or staff recognize variances in

the flux and communicate during *adjustment dialogue* to enable rapid organizational understanding of an emerging situation before acting. The *coup d’oeil* and sensemaking concepts get us closer.

Is Retrospective. Sensemaking is an act of hindsight (retrospect), providing understanding of what is happening now.⁵⁸ The senior intelligence officer formulated the 1000 assessment after mentally reviewing and reframing the meaning of observed enemy activity to that point. The senior intelligence officer now recasts the morning’s light enemy activity as a tactic to lure friendly forces into an engagement area. They view reports of frenzied enemy activity in the support zone not as enabling a withdrawal, but as the transition to the offense. The key concept here is to realize what is happening now is already “at an advanced stage: the label follows after and names a completed act,” hopefully with enough time to make the necessary adjustment decisions.⁵⁹

Is About Presumption. Sensemaking leads to formulating a “hunch” presumed to be correct within the individual’s mind.⁶⁰ The senior intelligence officer first noticed a list of indicators at odds with the predicted COA. The senior intelligence officer believes an enemy counterattack is underway and recommends changes to the collection plan to test this hunch. “To test a hunch is to presume the character of the illness [in medical terms] and to update that presumptive understanding through progressive approximations.”⁶¹ In this

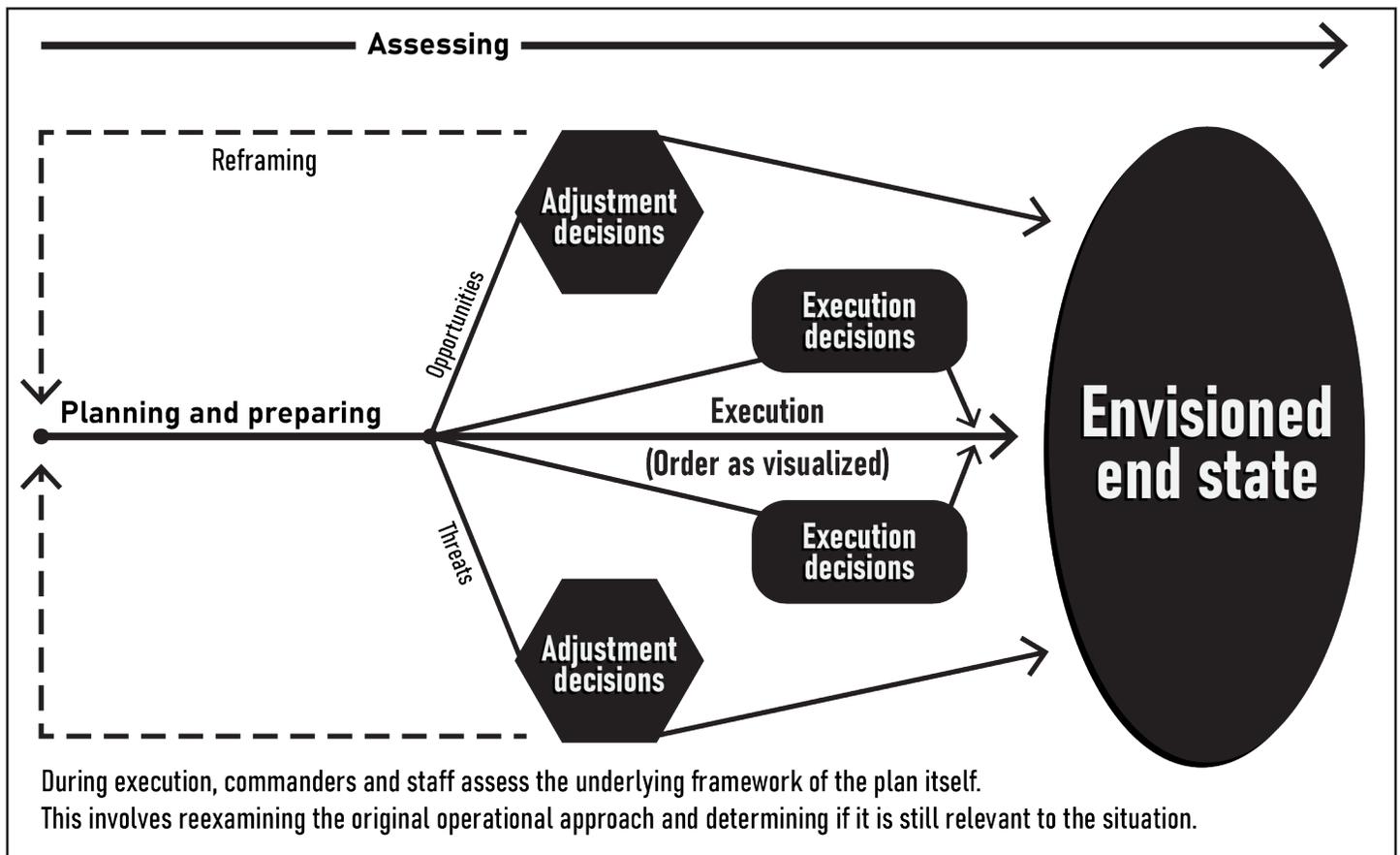


Figure 1. Decision Making during Execution⁵⁷

way, sensemaking often appears to be the result of human “error-ridden activity” that requires continuous assessment and adjustment to the situation at hand—“the *now* of mistakes collides with the *then* of acting with uncertain knowledge.”⁶²

Is Social and Systemic. Social factors influence sensemaking.⁶³ In our example, the social factors influencing the senior intelligence officer may include previous interactions with the intelligence staff, the commander’s thoughts on the mission command philosophy—some commanders encourage staff input to their decision-making process while others are less inclined to do so—or prior negative feedback from the operations officer about the intelligence cell’s reporting.

Weick, Sutcliffe, and Obstfeld also encourage us to consider how social factors influence organizational sensemaking. The senior intelligence officer and others’ realization of the counterattack “unfolds” at different rates and depths partly due to social factors.⁶⁴ We see this in the operations officer’s reluctance and the Sergeant Major’s readiness to change their read of the situation. Military leaders must consider how social factors within their organizations could positively or negatively influence sensemaking to improve decision making in high-tempo operations.

Is About Action. Sensemaking involves asking two essential questions. The first question is, what is going on here? And the follow-up question is, what do I do next?⁶⁵ The senior intelligence officer’s enemy counterattack assessment (hunch) is directly “intertwined” with their efforts to update the

information collection plan and influence the commander to make an adjustment decision.⁶⁶ Communication between the commander and staff “leads to a continual, iteratively developed, shared understanding” of the new assessment.⁶⁷

Of course, presumption brings risk; the senior intelligence officer could be wrong. Even so, sensemaking drives the senior intelligence officer and command to act appropriately in the dynamic situation, as understood now.

