



German Gen. Wilhelm Keitel (*left*) and French Gen. Charles Huntzinger (*right center*) exchange documents during the signing of the Armistice acknowledging the French Third Republic's surrender to Nazi Germany 22 June 1940 in the Compiègne Forest, France. In an act of retribution, Adolf Hitler chose the Compiègne Wagon (railcar) and the forest for the signing, the same venue used for Germany's surrender to end the First World War. Author James Tollefson contends that Germany's rapid victory over France was the result of a failure by the French to evolve their doctrine during the interwar period. (Photo courtesy of Wikimedia Commons)

Fixing Army Doctrine A Network Approach



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On 10 May 1940, the German *Wehrmacht* rolled into Luxembourg headed for France.¹ By 15 May, the French front was decisively ruptured

at Sedan.² Within six weeks, German forces pushed the British army out of Europe, destroyed the French army, and occupied Paris. Adolf Hitler accepted France's

surrender in the same railway car where France had received the Kaiser's surrender in November 1918.³

A stunned world asked, and has continued to ask in the seventy-seven years since, how this happened. A quarter century earlier, the same countries fought over the same ground and demonstrated at a cost of millions of lives that neither had the technological or doctrinal advantage required for victory. Only the entrance of the United States into the war finally forced it to a conclusion.⁴ World War I seemingly proved that warfare had become an exhausting ordeal of attrition that bled nations, economies, and whole peoples white. Yet, twenty-two years later, Germany delivered a stunning victory that turned former assumptions on their head. The French army, hitherto regarded as the premier fighting force in Europe, was humiliatingly destroyed in mere weeks.

Contemporaries offered many explanations for France's defeat. Some felt the fault lay with the apathy of the French people.⁵ Others blamed the incompetence of the French High Command.⁶ Many suspected treason.⁷ Perhaps the most compelling reason, however, is that France's military doctrine had not evolved since World War I to reflect the incredible technological advancements that took place during the interwar period. French army doctrine became rooted in a firepower-focused, methodical approach to warfare that reflected the lessons learned during the final successful campaigns of 1918.⁸ The French never realized the potential of combined arms operations with large armored units, integrated indirect fires, and combat airpower destroying the enemy in depth. Yet these elements, combined with an emphasis on junior leader decision-making and initiative, were precisely the ingredients of German blitzkrieg that disoriented and crushed the French in 1940.⁹ In summary, the French lost their freedom largely because they possessed inferior doctrine.

The Importance (and Difficulty) of Understanding Army Doctrine

Doctrine is important. It "provides a coherent vision of warfare" that "accounts for an army's understanding of war."¹⁰ "The military profession, probably more than any other, fosters thinking about the future," and doctrine is the chief means by which those thoughts are communicated among military professionals and to the nation's civilian leaders.¹¹ Doctrine provides a theory of victory

that describes "how the military professional should execute critical tasks in support of national security objectives" in future conflicts.¹² Descriptive instead of prescriptive, effective doctrine provides a useful consistency that "simply overwhelms minor variations and unexpected reactions" and makes complex military campaigns possible.¹³ Good doctrine wins wars and provides flexible, effective foreign policy tools for the nation's leaders. Poor doctrine leads to disaster.¹⁴

Nevertheless, few Army leaders would probably claim a burning passion for reading doctrine. Doctrinal ignorance is something many soldiers take ironic pride in, as if refusing to understand the Army's professional body of knowledge is a sign of intellectual independence. As Steve Leonard, a nonresident Fellow at West Point's Modern War Institute, points out, "We're often so proud of the fact we don't read our own doctrine that we joke about it."¹⁵ We quote the apocryphal German officer's observation that "Americans do not read their manuals" as a sign of the inherent flexibility and independent spirit of our leaders.¹⁶ This attitude bears an uncomfortable resemblance to that of French War College students before World War II "who had the study of doctrine as their primary concern" but "found its study less rewarding than horseback riding or terrain walks."¹⁷ Given the results obtained by the French army in 1940 from an apparent lack of interest in doctrine, the uncritical acceptance of a similar approach today makes little sense.

Willful ignorance among the U.S. Army officers' corps is even more surprising given the generally high quality of U.S. Army doctrine and the Army's effectiveness at regularly changing and updating it.¹⁸ To some extent, however, we have been victims of our own success. By the early 2000s, the Army had over five hundred doctrinal publications in print.¹⁹ The staggering volume of doctrine, together with constant changes and updates, made it exceedingly difficult for leaders to determine what was relevant to them at any given time.

