Always Out Front

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The field of intelligence analysis is at an inflection point. Behind us, several decades of accomplishment and innovation, chastened at times by errors and shaped by cautious incrementalism. Ahead, a future—as in all knowledge industries—still coming into view but shaped by the powerful and potentially disruptive effects of artificial intelligence, big data, and machine learning on what has long been an intimately scaled human endeavor, often more art than science, and dependent on individual insights and reputations.

—Joseph W. Gartin
Former Deputy Associate Director of CIA for Learning

The 2019 *Army Intelligence Plan* outlines the way ahead for the Army intelligence enterprise to synchronize our intelligence concept and capability development. In the plan, LTG Scott D. Berrier, U.S. Army Deputy Chief of Staff for Intelligence, G-2, says that "the requirement to operate faster and provide a clear intelligence picture to commanders is a direct result of the complexity of modern and future battlespaces."[1] Intelligence professionals face increasing challenges when conducting analysis given the complexity across all domains in the operating environment. These challenges include vast amounts of available information and the speed required to produce intelligence to help commanders make decisions in large-scale ground combat operations.

The term *big data* generally describes large volumes of data available for processing. It also represents data that is both structured and unstructured, which can quickly inundate an intelligence unit or staff. But the amount of data is not important—what matters is what organizations do with the data. We must arm our Soldiers—across all the military occupational specialties (MOSs) within the intelligence career management field (CMF 35)—with the skills to handle volumes of data, discern what is important, and process the information into actionable intelligence. Big data and the complexity of the modern operating environment will create ambiguity, and our Soldiers must be able to see through the ambiguity to articulate the actions of an adversary in a way that enables shared understanding.

Readiness requires a significant investment in developing our Soldiers' analytical skills. Our Soldiers must possess "the ability to conduct critical and creative intelligence analysis to support commanders' situational understanding in all operational environments."[2] Training, whether in the institutional or operational domain, must be sufficiently challenging and realistic to develop the skills our Soldiers require to compete and win in complex environments. We must ensure we provide enough repetitions to enable our Soldiers to acquire the proficiency to conduct analysis when conditions become difficult. In their book *Cases in Intelligence Analysis,* Sarah Miller Beebe and Randolph Pherson wrote, "The process is like starting a fitness regimen for the brain. At the beginning, your muscles burn a little. But over time and with repetition, you become stronger, and the improvements you see in yourself can be remarkable. Becoming a better thinker, just like becoming a better athlete, requires practice."[3]

Ensuring our analysts across all MOSs are capable of handling large volumes of data is not sufficient to stand alone. In order to maintain a competitive advantage over our adversaries, our Soldiers must be able to conduct analysis at the speed of large-scale ground combat operations. TRADOC Pamphlet 525-2-1, *The U.S. Army Functional Concept for Intelligence 2020–2040,* acknowledges this, noting that "future intelligence Soldiers must analyze large volumes of information rapidly and critically to provide analysis to decision makers."[4] To meet this requirement, we must develop ways to improve the speed at which we conduct intelligence analysis. *The Army Intelligence Plan* notes that we require "intuitive system interfaces to maximize [artificial intelligence/machine learning] AI/ML-enabled human-machine teaming."[5] Much of the analytic process is tedious and laborious and involves sorting through large volumes of data.

We must find ways to leverage our technological capabilities to gain efficiencies in this process.

Our approach to address this challenge begins with our doctrine. Doctrine must reflect the complexities and demands of the modern operating environment and provide the level of detail required to ensure understanding. Last year, we updated several publications, including ADP 2-0, *Intelligence*; ATP 2-01.3, *Intelligence Preparation of the Battlefield*; and ATP 2-22.9, *Open-Source Intelligence.* In January 2020, we revised ATP 2-33.4, *Intelligence Analysis*. The U.S. Army Intelligence Center of Excellence also created the TC 2-19.400, *Military Intelligence Training Strategy*, series of publications. All of these manuals nest with the Army doctrine published in FM 3-0, *Operations*, and FM 2-0, *Intelligence*, describing multi-domain operations and large-scale ground combat operations. Additionally, the revised ATP 2-33.4 addresses analysis of ill-structured problems in complex environments, drawing from doctrine outlined in ATP 5-0.1, *Army Design Methodology*.