Is About Organizing Through Communication. Communication is vital to sensemaking. We can view sensemaking as an “activity that *talks* events...into existence.”⁶⁸ Iterative dialogue organizes thinking to develop shared understanding. Once the senior intelligence officer communicates their concerns and assesses the situation, events become tangible and distinct within the flux.⁶⁹

Analytic and Intuitive Sensemaking

Sensemaking and *coup d’oeil* require both analytical and intuitive thinking supported by deep expertise to come about. The senior intelligence officer must first *notice* the indicators in the flux before they can apply analytic, retrospective thinking to merge the various indicators into a coherent narrative of what the enemy is doing now. It is the act of intuitive curation that allows a senior intelligence officer to impart critical importance to a single or series of events in dynamic environments and represents another unique contribution. (See Figure 2.)

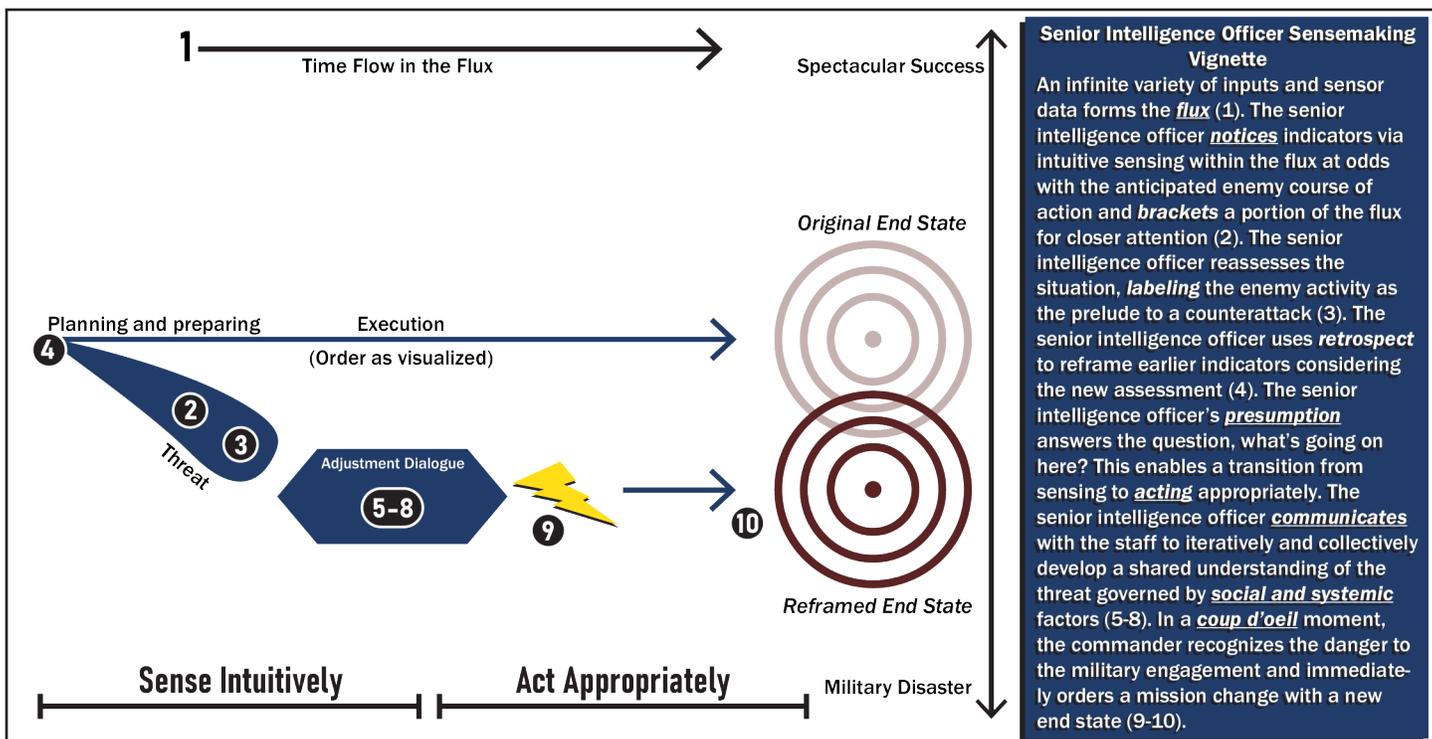


Diagram Overview: This diagram builds on the decision-making framework in ADP 5-0, *The Operations Process*, by integrating the concepts of organizational sensemaking and the *coup d’oeil* phenomena. It demonstrates how the commander or staff recognize a single unanticipated variance in the flux. It includes a period of adjustment dialogue governed by social factors that must occur prior to the adjustment decision. The adjustment decision in this modified framework is a *coup d’oeil* moment due to the criticality of the period and the nature of the decision itself (rapidly intuited).

Figure 2. Sensemaking and Coup D’Oeil Vignette⁷⁰

Sensemaking Drives the Commander's Activities

Sensemaking helps drive the commander's understanding, visualizing, describing, directing, leading, and assessing activities during the operations process. The commander cannot—

- ◆ Understand without first noticing.
- ◆ Visualize without first bracketing.
- ◆ Describe without first labeling and retrospectively explaining how the current situation emerged.
- ◆ Direct without presumption or without an understanding of the social factors in their organization.
- ◆ Lead without acting through communication.
- ◆ Assess without asking, what is going on here?

A sensemaking senior intelligence officer adds value to every step of the operations process. We should build our sensemaking capability so we can sense intuitively and act appropriately during large-scale combat operations.

Build Sensemaking Capability

A good way to build sensemaking capability is to access the Project Athena Leader Self-Development assessments and other resources available through the Center for Army Leadership.⁷¹ Sensemaking is one of the leadership assessments available to the military cohorts. If a user identifies it as an "Area I Need to Improve In," the site will suggest 32 academic, business, and doctrinal resources with descriptions of topics including other time-tested ideas such as complexity, systems thinking, and analysis. A senior intelligence officer can easily integrate the 32 resources into the intelligence cell's training or individual development plans.

These tools are excellent for developing one's theoretical understanding of sensemaking. However, we instinctively know that reading and viewing all 32 resources that Project Athena offers will neither turn an amateur chess player into an intuitive grandmaster nor an inexperienced senior intelligence officer into the Napoleon of intelligence officers. Players must play chess and study theory to improve. Likewise, senior intelligence officers require repetition in making sense of complex situations in war or war-like conditions to deliver complete and timely intelligence. How do we accomplish this? It is one thing to pull out a chess board, another to conduct war. Training, the study of doctrine, and real-world intelligence support are the obvious solutions, but what should a senior intelligence officer do to hone their *coup d'oeil* and sensemaking capacity outside these conditions to maximize their value?