However, starting in 2011, the Army attempted to mitigate the overwhelming amount of doctrine by launching the Doctrine 2015 program to combat senseless proliferation. Doctrine 2015 reorganized the Army's doctrine into a hierarchical structure of Army doctrine publications (ADPs), Army doctrine reference publications (ADRP), field manuals (FMs), and Army techniques publications (ATPs). ADPs and ADRPs

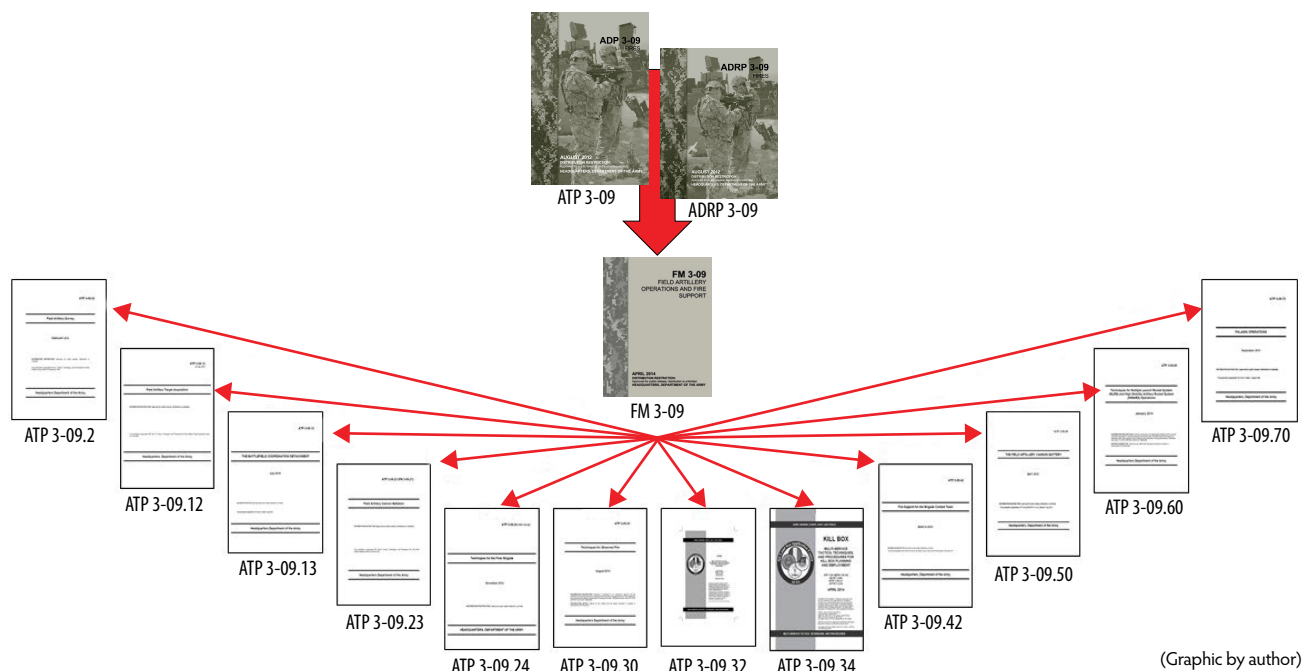


Figure 1. Example of Relationships between Army Doctrine Publications

provide broad overarching principles for the employment of Army forces, while FM and ATPs provide accompanying and clarifying details.

ADP 1, *The Army*, and ADP 3-0, *Operations*, are at the pinnacle of this hierarchy as the capstone publications that provide overarching concepts for the employment of Army forces. The publications are numbered to aid navigation.²⁰ For example, the basic doctrine for the employment of fires is addressed in ADP 3-09, *Fires*, and ADRP 3-09, *Fires*.²¹ FM 3-09, *Field Artillery Operations and Fire Support*, provides more explanation, while a dozen 3-09 series ATPs provide detail down to the tactical employment of individual weapons systems. These relationships are illustrated in figure 1.²²

Despite these improvements, the Army retains a dauntingly vast library of doctrine, comprising hundreds of publications. To actually read, much less retain it all, is effectively impossible. An average reader, who committed to reading doctrine for ninety minutes daily, six days a week, would take over two years to read everything currently published. Taking into account the constant publication of new or updated documents (an average of fifty-seven annually since 2012), potentially lengthens this task to almost four years. Once done, our

protagonist, to remain current, must still read each new publication upon release—an occurrence that happens, on average, each 6.4 days.²³

A rhetorical question, for those who consider themselves professionals: How often do you peruse a doctrinal publication in its entirety? For if you are not staying current, you are falling behind.

The obvious riposte to this challenge is that no one is really expected to read and understand all of the Army's doctrine. As ADP 1-01, *Doctrine Primer*, explicitly states, "Although doctrine as a whole represents the Army's professional body of knowledge on the conduct of operations, no one is expected to be an expert in all of it."²⁴ Rather, the Army expects its leaders to be "experts

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in the doctrine that relates to the Army as a whole and that pertains directly to their levels of responsibility, their branch and functional areas, and their assignments.”²⁵ Perhaps even more crucial, given the vastness of the Army’s doctrine, is that “every officer and noncommissioned officer should know what doctrine exists for the conduct of different types of operations and how to access it in the event that unforeseen circumstances put them in an operation that differs from their personal experience, training, and education.”²⁶

This seems sensible, and at first glance, the reorganization of doctrine accomplished under Doctrine 2015 seems a reasonable way to facilitate the doctrinal navigation that doctrine itself explicitly requires. Upon closer examination, however, this proves untrue for several reasons.

