



F/A-18E Super Hornet assigned to Gunslingers of Strike Fighter Squadron 105 prepares to make arrested landing on flight deck of aircraft carrier USS *Dwight D. Eisenhower*, April 9, 2017 (U.S. Navy/Anderson W. Branch)

The Trouble with Mission Command

Flexive Command and the Future of Command and Control

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The U.S. military is having the wrong conversation about command. The current emphasis on “mission command” as an end in itself misses a crucial point about the nature of command—namely, that situational *understanding* is the rarest of all command characteristics.

Mission command begins with a bias to decentralized decisionmaking, and then fails to equip officers with tools for understanding how to determine where control should reside. Mission command is presented as a premise of effective command—“Given that I am decentralizing control as much as possible (that is, exercising mission command), how should I command?”—when it is in fact just one of many possible answers to the question of control, and not always the right one. This conceptual failure exposes the military to significant risk as the context of war undergoes one of history’s great revolutions with the entry of lethal, fully autonomous systems. We need a command philosophy that acknowledges the historical constraints of warfare but also leaves room to exploit the emerging capabilities of modern technology. The right question to ask is: “Given the tactical, operational, and strategic context, how should I command?”

In this essay, we present *flexive command* as a more appropriate way to think about command and control. Flexive command prompts us to identify where the greatest situational understanding resides at a given decision point and encourages us to devise ways to connect that understanding to the decision itself. Under flexive command, mission command (as delegation of increased decision authority) becomes one of many command approaches to a problem, and therefore is an element (a “way”) of command.

Command is a military principle that exists to use military forces effectively in achieving tactical, operational, or strategic objectives. The *ends* of command are simple: military operations that support the political objectives of war, at the lowest cost to future organizational effectiveness.

Of the *means* of command, there are four resources necessary to effectiveness: authority, communication, situational awareness, and situational understanding. Authority is the power to compel subordinate elements to act. Communication is the ability to convey information to and receive information from subordinate elements. Situational awareness (SA) is a knowledge of the current facts of a situation. It answers the question, “What is happening?” Situational understanding (SU) is a higher level of insight that describes the ability to link the current facts to the past, present, and future of the operational environment. It answers the questions, “Why is it happening, and what should we do about it?”

The *ways* of command, too numerous to list here, refer to the various uses and combinations of the means of command. How specific are orders? How frequent is communication? How does the commander delegate authority, risk, and responsibility? How are SA and SU shared? The list goes on.

There is confusion surrounding the term *mission command* due to two distinct ways that it is used. In Joint Publication 3-0, *Joint Operations*, mission command means a way to command by delegating authority and empowering subordinates to “carry out last

mission orders.”¹ In this context, it is a subordinate element of broader discussions of command and control (C2), and an appropriate way of command in a communications-denied environment, where subordinate units are cut off from higher oversight. In this sense, then-Chairman of the Joint Chiefs of Staff General Martin Dempsey’s 2012 “Mission Command White Paper” was a directive to train the force in mission command so that when subordinate commanders find themselves isolated from superiors, they are prepared to adapt and act without direct guidance in achieving mission success.²

In joint doctrine, the term *mission command* (MC) clearly refers to a way of command—the “conduct of military operations through decentralized execution based upon mission-type orders”; these orders convey “commander’s intent” and focus on “the purpose of the operation rather than on the details of how to perform assigned tasks.”³ Thus, MC is one of many ways of command. It requires a clear communication of overall purpose and delegates as much subsequent decisionmaking as possible to subordinates. This view is reflected in the early doctrinal work of the Marine Corps, the U.S. military organization that pioneered formal thinking about mission command. While reflecting a bias to decentralization of control, the 1996 Marine Corps publication *Command and Control* acknowledges that commanders must choose the appropriate level of control based on circumstances:

*No commander will rely entirely on either purely detailed or purely mission methods. Exactly what type of command and control we use in a particular situation will depend on a variety of factors, such as the nature of the action or task, the nature and capabilities of the enemy, and, perhaps most of all, the qualities of our people.*⁴

However, recent explanations of mission command have advanced a second, more problematic use of the concept, portraying it as *the* preeminent way of command. This is an error. The Army, for example, describes it as an entire

command philosophy, encompassing the art and science of C2, whereas the other Services abide by the joint definition.⁵ The mixture of the two views of mission command creates confusion about what it really means. Worse still, however, is that the interpretation of MC-as-philosophy-of-command forecloses a needed discussion of enduring principles of C2 to the potential detriment of the force.