Reading and Empathy Building

Here is a simple solution: read military memoirs. Ardent du Picq remarked: "The man is the first weapon in battle: let us then study the soldier in battle, for it is he who brings

reality to it. Only the study of the past can give us a sense of reality and show us how the soldier will fight in the future."⁷² Archibald Wavell builds on this idea, urging audience members in a 1939 lecture at Trinity College, Cambridge, to "read biographies, memoirs, and historical novels" to "get at the flesh and blood of it, not the skeleton."⁷³ He ascribed Napoleon's victory in 1796 to his "profound knowledge of human nature in war," not Napoleon's "maneuver on interior lines or some such phrase" of "little value."⁷⁴

Wavell's comments underscore the importance of human and social factors and how they influence war's outcomes. Senior intelligence officers should take heed and develop mental models of human behavior in stressful conditions, like war, to the same extent we build our understanding of purely military matters, like threat tactics. Recent studies by the University of Toronto have lent a scientific basis to Wavell's recommendation: "any good story—whether fiction or non-fiction...will likely boost empathy."⁷⁵ Keith Oatley, professor emeritus of cognitive psychology, wrote, "fiction might be the mind's flight simulator."⁷⁶ For the military professional, military narratives are our war simulator.

Why is empathy important? According to Zachary Shore, "strategic empathy" enables people to "think like their opponents," to envisage their future actions.⁷⁷ Empathy allows the senior intelligence officer to "pinpoint what truly drives and constrains the other side" and leverage these insights to notice and bracket the "information that matters most" in the flux (curate) or, in Gladwell's language, identify the correct "thin slice."⁷⁸

How do you know when to stop everything and ask yourself, what is going on here? Shore provides an answer. He advises zeroing in on an opponent's behavior when they significantly diverge from what you expect them to do. He calls these moments "pattern breaks" and "meaningful ones" (think exceptional information) reveal "what he [the opponent] values most."⁷⁹

Memoirs provide an empathetic senior intelligence officer the mental "sets and reps" outside large-scale combat operations to understand how the conditions of war and the unique situation at hand may influence analytic and intuitive decision making and sensemaking for both friendly and enemy forces.⁸⁰

One thing about future warfare seems certain: a *senseless* senior intelligence officer is guaranteed not to add value in large-scale combat operations. Senior intelligence officers must do everything possible to build their repertoire of mental models to understand anticipated behavior and rapidly spot meaningful changes in the environment. Understanding human nature in war is a great start.

Conclusion

The senior intelligence officer contributes unique value to the commander and intelligence cell on the tactically dispersed and electronically contested modern battlefield during large-scale combat operations. (See Figure 3.) Fully embracing the mission command philosophy makes this possible. The senior intelligence officer intuitively frames how the future enemy operation is likely to unfold in the form of the intelligence intent and guidance. This conceptual guidance better enables the intelligence cell to form detailed plans and execute operations while tactically dispersed or in a disrupted, disconnected, intermittent, and low-bandwidth environment. The senior intelligence officer's future orientation combined with the intelligence cell's detailed analysis results in more accurate, complete, and timely intelligence.

The detailed work of the intelligence cell frees the senior intelligence officer to focus on the "big picture" and scan the environment for indicators during execution. The senior intelligence officer is a unique, empathetic curator of the fire hose of data and input that forms the flux of large-scale combat operations, thanks to their position and access on the battlefield. Because they understand the human nature of decision making in war (and in general), the senior intelligence officer has an uncanny ability to detect, label, and

ascribe meaning to hard-to-recognize essential information in rapidly changing situations. These timely insights spur the commander's understanding, visualizing, describing, directing, leading, and assessing activities and can lead to a *coup d'oeil*, "Aha!" moment during decisive periods.

Competence primes the senior intelligence officer to recognize indicators and essential information. A wide-ranging repertoire of mental models constructed during personal preparation of the battlefield and after a deep study of the operational environment makes a senior intelligence officer's expert sensemaking possible. Valuable intelligence officers recognize that people fight wars and develop an empathetic mindset through reading and experience to sense their opponent's next move during high-tempo operations.

The senior intelligence officer is a leader in large-scale combat operations, providing purpose, direction, and motivation to the intelligence cell in the most challenging and demanding conditions. The intelligence cell appreciates quality management in garrison but needs mission command in war. Competence is the mission command philosophy's cost of entry. We must relentlessly develop competence in ourselves and our teams to provide value in large-scale combat operations.