First, it is not immediately obvious where a young Army leader ought to begin searching for relevant doctrine. Let us take as an example a young infantry platoon leader. The officer is probably aware that he or she should read the ADPs to form a broad understanding of the Army’s overall doctrine (though if personal observation is any guide, it is likely that an officer will not do so until attendance at the Captain’s Career Course, if ever). From branch-specific training, he or she will know that the Army has consolidated the directly applicable doctrine in ATP 3-21.8, *Infantry Platoon and Squad*.²⁷ Perusing its contents, the officer realizes that he or she wants to learn more about foot marching. He or she accordingly turns to the references page in ATP 3-21.8 to discern the appropriate publication is FM 3-21.18, *Foot Marches*, published in 1990.²⁸ When the officer looks at the field manuals on the Army Publishing Directorate, however, he or she finds that this document is mysteriously missing. The reference is obsolete, as are 57 percent of all the references in the Army’s current doctrine.²⁹ If our young platoon leader knows that the Central Army Registry (CAR) records what publication replaced FM 3-21.18 (ATP 3-21.18, *Foot Marches*, published in April 2017), the officer can still find the required document.

Considering that few young officers are ever taught how to navigate the Army’s doctrine, and fewer still are probably familiar with the CAR, the officer is more likely reduced to one of two options—give up or scroll through every FM and ATP until he or she finds the

needed publication. Needless to say, few young leaders persist in this frustrating approach for long.

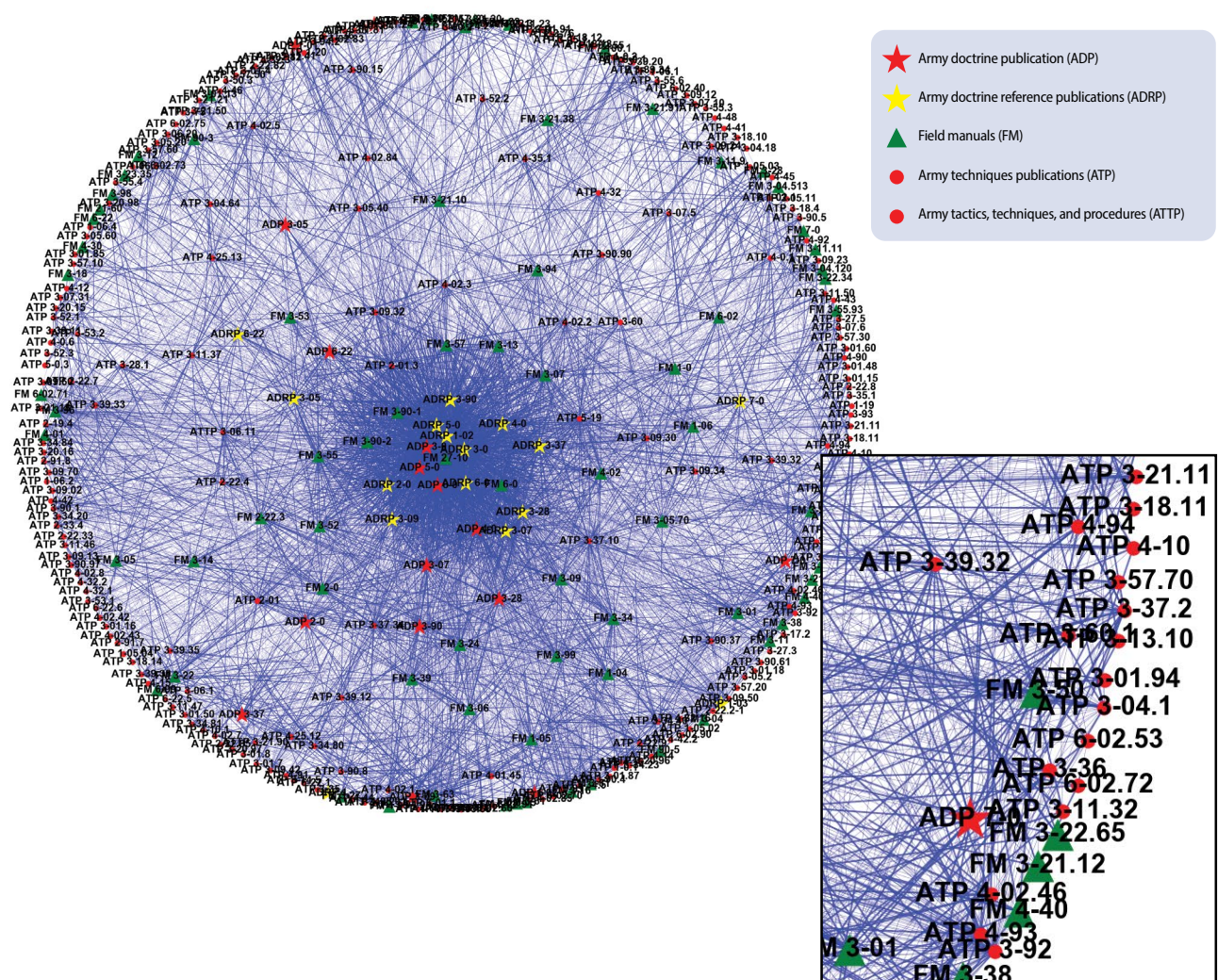
Second, doctrine is often updated without many Army leaders realizing it, updates from the Combined Arms Center notwithstanding.³⁰ I was recently conversing with a field grade officer who was explaining the importance of measures of performance and effectiveness from Army Tactics, Techniques, and Procedures (ATTP) 5-0.1, *Commander and Staff Officer Guide*.³¹ When I mentioned that this document is obsolete, and that it was replaced in 2014 by FM 6-0, *Commander and Staff Organization and Operations*, he informed me that the definition in ATTP 5-0.1 was clear and probably had not changed enough to be concerned about.³² However, this was not true; FM 6-0 is considerably different and makes the key point that the proponent doctrine for those terms is actually Joint Publication 3-0, *Operations*.³³ Of course, one does not make friends on Army staffs by pointing such things out, which further contributes to the fact that leaders throughout the Army are continuously referencing obsolete publications.