Mission command is a legacy type of command derived from the Prussian *Auftragstaktik*, when communications were limited by the technology of the time and explicit orders throughout a battle were unrealistic.⁶ In the current and future multispectrum warfare, the Services must be prepared to fight in a denied environment, but to always command through delegation is impractical. This view of MC is faulty both as historical analysis (induction) and as deductive logic.

The inductive argument for MC asserts that military organizations with decentralized decisionmaking outperform those with centralized control. Army Doctrine Reference Publication 6-0, *Mission Command*, states that “the nature of operations and the patterns of military history point to the advantages of mission command.”⁷ This is a misleading simplification. Although technological change has rewarded decentralized control in recent military history, a longer view shows that the relationship between technology and the optimal control level is more complicated. The historical performance of different approaches to levels of control has rested not only on their tendencies to centralize or delegate authority, but also on the technological and operational context, and (crucially) on the decisions of adversaries. The two greatest empires of the classical world were built on innovations in military organization that pulled significant control *up* in the organizational hierarchy. Neither the Macedonian phalanx nor the Roman maniple could function effectively if independent decisions were made within these units because formational integrity was essential to their performance. They did not and could not work with sub-commands within those ranks. Similarly, the powerful innovations in



The Distributed Common Ground System—Army provides timely, relevant, and accurate targetable data to warfighters and will be fully interoperable with Army's Unified Mission Command System, providing access to information and intelligence to support battlefield visualization and ISR management (U.S. Army)

training and organization of Maurice of Orange and Gustavus Adolphus created greater uniformity of action to exploit massed musket fire and brought tactical formations under higher levels of operational control during battle, often with decisive success. The best we can say about the tension between central and dispersed control is that history has shown that both can work, and that their effectiveness depends on the technological and operational context. Technology may reward greater decentralization. But it also may reward greater control and organization.

What about the deductive argument for MC? It rests on three major premises. First, war involves competitive actors whose behavior is adaptive and therefore unpredictable.⁸ Second, decision speed in warfare is itself an axis of competition. Drawing on the work of Colonel John Boyd, the Mission Command White

Paper states, “the key to victory . . . [is] the ability to create situations wherein one can make appropriate decisions more quickly than one’s opponent.”⁹ Third, war is complex and its conditions and circumstances are “wrapped in a fog of greater or lesser certainty,”¹⁰ and “no C2 technology has ever successfully overcome the fog of war.”¹¹ From these three premises, advocates of MC derive the following conclusions:

- Complexity and competition make all war plans provisional, and effective adaptation is therefore required.
- The decision-speed requirements of modern warfare make both the quality and the speed of decisions crucial to successful adaptation.
- SA is inevitably (and often drastically) reduced from the tactical to the strategic level, and prevents sufficient local understanding at higher levels.

- Mission command is therefore necessary to focus and delegate commander thinking and guidance.

Therefore, controlling for the *speed* of decisions, the SA reduction through each level of a hierarchy diminishes the quality of adaptations decided by higher echelons (since their information is more incomplete than that of lower echelons). Controlling for the *quality* of decisions, the SA reduction reduces the timeliness of adaptations decided by higher echelons, since higher levels must expend precious time replicating the situational awareness held by lower levels.

The deductive argument for MC, like the historical (inductive) argument, contains some truth but makes unjustifiable conclusions based on that truth. The logic that war is competitive and therefore requires adaptation is valid and sound. The other three conclusions are more problematic.

The argument that decision speed is a crucial basis of competition is incomplete and simplistic, fetishizing rapid decisionmaking and grossly undervaluing situational understanding. General George Patton said, “A good plan, violently executed now, is better than a perfect plan next week.” We may focus so much on the “violently executed now” part of that maxim that we overlook the “good plan” requirement. General George Custer exercised mission command at the Greasy Grass. Speedy decisionmaking is good only when it is accompanied by good choices. An even greater problem with the emphasis on decision speed is that it ignores the ability of actors in war to affect the tempo of operations, getting inside the loop (to use Boyd’s term) of an adversary not by increasing the speed of their own choices, but by slowing the speed at which adversaries are making decisions, or by making those choices irrelevant to the outcome. In recent years, for example, special operations teams have learned the value of seizing control of tempo during raids in which targets can be isolated. Quintus Fabius Maximus (nicknamed “Cunctator,” or “Lingerer”) saved Rome from Hannibal’s invasion because he protracted the campaign, avoiding decisive engagements with Hannibal’s army. America’s adversaries in Vietnam and Afghanistan pursued similar “Fabian” strategies. Not everything has to be done quickly to be done well.