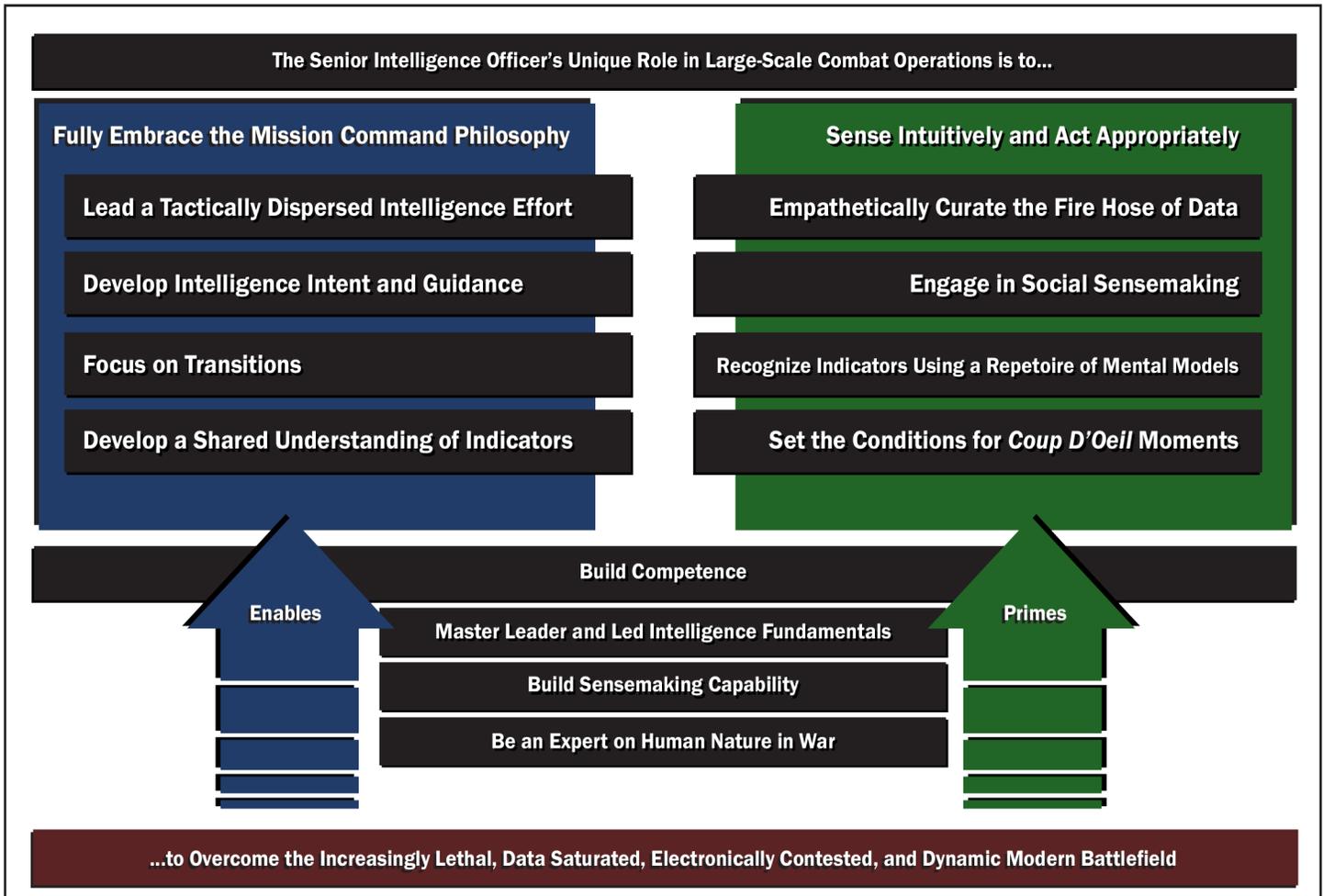


Figure 3. The Senior Intelligence Officer's Unique Role in Large-Scale Combat Operations⁸¹

Final Thoughts

This article is more meditation than a fully completed imperative. It remains unclear *precisely* what future wars will hold for the intelligence warfighting function or how to “forcibly carve” out a vital indicator in the tangled mass of inputs during large-scale combat operations. Detailed planning and analysis will assist the senior intelligence officer’s ability to sense and act tremendously, and technology will increasingly do so, but expert intuition will always be crucial to military success.

Preparation will be essential to add value in large-scale combat operations, so studying concepts like sensemaking and the senior intelligence officer’s unique role in mission command is worth more than a thought. And it will not hurt to widely read military narratives to develop your empathetic mindset. Do everything possible to develop your repertoire of mental models on “time-tested” topics related to human nature in war. 🌟

Endnotes

1. Department of the Army, Army Doctrine Publication (ADP) 6-22, *Army Leadership and the Profession* (Washington, DC: U.S. Government Publishing Office [GPO], 31 July 2019), 1-1, 5-2. Change 1 was issued on 25 November 2019.
2. Department of the Army, Field Manual (FM) 6-0, *Commander and Staff Organization and Operations* (Washington, DC: U.S. GPO, 16 May 2022), 2-10.
3. Department of the Army, ADP 6-0, *Mission Command: Command and Control of Army Forces* (Washington, DC: U.S. GPO, 31 July 2019), 1-7.
4. Department of the Army, FM 2-0, *Intelligence* (Washington, DC: U.S. GPO, 01 October 2023), 1-7–1-8.
5. ThoughtCo Team, “Un coup d’œil,” ThoughtCo, June 4, 2019, <https://www.thoughtco.com/un-coup-doeil-1371172>.
6. Carl von Clausewitz, *On War*, ed. and trans. Michael Howard and Peter Paret (Princeton, NJ: Princeton University Press, 1976), 102.
7. Ibid.
8. Malcolm Gladwell, *Blink: The Power of Thinking Without Thinking* (New York: Little, Brown, 2005), 44 (emphasis added).
9. Harald Franzen, “Brain Study Shows Grandmaster Chess Players Think Differently Than Amateurs Do,” *Scientific American*, August 9, 2001, <https://www.scientificamerican.com/article/brain-study-shows-grandma/>.
10. Franzen, “Brain Study”; and Daniel Kahneman and Herbert Simon, “Daniel Kahneman and Herbert Simon on Intuition,” *Psychology*, *Farnam Street Blog*, 2023, <https://fs.blog/daniel-kahneman-on-intuition/>. The quote is attributed to Herbert Simon.
11. Med Kharbach, “The 10,000 Hours Rule: Why Hard Work is Essential for Success,” *Educational Technology and Mobile Learning* (Blog), June 9, 2023, <https://www.educatorstechnology.com/2023/02/the-10000-hours-rule-why-hard-work-is.html>.
12. Kahneman and Simon, “Intuition.” The quote is attributed to Herbert Simon.
13. Ibid. The quote is attributed to Herbert Simon.
14. Ibid. The quote is attributed to Herbert Simon.

15. Ibid. The quote is attributed to Herbert Simon.

16. Ibid.

17. Ibid.

18. Ibid.; “Mental Models: The Best Way to Make Intelligent Decisions (~100 Models Explained),” *Farnam Street Blog*, 2023, https://fs.blog/mental-models/#military_and_war; and Clausewitz, *On War*, 146-147. Clausewitz argues that a commander must “carry the whole intellectual apparatus of knowledge with him” and “always be ready to bring forth the appropriate decision,” phrases we could update using today’s language to “a commander must master mental models to enable rapid, intuitive decision making.” He also states a commander must be an “acute observer of mankind,” a topic this article also discusses further on.

19. “Mental Models: The Best Way to Make Intelligent Decisions (~100 Models Explained),” *Farnam Street Blog*, 2023, https://fs.blog/mental-models/#military_and_war.

20. Clausewitz, *On War*, 102. I refer here to Clausewitz’s concept of *coup d’œil*, which he states is a necessary component of military genius; Riley writes⁸⁷, “The Meaning of Critical Analysis in ‘On War,’” *Thinking with Clausewitz*, 31 January 2015, <https://onclauswitz.blogspot.com/>. The author directly equates Clausewitz’s idea of military genius with a commander’s “intuitive judgement.”; Matthew Fontaine, “On the Outside, Looking In: Three Simple, Accessible Tools to Enhance Your Assessment,” *Military Intelligence Professional Bulletin*, no. 3 (July–December 2022): 73, <https://mipb.army.mil/articles/2022-jul-dec/fontaine-on-the-outside>. See the discussion on the errors associated with expert forecasts and ways to improve your assessments. A key difference is that my writing focuses on the accuracy of predictions, where the expert has time to do an in-depth analysis to support a prediction. As stated in the article, no one in war can count on having the time to apply accuracy-boosting decision aids. Still, even “simple mechanical rules” are “generally superior to human judgement,” according to a study by Paul Meehl referenced in Daniel Kahneman, Oliver Sibony, and Cass R Sunstein, *Noise: A Flaw in Human Judgement* (New York: Little, Brown Spark, 2021), 114. The bottom line is that commanders and senior intelligence officers should make significant efforts to leverage structured decision-making processes or software whenever possible to improve the accuracy of their predictions, even in high-tempo operations. They also need to go to war prepared, with a repertoire of mental models (doctrine, theories on human behavior, and historical examples) already in their minds.