Third, the structure of the Army’s doctrine does not always highlight the relative importance of its publications. Although I will demonstrate this a little later, suffice it to say that even our capstone doctrine is not necessarily as important as its exalted position might seem to suggest. It is not always easy to determine what is important to read and what merely appears to be.

Doctrine 2015 significantly improved the size and organization of the Army’s doctrine, but clearly, much remains to be done. The question, then, is “How can we do so in an efficient manner that remains responsive to the ongoing turbulence in our professional body of knowledge?” Network theory can provide us with a solution.

A Network Approach to Understanding Army Doctrine

A network is an “interconnected or interrelated chain, group, or system” formed of nodes and edges.³⁴ Nodes are individual entities in a network and edges (usually represented as lines between nodes) are the connections between them. In a social network, each user is a node while the edges represent the connections between users. A map of the Facebook network would show each user as a node with edges connecting them to each of their friends.



(Graphic by author)

Figure 2. Army Doctrine Depicted as a Directed Network

Many extraordinarily complex phenomena can be described as networks. Cells are complex networks of chemicals connected by chemical reactions, the internet is a network of routers, linked both physically and wirelessly, and fads and ideas spread over social networks with links formed by social relationships.³⁵ Analyzing networks allows us to understand the dynamics present in complex systems and even to model the future.³⁶

Edges are either directed or undirected depending on the type of relationship or connection they represent.³⁷ In an undirected network, the edges between nodes represent reciprocal relationships. Facebook is an undirected network because Facebook friends communicate with one another and can see each other's content. Directed

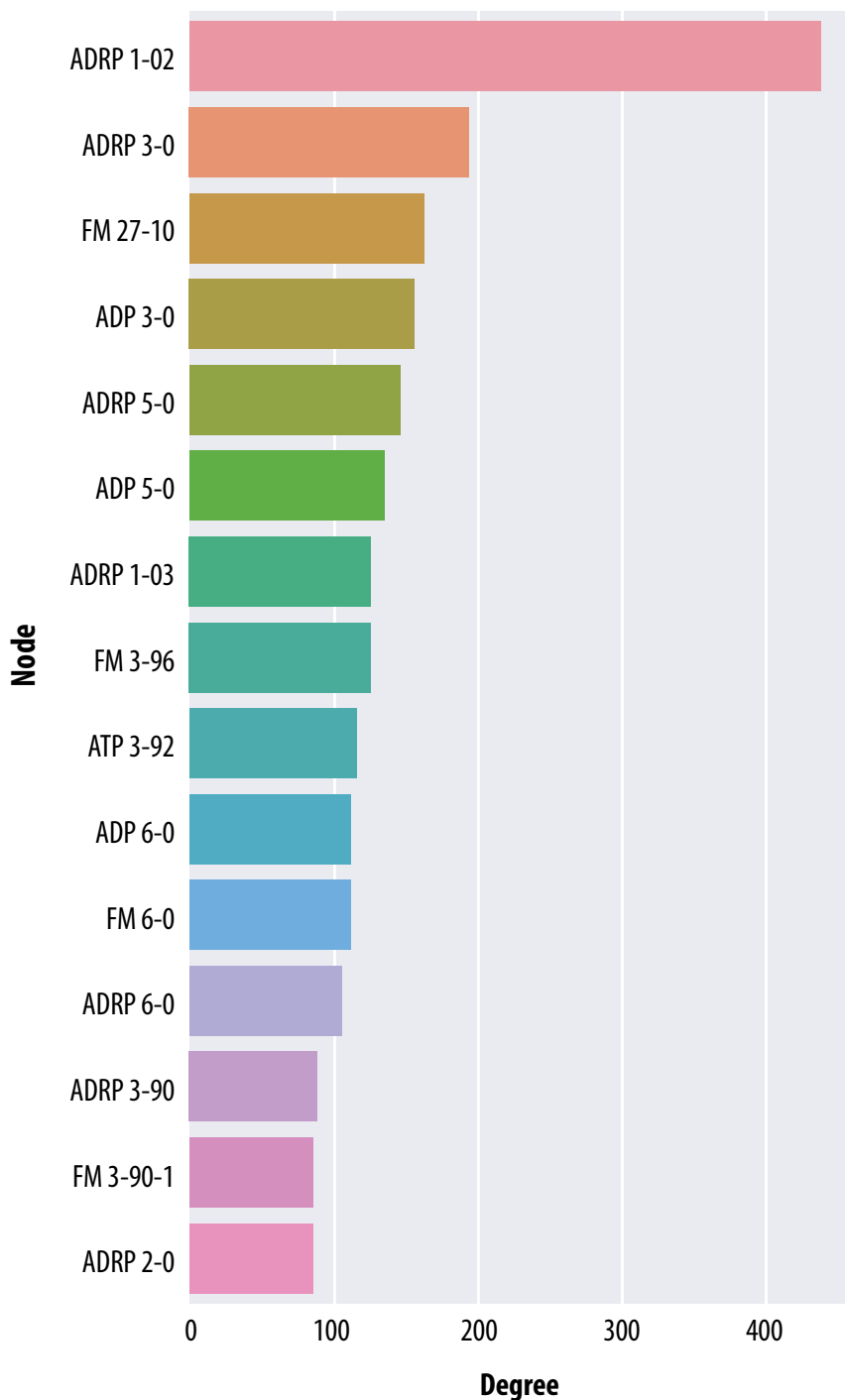
networks, by contrast, contain edges that point from one node to another. These edges represent unidirectional relationships. The Twitter follower network is a directed network because followers receive content from the users they follow but the followed individual does not receive content from the follower. The importance of any given node to the overall network can be calculated by simply counting all the nodes connected to it. The resulting number is the node's degree. To return to the social network paradigm, a node's degree is directly analogous to the number of friends a user accumulates on Facebook.