What about modern, high-intensity conflict, on a battlefield teeming with autonomous systems, where high tactical and operational speed is essential? Curiously, even here the delegation of authority to lower levels may slow down operations and degrade decision quality, depending on the technological context. At what echelons will we likely see the first fully automated systems? Various factors point to the tactical levels. Given the expected ability of advanced artificial intelligence to distribute itself across multiple, dispersed robots, the most effective tactical autonomous platforms are likely to be those used in systems. These systems would act and decide at machine speed, in a highly coordinated manner.

For a tactical decisionmaker to intervene effectively at that level and prompt an effective adjustment, he would need to process information more rapidly than the system and deliver the information to the system without disrupting its coordination. This is highly unlikely. Just as early innovations in musketry favored massed effects with limited opportunities for lower level improvisation, systemic automation of tactical units will drive meaningful control up in echelons.

MC supporters go so far as to say that mission command “enables decentralized and distributed formations to perform as if they were centrally coordinated.” This is an odd argument that draws on the concept of “emergence,” or spontaneous organization. Given a simple set of rules, large groups of otherwise stupid actors (think of a hive of bees or a flock of birds) can achieve highly coordinated and robust organizational behavior. Bees swarm against a threat to the hive. Starlings fly in massive, undulating formations that protect individuals from predators. But the keys to such coordination are the simplicity of the decision rules and the common capability in following those rules. The rules for decisionmaking in warfare are not simple, and the capability of human beings to decide how to behave according to those rules varies. Emergence is more likely to occur when decision rules are simple, factual interpretation is constrained, and the options are limited. Examples include stock market bubbles and crashes and battlefield panics. This is clear evidence of *shared understanding*, a crucial term in mission command. When a war produces these conditions, mission command supports emergent coordination in human systems. However, amid significant ambiguity and situational complexity, we should expect that shared understanding will be much more difficult to achieve. Higher levels of decentralization will therefore undermine systemic coordination, leading to *divergence* in behaviors and greater *diversity* of action. Sometimes that is very useful, such as when existing approaches are unsuited to the objectives of war and the system needs to learn and change. In summary, when facing

significant limits to shared understanding, we should either increase central control to achieve coordinated action, or decrease central control to achieve greater diversity of action. Our preference will depend on the conditions of the conflict.

Let us now turn to the equally problematic “fog of war” argument for mission command. This view sets aside a stroke centuries of technological innovation that have changed the informational context of war and can be used to foreclose necessary exploration of the amazing potential of new technologies that will transform the way that war is fought.

The fog of war is real. It affects situational awareness at all levels. Historically, the limited means of gathering and transmitting information meant that the farther someone was from the context of battle, the less complete and accurate the information and the greater the delay in communication. SA was valuable, and (usually) only local commanders possessed enough of it to derive sufficient SU to make good choices. What happens when technology changes that equation? History is not destiny.

Recall the “Mission Command White Paper” assertion that “No C2 technology has ever successfully overcome the fog of war.” Missing from this statement is the word “yet.” That word makes a big difference because it alerts us to the possibility that what we have not observed may still be out there to discover—the “black swan” of command and control. The path of technological innovation has been one of constant progress in increasing the fidelity and completeness of information, and in transmitting that information faster.

Situational awareness is becoming increasingly commoditized—that is, widely available and therefore less decisive in its effects. We speak of the sensing environment in warfare as if it were affected by metaphysical forces. We even have a word for it: *Fingerspitzengefühl*. In reality, however, humans have just five senses, and technology is becoming increasingly adept not only at projecting those senses with great accuracy and over immense distances, but also at *augmenting* those senses with additional dimensions of



Two E-2C Hawkeyes from “Black Eagles” of Carrier Airborne Early Warning Squadron 113 fly by aircraft carrier USS *Carl Vinson* during change-of-command ceremony, Pacific Ocean, February 9, 2017 (U.S. Navy/Zackary Alan Landers)

understanding. A Roman commander at a battle could see, hear, smell, and feel the conflict. A modern commander far removed from battle can see it and hear it but cannot (yet) feel it or smell it. However, he can also see electromagnetic signatures and information flows. Cyber and information operations are of increasing relevance to warfare. Given domains of warfare that cannot be perceived by unaided human senses, SA at the tactical level may in many cases be inferior to that of higher echelons. This trend is toward what we (with tongue slightly in cheek) call “O3”: omnipresence, omniscience, and omnipotence.¹² Omnipresence is the result of advanced communications capabilities. Omniscience is the result of advanced information-gathering capabilities (situational awareness). Omnipotence is the result of advanced precision-strike capabilities. This is hyperbole, but such exaggerations have their uses. Indeed,

technology has consistently extended and projected presence, awareness, and strike, and we should expect that it will continue to do so. The trend is therefore an increasing *perception* of “O3” on the part of senior commanders, based on *actual* improvements in all three areas.