21. Office of the Chairman of the Joint Chiefs of Staff, Joint Publication 3-0, *Joint Campaigns and Operations* (Washington, DC: The Joint Staff, 18 June 2022), GL-8.

22. Department of the Army, ADP 6-0, *Mission Command*, 1-4.

23. Ibid.

24. Previous reading and professional military education influenced my thoughts on curation (to include the word itself) within complex situations. However, I am unable to cite a specific author now. The interested reader can find much information on curation, particularly data curation. Data curation will undoubtedly influence future intelligence activities, and senior intelligence officers will have to leverage these tools. Separately, author Zachary Shore notes the need for identifying the correct information to examine in the “ocean of information,” which undoubtedly influenced my thinking here. However, he does not use the word curation (here anyway). See Excerpts and Reviews of *A Sense of the Enemy: The High-Stakes History of Reading Your Rival’s Mind* by Zachary Shore, <https://www.zacharyshore.com/a-sense-of-the-enemy.html>.

25. Marilyn Willis-Grider, “Project Athena AEAS Assessment Status,” Center for Army Leadership, last modified 22 May 2023, 14:57:56, <https://www.capl.army.mil/Athena/athena-articles/Athena-Assessments.php> (emphasis added).

26. Ibid.
27. Daniel Kahneman, *Thinking Fast and Slow* (New York: Farrar, Straus and Giroux, 2011).
28. Department of the Army, "Athena," Center for Army Leadership, last modified 22 May 2023, 14:57:56, <https://www.capl.army.mil/Athena/>.
29. Karl E. Weick, Kathleen M. Sutcliffe, and David Obstfeld, "Organizing and the Process of Sensemaking," *Organization Science* 16, no. 4 (July–August 2005): 409–413; and Jean Helms-Mills, *Making Sense of Organization Change* (London: Routledge, 2003).
30. Weick, Sutcliffe, and Obstfeld, "Process of Sensemaking," 409.
31. Ibid., 411.
32. Ibid.
33. Ibid.
34. Ibid.
35. Ibid.
36. Ibid., 412.
37. Ibid.
38. Ibid.
39. Ibid., 413.
40. Ibid., 409–413. I modified the authors' nursing example to craft this vignette.
41. Ibid., 411.
42. Ibid.
43. Ibid.
44. Ibid.
45. Ibid., I modified the authors' nursing example for the material in this paragraph.
46. Ibid., 411.
47. Ibid. The authors cite Klein et al., in press, for insights into how "mental models might be primed" by environmental cues or "a priori" permit noticing. Gary Klein, Jennifer K. Phillips, Erica L. Rall, and Deborah A. Peluso, "A Data-Frame Theory of Sensemaking," in *Expertise Out of Context: Proceedings of the Sixth International Conference on Naturalistic Decision Making*, ed. Robert R. Hoffman (New York: Psychology Press, 2007).
48. Ibid., (emphasis added). The authors cite R. Chia for the quote, "forcibly carve out of the undifferentiated flux of raw experience." Robert Chia, "Discourse Analysis as Organizational Analysis," *Organization* 7, no. 3 (August 2000): 513.
49. Ibid. The quote belongs to the authors; the analogy is mine.
50. *Merriam-Webster*, s.v. "a priori (adj.)," accessed September 18, 2023, <https://www.merriam-webster.com/dictionary/a%20priori>.
51. I want to acknowledge Mr. Tamotsu (Tee) Iwashii for his thoughts and assistance improving this paragraph. Mr. Iwashii noted deception and biases as challenges that interfere with our ability to recognize indicators and warnings.
52. Weick, Sutcliffe, and Obstfeld, "Process of Sensemaking," 411.
53. Ibid.
54. Ibid.
55. Department of the Army, ADP 5-0, *The Operations Process* (Washington, DC: U.S. GPO, 31 July 2019), 4-6–4-7.
56. Ibid.
57. Ibid., 4-6. Figure adapted from original.
58. Weick, Sutcliffe, and Obstfeld, "Process of Sensemaking," 411–412.
59. Ibid., 412.
60. Ibid.
61. Ibid.
62. Ibid., 412; and Marianne A. Paget, *The Unity of Mistakes* (Philadelphia, PA: Temple University Press, 1988).
63. Weick, Sutcliffe, and Obstfeld, "Process of Sensemaking," 412.
64. Ibid., 409, 412.
65. Ibid., 412.
66. Ibid.
67. Ibid.
68. Ibid., 413 (emphasis added).
69. Ibid., 411–412; James R. Taylor and Elizabeth J. Van Every, *The Emergent Organization: Communication as Its Site and Surface* (Mahwah, NJ: Erlbaum, 2000). The authors attribute insights on iteration and shared understanding to J.R. Taylor and E.J. Van Every, 2000; and Robert Chia, "Discourse Analysis as Organizational Analysis," *Organization* 7, no. 3 (August 2000): 517. The authors attribute insights on a labeled topic becoming tangible and distinct in the flux to R. Chia, 2000.
70. Figure adapted from author's original. The diagram is an amalgamation of Figure 4-2 from ADP 5-0, *The Operations Process*, combined with insights from Weick, Sutcliffe, and Obstfeld, "Process of Sensemaking," Carl von Clausewitz, *On War*, and Malcolm Gladwell, *Blink*.
71. See "Athena Leader Self-Development Tool," Center for Army Leadership, <https://capl.army.mil/Athena/sd-tool/#/>.
72. Archibald Wavell, *Generals and Generalship* (New York: Macmillan, 1941), 24. Quote attributed to Ardant du Picq.
73. Archibald Wavell, *Generals and Generalship*, 25.
74. Ibid. Now there is a need to study doctrine and tactics! These military models are helpful for the senior intelligence officer, as they provide a starting point for what a rational opponent may do. However, General Wavell also implies that other factors, such as leadership and morale, influence victory in war.
75. Karen Weintraub, "Good news for bookworms: Reading novels boosts your empathy," *Health, STAT*, July 19, 2016, <https://www.statnews.com/2016/07/19/reading-boosts-empathy/>.
76. Ibid.
77. Zachary Shore, *A Sense of the Enemy: The High-Stakes History of Reading Your Rival's Mind* (Oxford: Oxford University Press, 2014) 2, quoted in Matthew Fontaine, "Understanding a Complex World: Why an Emphasis on Empathy Could Better Enable Army Leaders to Win" (master's thesis, U.S. Army Command and General Staff College, 2016), <https://apps.dtic.mil/sti/pdfs/AD1019977.pdf>. See my thesis for a more in-depth argument on the importance of empathy to military personnel.