Army doctrine is easily depicted as a directed network. Each doctrinal publication contains references to numerous other publications. Each publication is a node with directed edges pointing to the documents it

references. Figure 2 shows the topology, or shape, of the Army's doctrine as generated in this way. Red and yellow stars represent ADPs and ADRPs, respectively, while green triangles represent FM's and red dots indicate ATPs. The thin end of each edge points to the source while the thick end points to the target (the referenced publication). The closer a publication is to the center of the graph the higher its degree in the network.

Several characteristics are immediately apparent. ADPs and ADRPs crowd the center of the graph, loosely surrounded by clusters of FM's and a cloud of ATPs at the fringe. This reflects the Army's hierarchical ordering of doctrine under Doctrine 2015, as we should expect. Surprisingly, however, a number of ADPs and ADRPs hover on the outskirts of the network, including ADP 1, one of the two capstone publications.

We also find that a number of FM's seem to enjoy pride of place in the Army's doctrine. FM 3-90-1, *Offense and Defense: Volume 1*, and FM 3-90-2, *Reconnaissance, Security, and Tactical Enabling Tasks: Volume 2*—the Army's tactics manuals—and FM 6-0 describing commander and staff organization, are central documents.³⁸ At the very center of the graph we find FM 27-10, *The Law of Land Warfare*.³⁹ Looking at the overall degree distribution of the doctrinal network (figure 3) we find that ADRP 1-02, *Terms and Military Symbols*, which provides the professional language of land warfare, is the single most connected publication in the doctrinal corpus.⁴⁰ Next comes ADP 3-0 and ADRP 3-0, both titled *Operations*; one of the two capstone publications, these provide "the Army's basic warfighting doctrine."⁴¹



(Graphic by author)