With the commoditization of SA, *situational understanding* should be the decisive factor in guiding a military’s approach to command and control. What is the ideal approach to command and control? It is one in which the person with the best situational understanding is matched to a decision opportunity and given authorities such that a good choice is made and communicated in time to achieve success. That superior situational understanding may be found in a battalion commander at the front, but it may also be found in a staff officer far from battle.

We now get to an uncomfortable fact. Why do we remember brilliant

commanders such as Hannibal, Julius Caesar, Napoleon, Wellington, and Rommel? It is because such genius is rare. Furthermore, military brilliance exists not as an absolute, but only in its *relative* superiority. That is, it does not matter that a commander is brilliant; it only matters that he or she is more brilliant than an adversary. The ancient historian Polybius observed:

Now as to the battles which the Romans fought with Hannibal and the defeats which they sustained in them. . . . It was not owing to their arms or their tactics, but to the skill and genius of Hannibal that they met with those defeats . . . for as soon as the Romans got a general of ability comparable with that of Hannibal, victory was not long in following their banners.¹³

We may wish to believe that if we just empower lower-level commanders,



C-17 Globemaster IIIs deploy flares December 6, 2014, while flying over Nevada Test and Training Range during U.S. Air Force Weapons School's Joint Forcible Entry Exercise 14B (U.S. Air Force/Thomas Spangler)

communicating intent and creating shared understanding, subordinate commanders will act exactly as their superiors would if they had the same information and great things will happen. This belies the competitive reality of military brilliance. It is *rare*. Most officers are neither remarkably good nor bad in their strategic intelligence. Some officers are brilliant. Some are fools. Most muddle through. Recent American experiences in war bear this out. Given this variance in cognitive ability and competence, we should expect that MC-empowered commanders at the tactical level will *vary* in their understanding, and therefore diverge in their behaviors. Sometimes such variance is exactly what we want (for example, in developing solutions for an unexpected and difficult-to-comprehend obstacle). We return to this below.

When asked why he invested in Wrigley at a time when dot-com

companies were achieving astounding returns, Warren Buffett pithily observed, “The Internet does not change the way we chew gum.” In the same spirit, we can observe that technology does not make situational understanding more abundant. It *does*, however, open the possibility of projecting brilliance when it is found. An unthinking commitment to mission command stands in the way of this projection.

Flexive command is an alternative framework for thinking about the factors that lead commanders to pull control up or push it down along a continuum of control. In broad terms, factors that pull control up include strategic risk, problem complexity, high learning costs, and small numbers of total operations. Pushing control down are adaptation requirements, decision speed, situational complexity (that is, the large quantity and high relevance of information that is

not captured in existing communications means), communications constraints, and large numbers of current operations. Flexive command seeks to build a command culture and structure that is better able to solve the matching problem of command. Decisions should be made by the person who can make the best choice in time for it to affect the outcome. More simply, command decisions are made at the level that balances opposing tensions and reduces risk.

Flexive command focuses on four questions:

- What is the nature of the decision cycle?
- How complex are the problems?
- How costly are communications?
- What are the strategic and political implications of failure?

All four questions pertain to military risk, which increases with the speed of

decisions, the complexity of problems, the costliness of communications, and the implications of failure.

Decision cycles in military operations vary. Some are more controllable than others, meaning that we can affect their speed and character. Some cycles are by nature fast, while others are slow. Decisions cycles may be discrete, involving decision “moves” (for example, American football, with play resetting after a whistle) or continuous (for example, soccer). Cycles are also affected by competing demands for decisionmakers’ attention and resources. For example, decentralization of control is more valuable when cycles are not controllable, rapid, continuous, and in the context of high decision demands on higher echelons.

Problem complexity varies. Tactical units are less likely to possess the resources to solve problems that are difficult and novel. That is, the probability that the expertise of someone in the unit matches the problem is low. More to the point, it is more likely that the problem can be addressed by the combined intelligence of decisionmakers supporting operations. During the National Aeronautics and Space Administration’s failed Apollo 13 moon mission, the astronauts had to create a carbon filter that would allow them to oxygenate air in the lunar landing module. They could not do this themselves and called on engineers at mission control for support. This is an example of “Linus’s Law,” coined by the technologist Eric Raymond: “Given enough eyeballs, all bugs are shallow.”¹⁴ If you want to solve a sticky problem, get a lot of people to interact with it and give them the freedom to depart from standard procedures. The modification of Sherman tanks with “rhino” nose-plates to burst through the hedgerows of Normandy is a poignant example of the power of variant approaches to adaptation. One Soldier had the idea; his local commander agreed to let him try it. It worked, and General Omar Bradley found out about it. The modification soon became standard. Linus’s Law is in fact a powerful argument both for and against mission command. It depends on the nature of operating environment (number of units engaged), the resources

available to those units, and the ability of supporting elements to interact with and solve a problem.