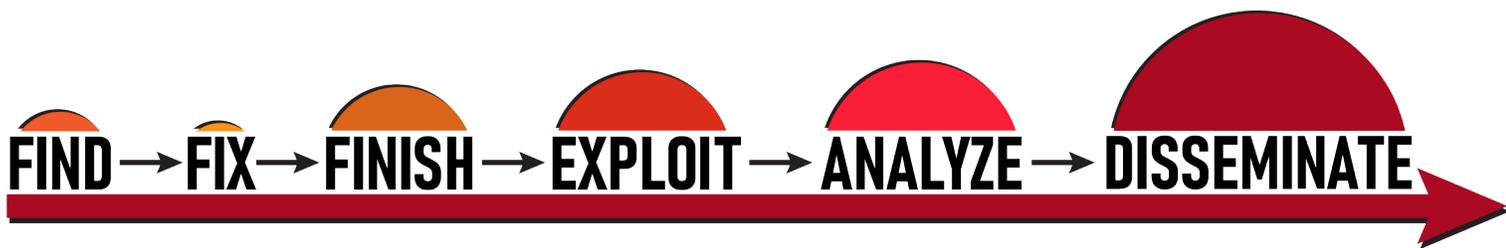
78. Zachary Shore, Excerpt of *A Sense of the Enemy: The High-Stakes History of Reading Your Rival's Mind* (Oxford: Oxford University Press, 2014), <https://www.zacharyshore.com/a-sense-of-the-enemy.html>. Zachary Shore also alludes to the power of curation and cites Gladwell's "thin slice" in this summary. I discuss Zachary Shore's (and other's) models and insights more in my thesis. (See endnote no. 64.)

79. Zachary Shore, *Sense of the Enemy*, 6-8. I also discuss Shore's pattern breaks in my thesis. (See endnote no. 64.)

80. Clausewitz, *On War*, 102. Also, see Clausewitz's chapters on "critical analysis" and "on historical example" for a more sophisticated discussion of how to hone your military mind by analyzing military decision makers in historical situations; and Rileywrites87, "Thinking with Clausewitz." Rileywrites87 states that Clausewitz's theory aimed to advance the "commander's intuitive decision-making abilities" using "critical analysis" to gain experience outside war vicariously.

81. Figure adapted from author's original, which was created from insights cited throughout the article.

LTC Matthew Fontaine is the G-2 for the 1st Infantry Division, Fort Riley, KS. He previously served as the G-2 for the U.S. Army Joint Modernization Command. He has deployed twice to Iraq and twice to Afghanistan, serving as an executive officer, platoon leader, battalion S-2, military intelligence company commander, and analysis and control element chief. He holds two master of military art and science degrees, one in general studies and the other in operational art and science, from the U.S. Army Command and General Staff College.



Optimizing the Alternate Targeting Methodology F3EAD

by Major Michael J. Fox, Major Matthew Otterstedt, Major Bernard Wheeler, and Major Kevin H. Caliva

Editor's Note: This article was written prior to the publication of ADP 3-13, Information, which provides the fundamental principles for considering how Army forces use, protect, and attack data and information to achieve objectives while affecting the threat's ability to do the same. This doctrine is based in the premise that all activities have inherent information aspects that generate effects which contribute to or hinder the threat from achieving objectives during competition, crisis, and armed conflict. It establishes the fundamental principles and guidance to plan, prepare, execute, and assess the use of information during operations.

Introduction

The U.S. Special Operations Forces (SOF) must optimize the organizational force structure to adequately leverage emerging technologies. These technologies must focus on increasing the effectiveness associated with SOF's diverse and challenging missions against increasingly sophisticated adversaries. The purpose of SOF is to create strategic, asymmetric advantages for the Nation in competition, crisis, and conflict. To maintain these asymmetric advantages in the modern operational environment, SOF must lead the integration of cyberspace operations into targeting through their application of the alternate methodology—Find, Fix, Finish, Exploit, Analyze, and Disseminate (F3EAD).¹ SOF can also increase efficiency and effectiveness in future military engagements by employing cyberspace capabilities, such as artificial intelligence and quantum technology, to enhance the intelligence architecture during future operations. Optimizing the F3EAD targeting methodology by applying an enhanced intelligence architecture and cyberspace effects will increase the lethality and efficiency of SOF operations.

SOF missions frequently support high-visibility overseas contingency operations and rely on a targeting approach “predominantly used for counterinsurgency and high-value individual targeting known as F3EAD.”² With the F3EAD targeting methodology, SOF may recognize, locate, and target enemy units and conduct intelligence exploitation and analysis on captured enemy high-value targets and equipment.³

The process often emphasizes speed to not only remove high-value targets from the battlefield but to gain and maintain additional intelligence on the enemy within the area of operations. Creating a symbiotic interaction between the operations and intelligence warfighting activities is the most crucial feature of F3EAD. Operations continuously guides the overall intelligence effort, and intelligence, in turn, provides operations with the data they need to complete the mission.⁴

SOF's threats are multifaceted—near-peer adversaries in Eastern Europe and China; transnational terrorist organizations in the Middle East and North Africa; and failed or failing states with a regional terrorist presence. The *National Security Strategy* states that our “strategy is rooted in our national interests: to protect the security of the American people; to expand economic prosperity and opportunity; and to realize and defend the democratic values at the heart of the American way of life.”⁵ The complexity of the threats facing SOF in current operational environments has led to a shift in requirements for the intelligence architecture and tactics, techniques, and procedures (TTP) of the intelligence warfighting function. The problem sets, the complexity of operations, and the rapid-response nature of the SOF missions across geographically diverse theaters requires a reshaping of the intelligence architecture and TTPs within the framework of the mission set. It also requires an assessment of SOF's organic capabilities to collect, analyze, and exploit intelligence information in a coalition or joint framework.