Figure 3. Node Degree Distribution of the Doctrinal Network

FM 27-10 and ADRP 5-0, *The Operations Process*, round out the top five.⁴²

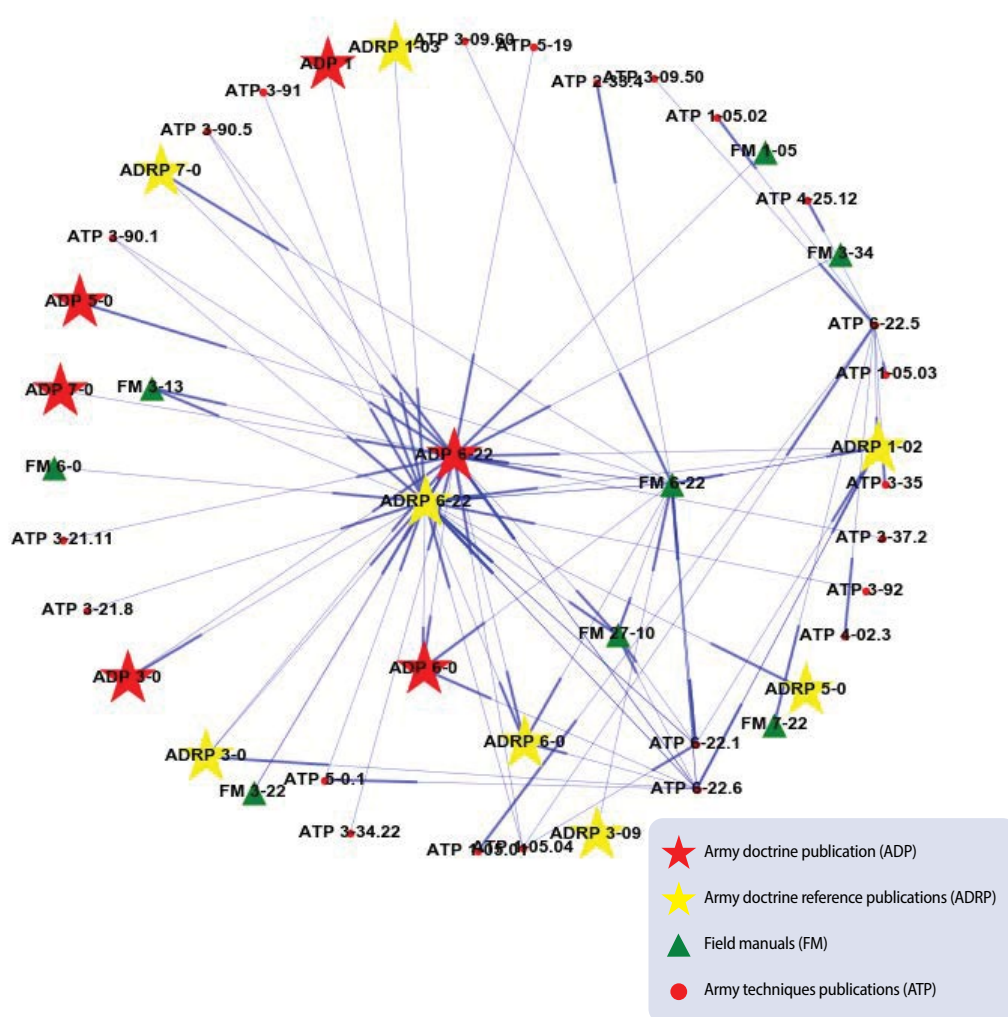
Taking a network perspective also allows us to examine specific elements of the Army's doctrine. Let

us say, for instance, that we want to look only at the topology of the Army's leadership doctrine. Taking advantage of the Army's doctrinal numbering system, we can re-create our network with only documents connected to 6-22 series publications (see figure 4).⁴³ Looking at the resulting products, we immediately learn that, as we might expect, ADP/ADRP/FM 6-22 are central. We see that the 6-0 series mission-command doctrine and FM 27-10 are also key. We see some curious omissions, however. Why, for instance, does ATP 3-21.21, *SBCT Infantry Battalion*, not mention the Army's leadership doctrine when ATP

3-21.11, *SBCT Infantry Rifle Company*, refers to it repeatedly?⁴⁴ Surely, effective leadership is as important at the battalion level as it is in a rifle company. Upon closer inspection, we discover that ATP 3-21.21 quotes the Army's leadership doctrine verbatim without citing it. Network analysis allows us to quickly and easily identify these types of discrepancies.

Room for Improvement

By taking a network approach, we can begin to identify easy fixes that would dramatically improve the navigability and intellectual coherence of the Army's doctrine. Although the following recommendations hardly represent a comprehensive list of such needed changes, they identify some obvious high-payoff



(Graphic by author)

Figure 4. Network of 6-22 Series Publications

actions and suggest the potential that such an approach could hold if applied rigorously by such organizations as the U.S. Army Combined Arms Center and the U.S. Army Training and Doctrine Command.

Rigorously examine the content and value of ADP 1 to determine if it deserves its exalted status as “capstone” doctrine. It is obvious from the doctrinal network topology that ADP 1 is essentially irrelevant to the way the Army conceptualizes its operations. It is barely mentioned in the remainder of the Army's doctrine. There are two potential explanations for this: either the content of ADP 1 is actually not doctrine at all, or the Army has failed to integrate the content of its own capstone doctrine into the way it thinks about waging war. Given that ADP 1 reads more like an

apologetic for the Army's place in the national security enterprise than a description of how the Army fights, it seems reasonable to ask whether ADP 1 is in fact doctrine at all. It reads more like a strategic communications document than a doctrinal statement. It is meaningful that ADP 1 states its audience is "combatant commanders, other services, all serving soldiers, and all Army civilians," while ADP 3-0 limits its audience to "Army officers in the rank of major and above" and "civilian leaders of the Army."⁴⁵ If ADP 1 is not really doctrine, then we should not call it doctrine, much less place it as a capstone document atop our understanding of land warfare.