Communications costs vary. *Fidelity* of communications refers to the accuracy with which a given fact is represented to the receiver of a message. A message that says “yes” when the sender said “no” has low fidelity. *Granularity* of communications refers to the amount of relevant and necessary detail captured in a message. A radio broadcast of a baseball game has less granularity than a television broadcast. *Timeliness* of communications refers to their composition and delivery within a timeframe that affects the outcome. The costliness of the communications environment clearly affects the optimal level of control for commanders.

Finally, military operations have varying strategic implications. It is naive and unreasonable for local commanders to expect a laissez-faire approach from higher echelons when, for example, nuclear war may result from a bad decision (think of the naval blockade during the Cuban missile crisis). Compounding this difficulty is the way in which social media appears to be increasing the strategic relevance of tactical decisions. Strategic implications will inevitably draw higher echelons into decisionmaking. The trick is to develop officers who understand how to engage in those discussions in a mature and productive way.

Flexive command is a nascent concept and, as such, it makes few simple prescriptions. We suggest it not because it provides the right answers but because it asks the right questions. We stand at the beginning of the robotics revolution in warfare. For the U.S. military to continue to innovate in how it organizes and fights amid this technological disruption, it must recognize the essential character of outstanding strategic insight and create mechanisms for extending that insight as widely as possible.

Before concluding, we must address a final argument used in favor of mission command: that it is good for the morale of officers who otherwise resent micromanagement from higher echelons. To this we say that defeat and death are even worse for morale. Mission command

focuses on how to command, as if the choice regarding delegation of authority, a *way* of command, were its own end. Yet command is not made for officers. Officers are made for command. It is essential that we build a command culture in which officers seek out the counsel of others who provide superior situational understanding. JFQ

Notes

¹ Joint Publication 3-0, *Joint Operations* (Washington, DC: Joint Chiefs of Staff, August 11, 2011), II-2.

² Martin E. Dempsey, “Mission Command White Paper,” April 3, 2012, available at <www.jcs.mil/content/files/2012-04/042312114128_CJCS_Mission_Command_White_Paper_2012_a.pdf>.

³ Joint Publication 1-0, *Doctrine for the Armed Forces of the United States* (Washington, DC: The Joint Staff, March 25, 2013), V-15.

⁴ Marine Corps Doctrinal Publication 6-0, *Command and Control* (Washington, DC: Headquarters U.S. Marine Corps, Department of the Navy, October 4, 1996), 80.

⁵ James W. Harvard, “Airmen and Mission Command,” *Air & Space Power Journal* 28, no. 2 (March–April 2013), 138.

⁶ Eitan Shamir, “The Long and Winding Road: The U.S. Army Managerial Approach to Command and the Adoption of Mission Command (Auftragstaktik),” *Journal of Strategic Studies* 33, no. 5 (October 2010), 647.

⁷ Army Doctrine Reference Publication 6-0, *Mission Command* (Washington, DC: Headquarters Department of the Army, March 12, 2014).

⁸ *Ibid.*

⁹ Dempsey.

¹⁰ Carl von Clausewitz, *On War*, ed. and trans. Michael Howard and Peter Paret (Princeton: Princeton University Press, 1989), book 1, chapter 3.

¹¹ Dempsey.

¹² Heath J. Niemi, *Did the Radio Kill Auftragstaktik?* Strategy Research Project (Carlisle Barracks, PA: U.S. Army War College, April 1, 2015).

¹³ Polybius, *Histories*, trans. Evelyn S. Shuckburgh (New York: Macmillan, 1889, reprint Bloomington, 1962), book 18, available at <www.perseus.tufts.edu/hopper/text?doc=Perseus%3Atext%3A1999.01.0234%3Abook%3D18%3Achapter%3D1>.

¹⁴ Eric S. Raymond, *The Cathedral and the Bazaar: Musings on Linux and Open Source by an Accidental Revolutionary* (Sebastopol, CA: O’Reilly Media, Inc., 1999), available at <www.catb.org/~esr/writings/cathedral-bazaar/cathedral-bazaar/>.