Digital Anchor Point

During SOF operations in austere areas where no significant collection platform is available, the intelligence warfighting function is responsible for coordination at higher echelons to acquire up-to-date and accurate intelligence reports.⁶ Intelligence personnel must be prepared to deploy and operate within a low-bandwidth communications architecture and with limited cross-domain solutions. This must include

minimizing enemy targeting opportunities by reducing electronic signatures and keeping pace with maneuver force dispersion and survivability efforts. The development and advancement of the Department of Defense Information Network's (DoDIN) cyberspace operations could facilitate a geographically separated digital anchor point capable of reach-back support using the Distributed Common Ground System-Army backbone. Through this digital anchor point, SOF would be able to provide agile, adaptive responses to complex problem set. The digital anchor point should be designed as a digital, continuous analytical bridging solution that provides elements on the forward edge with the intelligence architecture capable of real-time, reach-back support in tailorable force packages to meet specific threats.

The digital anchor point would improve SOF communications and architecture shortfalls by rapidly establishing an information flow and promoting situational awareness, decreasing the risk to forces and the mission. For example, currently, fully establishing the forward-deployed intelligence architecture during an airborne operation occurs once conditions are set. The digital anchor point would provide a common operating picture and intelligence update to the assault command post upon establishment of communications. This would enable the intelligence warfighting function to visualize the threats and relevant aspects of the operational environment, helping the commander decide when and where to concentrate combat power to defeat the enemy. The SOF intelligence warfighting function should develop and incorporate the digital anchor point as a geographically offset and tailorable package that can support continuity through information collected by national and theater assets, databasing and situation development for the operation in near real time, and continuous analytic support with the human dimension isolated from threat factors and environmental conditions.

The task organization of SOF, the requirements of joint forcible entry operations, the variety of potential mission sets tied to contingency plans, the interoperability with multinational partners, and the threats present in the operational environment underline the need to reshape the architecture with modified TTPs. In large-scale combat operations with a peer or near-peer, the intelligence warfighting function must operate with a reduced electromagnetic signature to degrade enemy targeting opportunities and keep pace with maneuver force dispersion and survivability efforts.⁷ The digital anchor point would provide the intelligence architecture and support mechanisms to maintain the commander's perspective of the battlefield while also supporting survivability aspects of the operational environment. The digital anchor point could perform this function in both time and space, away from the threat or environmental factors that degrade mission command and adversely affect elements

of the human dimension. Integrated systems and expanded bandwidth capabilities within the intelligence architecture, down to the lowest command level of SOF, would allow the historical clients of intelligence reports to be both receivers and producers of intelligence. Battalion-level production and information sharing through the digital anchor point would increase the intelligence warfighting function's ability to receive, process, analyze, and disseminate information and further enhance the commander's ability to gain and maintain perspective on the battlefield. An increased number of intelligence production nodes on the battlefield would also increase F3EAD lethality and survivability of SOF within multidomain operations. The success of the digital anchor point is contingent on a robust DoDIN communications package and strong digital bridging (i.e., data sharing) solution with various multinational partners.

The F3EAD Process

While F3EAD is very well suited for lethal targeting operations against high-value targets, it is equally effective in identifying and prioritizing targets for nonlethal targeting to achieve cross domain effects. SOF can bolster targeting by employing offensive cyberspace operations (OCO), defensive cyberspace operations (DCO), and electronic warfare (EW) capabilities. "Finally, while doctrine views F3EAD as a hasty decision process, many units also utilize F3EAD in deliberate planning."⁸ Incorporating cyberspace operations and EW capabilities into the targeting process will yield increased effectiveness and efficiency.

Find. Simply put, the find step of F3EAD establishes "a starting point for intelligence collection."⁹ These start points frequently take the form of the bed down locations, last known locations, or other last known multisource reports. F3EAD practitioners use the full range of intelligence assets to acquire a starting point.¹⁰ However, substantial amounts of data make it difficult to conduct efficient analysis, producing a latency issue for any timely combat information that leads to actionable intelligence. Within the joint force, processing, exploitation, and dissemination (or PED) cells are crucial links between the collection assets and the ground force commanders making targeting decisions. The abundance of publicly available information offers additional means that were not available in past years. This offers options for OCO, DCO, and EW operations to engage in the find step and bear fruit through the speed of their actions. Artificial intelligence also has the potential to bolster F3EAD by improving positive identification, specifically with facial recognition technology, to increase the speed the United States can find and fix a targeted individual.

Fix. The fix step of F3EAD occurs when intelligence collection on a given target has developed enough to execute a mission.¹¹ Once a target is positively identified, a wide range of collection capabilities are leveraged on a target to develop

patterns of life. A well-developed pattern of life focuses on where and when a target will maneuver on the battlefield. The predictive nature of the pattern of life enables operations for nonlethal or lethal effects at the time and place of choice. The joint force depends on targeting teams to triage the data and provide predictive pattern of life analysis. This model, centered around human capacity and capability, becomes difficult to manage throughout daily activities and schedules. Much of the resident knowledge on a given target's pattern of life leaves when a targeteer tracking the target leaves the organization. Adopting OCO, DCO, and EW operations into the fix step can facilitate a more rapid corroboration of a target's pattern of life. Artificial intelligence, specifically, has the potential to aid F3EAD by enabling faster analysis to expedite decision making. This advancement to pattern of life development and analysis can hasten triggers to act, reduce overall resource requirements, and increase targeting efficiency throughout a designated area of operation.

Finish. F3EAD's first two steps (find and fix) provide the triggers for decision makers to approve risk tolerant operations against an adversarial target. "The window of opportunity to engage the target requires a well-trained and rehearsed finish force and a well-developed SOP [standard operating procedure]."¹² Forms of operations related to the finish phase include lethal strikes via terminal guidance, launching a raid force, or the use of surrogates to close with and destroy an adversary's personnel, weapons, or equipment. However, the finish phase can just as quickly be nonlethal.¹³ Integration of OCO, DCO, and EW operations into the finish portion will provide additional advantages for SOF operations to achieve objectives through the employment of lethal and nonlethal effects. Artificial intelligence will further enable OCO, DCO, and EW by leveraging autonomous bots for ubiquitous employment, terminating with a nonlethal finish. In addition, artificial intelligence has the potential to enable unmanned aerial vehicle swarming capabilities, increasing the range of military targeting options for a lethal finish.

Exploit. "The 'exploit' phase, as the main effort of F3EAD, is the most critical single step in the process as it leads to finding, fixing, and finishing of the next target and the perpetuation of the cycle."¹⁴ The emphasis on exploitation is what makes F3EAD different from other targeting models.¹⁵ The exploitation effort aims to yield sufficient actionable intelligence to continue the F3EAD methodology as quickly as possible. In most cases, collected exploitable material (CEM) is manually sorted and tagged for time-sensitive information, which includes any intelligence leading to a fleeting start point or "find." This manual work is both costly and time intensive, resulting in missed targeting opportunities. In modern and emerging operational environments, artificial intelligence can provide a decisive military advantage to any country able to

wield, employ, and integrate it into the multidomain battlefield. Artificial intelligence can reduce the cost and manpower required to sift through, process, and exploit CEM.