Promote FM 27-10, *The Law of Land Warfare*, to an ADP or ADRP. Aside from having the salutary effect of updating this document from its current 1956 edition, such a promotion would formally place this doctrine where it already is—at the center of the Army's understanding of how land warfare should be conducted. If the way we plan and conduct operations deserves primacy in our doctrine (as enshrined in ADPs and ADRPs 3-0 and 5-0), then surely the laws and customs that place "limits on the exercise of a belligerent's power" likewise require our attention.⁴⁶

Create a user-friendly software tool that allows young Army leaders to navigate the doctrine network to find doctrine relevant to their duties. The young infantry platoon leader we mentioned earlier should be able to simply type ATP 3-21.8 into this tool's search function and generate a list of all doctrine that is linked to it. This would immediately allow him to ascertain, for instance, where the appropriate guidance resides regarding the conduct of foot marches.

Remove irrelevant references. References to obsolete doctrine are easily identified using the same readily available open source software used to conduct

the analysis in this paper. It is outrageous that 57 percent of the references in our current doctrine are obsolete. We should, and easily can, do better. Such updating would greatly enhance the navigability and relevance of our doctrine.

Integrate a network perspective into the drafting and maintenance of doctrine. Such an approach greatly reduces both the sheer drudgery and the difficulty of analyzing and comprehending the Army's doctrine in its entirety. The fine officers charged with developing the Army's doctrine have a difficult and enormously important task. Using simple network analysis techniques can make it significantly easier and more efficient.

Conclusions

Doctrine is important. Its quality and the widespread understanding of its content among Army leaders provides coherence to military operations and a useful consistency for civilian leaders. There is no question that the Army's leaders need to read and understand their doctrine, even if they deliberately choose to depart from it in the heat of action—a decision that is itself grounded in doctrine.⁴⁷ Yet, the sheer volume and complexity of Army doctrine renders this task, so fundamentally important to the profession of arms, tremendously difficult. The Doctrine 2015 initiative made great strides in simplifying and organizing doctrine, but significant deficiencies remain. This is partly deliberate, since the speed with which the Army implemented Doctrine 2015 "did not afford time for deeply examining some underlying issues" and required deferring the question of why—or whether—some information was important.⁴⁸ The time has come to begin answering those questions. Network analysis can provide invaluable assistance in that task. ■

Notes

1. Alistair Horne, *To Lose a Battle: France 1940* (London: Penguin Books, 2007), 258.

2. *Ibid.*, 427.

3. Robert A. Doughty, *The Seeds of Disaster: The Development of French Army Doctrine, 1919-39* (Mechanicsburg, PA: Stackpole Books, 1985), 1.

4. John Keegan, *The First World War* (New York: Vintage Books, 2000), loc. 7971, Kindle.

5. Arthur Koestler, *Scum of the Earth* (London: Eland, 2012), Kindle.

6. Marc Bloch, *Strange Defeat* (Cheshire: Stellar Books, 2013), 25, Kindle.

7. Koestler, *Scum of the Earth*, loc. 2312–2322.

8. Doughty, *The Seeds of Disaster*, 3.

9. Barry R. Posen, *The Sources of Military Doctrine: France, Britain, and Germany between the World Wars* (Ithaca: Cornell University Press, 1984), 74.