In addition to doctrine, the Army will also engineer artificial intelligence technologies into military intelligence (MI) modernization programs to enable analysts to support tactical overwatch, targeting, and situational awareness with the speed, accuracy, and precision necessary for joint all-domain operations. In an age of ubiquitous sensing, teams of Soldiers, computers, and algorithms will ingest and transform thousands of squeaks, squawks, and pixels every few seconds into actionable intelligence. As technology matures, modernization efforts will get MI Soldiers out of the loop and, instead, put automation into the loop. This will allow analysts to manage autonomous and semiautonomous systems that never sleep, that never get bored, and that thrive at machine speeds with even the most mundane tasks. Artificial intelligence-enabled applications will improve hypothesis exploration, information search, and information validation. They will also help analysts to externalize intelligence problems, transferring those problems out of their heads and into an automated visualization that facilitates problem solving, reasoning, and all-source argumentation.

We will continue to improve our processes, capabilities, and doctrine to operate faster and provide a clearer intelligence picture to commanders. I am confident our Soldiers will have the tools, technology, and training they need to meet the challenges and demands of the changing character of war and win in a complex world.

Epigraph

Joseph W. Gartin, "The Future of Analysis," *Studies in Intelligence* 63, no. 2 (Extracts, June 2019): 1.

Endnotes

1. Department of the Army, Deputy Chief of Staff, G-2, *The Army Intelligence Plan* (Washington, DC, 2019), introduction.

2. Department of the Army, Training and Doctrine Command (TRADOC) Pamphlet 525-2-1, *The U.S. Army Functional Concept for Intelligence 2020–2040* (Fort Eustis, VA: TRADOC, February 2017), 39.

3. Sarah Miller Beebe and Randolph H. Pherson, *Cases in Intelligence Analysis: Structured Analytic Techniques in Action* (Thousand Oaks, CA: CQ Press, 2012).

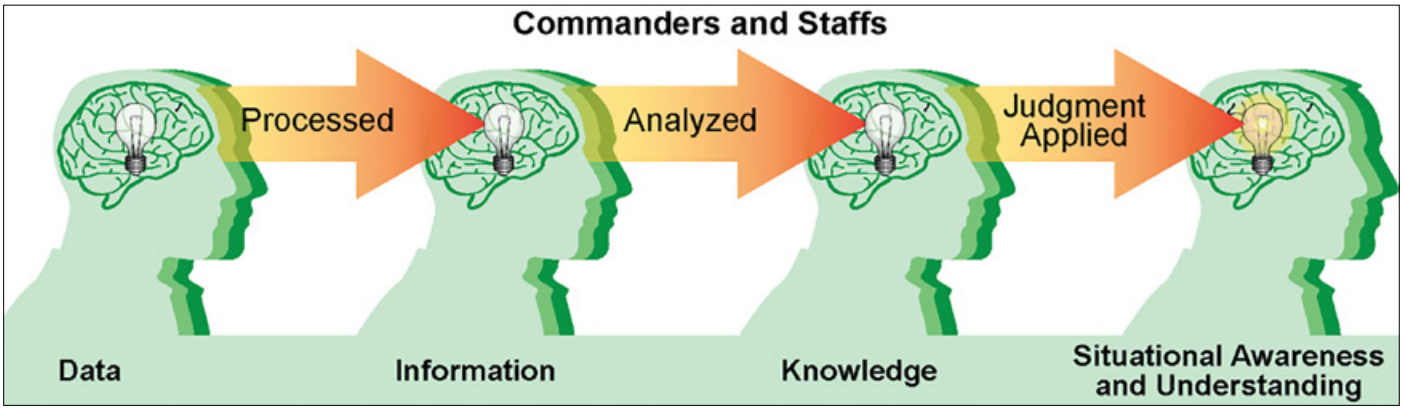
4. Department of the Army, TRADOC Pamphlet 525-2-1, *U.S. Army Functional Concept*, 30.

5. Department of the Army, *Army Intelligence Plan*, 5.

Always Out Front!

Building Knowledge and Understanding

Analysis is the compilation, filtering, and detailed evaluation of information to focus and understand that information better and to develop knowledge or conclusions. Analysis performed by intelligence personnel assists in building the commander's knowledge and understanding.



Achieving situational awareness and understanding