In other cases, data and enemy "reflections" can be sorted and analyzed by all-source analysts. However, by leveraging artificial intelligence this data and analysis could become a much more efficient and effective process, providing a quicker feedback mechanism to the ground force commander.

Analyze. The analyze phase is where the CEM gathered transforms into intelligence that can drive future operations.¹⁶ "Analysis can be performed by SOF in theater, or information and material can be sent to CONUS [continental United States] for further in-depth analysis."¹⁷ Unlike the exploit phase, intelligence professionals take a deep dive into the CEM, or reflections from an action taken against an enemy, to tip and cue additional targets to find. This not only speeds up the analysis process but also reduces the risk of error or inconsistencies. However, similarly to the exploit phase, artificial intelligence will reduce the cost and manpower required to sift through, process, and analyze CEM.

Disseminate. "The last step in the F3EAD process is the "disseminate" phase. One of the keys to success of F3EAD is creation of a wider dissemination network than what has traditionally been practiced inside the U.S. intelligence community."¹⁸ To further the scale and security of information sharing during the dissemination phase, SOF should invest in quantum technology to translate the principles of quantum physics into technical applications. Moreover, artificial intelligence and quantum technology can help make disseminated data more accessible by converting it into different formats and languages.¹⁹ This can help overcome language barriers and ensure that data is accessible to a wider audience. This dissemination would increase interoperability, interdependence, and integration of the joint force during any fight or targeting operation. In general, quantum technology has not yet reached maturity; however, it could hold significant implications for the future of military encryption and communications.

Optimizing for the Future

Optimizing the SOF F3EAD targeting methodology by applying an altered intelligence architecture and cyberspace effects will increase the lethality and efficiency of SOF operations. SOF should continue to modernize its cyberspace capability to improve the intelligence architecture during an operation. SOF efforts to employ artificial intelligence and quantum computing into the F3EAD process will increase speed and efficiency for decision makers. An altered intelligence architecture, artificial intelligence, and quantum computing seek to address and define the complex, multitiered threats that will continue to face SOF in current and future operational environments. The problem sets, the complexity of airborne

operations, and the rapid-response nature of the mission—across geographically diverse theaters, against adversarial forces who constantly evolve and adapt—will continue to drive the way SOF thinks about intelligence support to the commander. It will reshape the framework of the intelligence warfighting function. 

Endnotes

1. Department of the Army, Field Manual (FM) 3-60, *Army Targeting* (Washington DC: U.S. Government Publishing Office, 11 August 2023), I-1.
2. Ibid.
3. Charles Faint and Michael Harris, “F3EAD: OPS/Intel Fusion ‘Feeds’ The SOF Targeting Process,” *Small Wars Journal*, January 31, 2012, <https://smallwarsjournal.com/jrnl/art/f3ead-opsintel-fusion-%E2%80%9Cfeeds%E2%80%9D-the-sof-targeting-process>.
4. Department of the Army, FM 3-60, *Army Targeting*, I-2.
5. Joe Biden, *National Security Strategy* (Washington, DC: White House, 2022), 7, <https://www.whitehouse.gov/wp-content/uploads/2022/11/8-November-Combined-PDF-for-Upload.pdf>.
6. Office of the Chairman of the Joint Chiefs of Staff, Joint Publication 2-0, *Joint Intelligence* (Washington, DC: Joint Staff, 26 May 2022), I-4–1-5.
7. Johan Jersbald and Niklas Alund, “Why signature analysis is crucial for combat survival,” SAAB, 18 November 2021, <https://www.saab.com/newsroom/stories/2021/october/why-signature-analysis-is-crucial-for-combat-survival>.
8. Faint and Harris, “F3EAD: OPS/Intel Fusion.”
9. Ibid.
10. Ibid.
11. Ibid.
12. Department of the Army, FM 3-60, *Army Targeting*, I-6.
13. Faint and Harris, “F3EAD: OPS/Intel Fusion.”
14. Ibid.
15. Department of the Army, FM 3-60, *Army Targeting*, I-6.
16. Faint and Harris, “F3EAD: OPS/Intel Fusion.”

17. Ibid.

18. Ibid.

19. “How to Overcome Language Barriers with AI,” Mosaicx, February 16, 2023, <https://www.mosaicx.com/blog/how-to-overcome-language-barriers-with-ai>.

MAJ Michael Fox is a graduate student assigned to the Air Command and Staff College with concentrations in national security; intelligence, surveillance, and reconnaissance and cyberspace; and electronic warfare and cyberspace. His previous special operations assignments were as the 75th Regimental Special Troops Battalion S-2, the 75th Ranger Regiment assistant S-2, and the 75th Ranger Regiment military intelligence company commander. MAJ Fox’s military education includes the Signals Intelligence Course, Air Assault School, Airborne School, and Jumpmaster School. He is a 2012 graduate of The Citadel, The Military College of South Carolina.

MAJ Matthew Otterstedt is a graduate student assigned to the Joint All Domain Strategist program at the Air Command and Staff College. His previous special operations assignments were as a company commander and air officer for 3rd Battalion, 75th Ranger Regiment and command group operations officer for the 75th Ranger Regiment. MAJ Otterstedt’s military education includes the Reconnaissance and Surveillance Leaders Course, Airborne School, and Jumpmaster School. He is a 2012 graduate of the U.S. Military Academy at West Point, NY.

MAJ Bernard “BJ” Wheeler is a graduate student assigned to Air Command and Staff College. His previous special operations assignments were as the commander and the regimental air for Headquarters and Headquarters Company, 75th Ranger Regiment. MAJ Wheeler’s military education includes the Ranger School, Airborne School, Air Assault School, Pathfinder Course, and Advance Airborne School Jumpmaster Course. He is a 2012 graduate of Southern University A&M in Baton Rouge, LA.

MAJ Kevin Caliva is a graduate student assigned to Air Command and Staff College. His previously special operations assignments were as the commander for Headquarters and Headquarters Company 7th Special Forces Group and the detachment commander for SFOD-A 7232. MAJ Caliva’s military education includes the Ranger School; Airborne School; U.S. Army High-Risk Personnel Security Course; Special Forces Qualification Course; Special Forces Detachment Leader’s Course; U.S. Army Military Freefall School; Special Operations Static Line Jumpmaster Course; and Survival, Evasion, Resistance, and Escape-C (High Risk). He is a graduate of Louisiana State University.