10. Army Doctrine Publication (ADP) 1-01, *Doctrine Primer* (Washington, DC: U.S. Government Publishing Office [GPO], 2014), para. 1-10.
11. Richard E. Neustadt and Ernest R. May, *Thinking in Time: The Uses of History for Decision Makers* (New York: The Free Press, 1988), 255.
12. Benjamin M. Jensen, *Forging the Sword: Doctrinal Change in the U.S. Army* (Stanford, CA: Stanford University Press, 2016), 4.
13. ADP 1-01, *Doctrine Primer*, para. 1-2; Everett Carl Dolman, *Pure Strategy: Power and Principle in the Space and Information Age* (New York: Frank Cass, 2005), 153.
14. Aaron P. Jackson, *The Roots of Military Doctrine: Change and Continuity in Understanding the Practice of Warfare* (Fort Leavenworth, KS: Combat Studies Institute Press, 2013), 1.
15. Steve Leonard, "Broken and Unreadable: Our Unbearable Aversion to Doctrine," Modern War Institute, U.S. Military Academy (website), 18 May 2017, accessed 6 November 2017, <https://mwi.usma.edu/broken-unreadable-unbearable-aversion-doctrine/>.
16. James M. Kimbrough IV, "Examining U.S. Irregular Warfare Doctrine" (thesis, Air University, 2008), 14, accessed 6 November 2017, <http://www.dtic.mil/dtic/tr/fulltext/u2/a488263.pdf>. Kimbrough's paper is rather muted example of this tendency. Scores of far more blatant examples are available for the price of a quick Google search.
17. Doughty, *The Seeds of Disaster*, loc. 147.
18. Jensen, *Forging the Sword*.
19. ADP 1-01, *Doctrine Primer*, v.
20. ADP 1, *The Army* (Washington, DC: U.S. GPO, 2012); ADP 3-0, *Operations* (Washington, DC: U.S. GPO, 2017), 1.
21. ADP 3-09, *Fires* (Washington, DC: U.S. GPO, 2012); Army Doctrine Reference Publication (ADRP) 3-09, *Fires* (Washington, DC: U.S. GPO, 2012).
22. Field Manual (FM) 3-09, *Field Artillery Operations and Fire Support* (Washington, DC: U.S. GPO, 2014).
23. The full source code used in this project is available at James Tollefson, "Army Doctrine Network," Github (website), accessed 6 November 2017, https://github.com/jamestollefson/Army_Doctrine_Network. "Current" doctrine in this document is that published by May 2017.
24. ADP 1-01, *Doctrine Primer*, para. 2-25.
25. Ibid.
26. Ibid.
27. Army Techniques Publication (ATP) 3-21.8, *Infantry Platoon and Squad* (Washington, DC: U.S. GPO, 2016).
28. FM 3-21.18 *Foot Marches* (Washington, DC: U.S. GPO, 1990 [obsolete]). This FM has recently been replaced by ATP 3-21.18, *Foot Marches* (Washington, DC: U.S. GPO, 2017).
29. Tollefson, "Army Doctrine Network."
30. The Combined Arms Center periodically publishes doctrine update publications summarizing the changes to Army doctrine. Soldiers may subscribe to an email distribution of this document at "Doctrine Update Publications," U.S. Army Combined Arms Center (website), accessed 6 November 2017, <http://usacac.army.mil/pubs/Doctrine-Update>.
31. Army Tactics, Techniques, and Procedures 5-0.1, *Commander and Staff Officer Guide* (Washington, DC: U.S. GPO, 2011).
32. FM 6-0, *Commander and Staff Organization and Operations* (Washington, DC: U.S. GPO, 2014).
33. Unfortunately, Joint Publication 3-0, *Joint Operations*, was republished on 17 January 2017 and the definitions cited by FM 6-0 no longer seem to be present in that document. For the sake of sanity, however, we did not delve into joint doctrine in this paper.
34. Merriam-Webster, s.v. "network (n.)," accessed 6 November 2017, <https://www.merriam-webster.com/dictionary/network>.
35. Réka Albert and Albert-László Barabási, "Statistical Mechanics of Complex Networks," *Reviews of Modern Physics* 74, no. 47 (30 January 2002): 2, accessed 3 July 2017, <http://barabasi.com/ff/103.pdf>.
36. Duncan J. Watts, *Six Degrees: The Science of a Connected Age* (New York: W. W. Norton, 2004), 345, Kindle; Travis Martin et al., "Exploring Limits to Prediction in Complex Social Systems," International World Wide Web Conference Committee, Stanford University (website), April 2016, accessed 6 November 2017, <http://cs.stanford.edu/people/ashton/pubs/limpred.pdf>.
37. Robert A. Hanneman and Mark Riddle, "Using Graphs to Represent Social Relations," Introduction to Social Network Methods, University of California Riverside (website), 2005, accessed 6 November 2017, http://faculty.ucr.edu/~hanneman/nettext/C3_Graphs.html.
38. FM 3-90-1, *Offense and Defense: Volume 1* (Washington, DC: U.S. GPO, 2013); FM 3-90-2, *Reconnaissance, Security, and Tactical Enabling Tasks: Volume 2* (Washington, DC: U.S. GPO, 2013); FM 6-0, *Commander and Staff Organization and Operations*.
39. FM 27-10, *The Law of Land Warfare* (Washington, DC: U.S. Government Printing Office, 1956).
40. ADRP 1-02, *Terms and Military Symbols* (Washington, DC: U.S. GPO, 2016).
41. ADP 3-0, *Operations*; ADRP 3-0, *Operations* (Washington, DC: U.S. GPO, 2017).
42. FM 27-10, *The Law of Land Warfare*; ADRP 5-0 *The Operations Process* (Washington, DC: U.S. GPO, 2012).
43. ADP 6-22, *Army Leadership* (Washington, DC: U.S. GPO, 2012); ADRP 6-22, *Army Leadership* (Washington, DC: U.S. GPO, 2012); FM 6-22, *Leader Development* (Washington, DC: U.S. GPO, 2015).
44. ATP 3-21.21, *SBCT Infantry Battalion* (Washington, DC: U.S. GPO, 2016), para. 1-28; ATP 3-21.11, *SBCT Infantry Rifle Company* (Washington, DC: U.S. GPO, 2016).
45. ADP 1, *The Army*, iii.
46. FM 27-10, *The Law of Land Warfare* (Washington, DC: U.S. GPO, 1956), 3, accessed 6 November 2017, http://www.apd.army.mil/epubs/DR_pubs/DR_a/pdf/web/fm27_10.pdf.
47. See the discussion in ADP 3-0, *Operations*, para. 7, about the fundamentally human nature of war and the importance of outthinking and adapting more rapidly than one's opponent; see also ADP 1-01, *Doctrine Primer*, para. 1-8, a discussion of doctrine's dual theoretical/practical nature and specific warning that doctrine is not meant to prescribe what to think or how to solve specific problems.
48. ADP 1-01, *Doctrine Primer*, v.