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# Doctrine Is Not Enough: The Effect of Doctrine on the Behavior of Armies

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What effect does doctrine ever really have on an army's behavior? That's a strange question, perhaps, for a journal such as this. At least since the founding of the US Army Training and Doctrine Command (TRADOC) in 1973, there has been a great deal of debate in the US Army and wider defense community about what doctrine should be: attritional? maneuverist? AirLand Battle? More recently, further doctrinal debates have emerged about jointness and the "revolution in military affairs." All such discussions seem to assume that doctrine--formal written doctrine--really matters, that it is what determines how an army will fight. Is that true? A survey of the history of armies and their doctrines suggests that, in fact, doctrine has a weak--or perhaps a better way to put it would be "indirect"--effect on the actual behavior of armies in battle. Fundamentally, how armies fight may be more a function of their culture than of their doctrine.

## Just What is "Doctrine" Anyway?

Disconcertingly, the very meaning of "doctrine" in the military sense is not altogether easy to get at. Today, the US Army officially defines doctrine as: "Fundamental principles by which the military forces or elements thereof guide their actions in support of national objectives. It is authoritative but requires judgment in application." [1] The word doctrine springs from the Latin *doctrina*, meaning teaching, [2] and was originally used in a religious context by Roman Catholics to designate the body of correct beliefs taught by the church. This original concept has been adopted by militaries to describe the body of concepts and precepts which they teach. But there has always been a strong element of the written word to doctrine. Doctrine is what is written down, usually at the highest levels, for dissemination throughout an army, the usual intention being therefore to instruct and standardize. In this sense, military doctrine has roots in the earliest drill manuals, which date back at least to the time of Maurice of Nassau at the beginning of the 17th century, outlining the precise tactical evolutions in which all troops were to be trained. [3] The modern concept, however, goes considerably beyond this; indeed, like the official definition above, modern writers of doctrine are generally at pains to avoid prescribing overly precise, drill-like procedures. They are seeking rather to describe the conceptual framework of how best to prosecute military operations.

This is an approach that developed over the course of the 19th century; neither Wellington nor Napoleon had doctrinal manuals describing for them the principles of war and what approach they should take toward operations. However, even while Napoleon was still campaigning, the famous Swiss military commentator Baron Henri Jomini began publishing works purporting to explain Napoleon's method. This approach gathered momentum throughout the 19th century. As militaries professionalized and standardized (and bureaucratized), there came about an increasing tendency to formalize not just the tactical details of drill, but the very approach to war that higher commanders should take. Perhaps to a certain extent this was driven by the proliferation of staff and war colleges, and this approach was not without its critics. Some argued that such a prescriptive attitude stifled original thought and led to "doctrinaire" solutions to military problems, [4] but by 1914 this approach was quite firmly established in all major Western forces, to a greater or lesser extent.

Doctrine, then, is the officially sanctioned approach to military actions--the considered opinion as to the best way to go about things, if you will. More specifically, it is found in certain official texts. [5] In other words, it is meant to form behavior--specifically, the behavior of armies in battle. This, however, raises a real question of cause and effect: To what extent does doctrine actually affect behavior in battle? As we shall see, examination of some particular cases suggests that there are good reasons for suspecting that official doctrine, or at least the sort found in manuals, exercises

a rather weak, or at best indirect, effect.

## **The British Army in the Interwar Years and the Dawn of Armored Warfare: A Study in Failed Doctrinal Reform**

British doctrinal development between the wars has been well studied.[6] Suffice it to note here that after the Great War the British army is generally considered to have been strongly conservative with a noted reluctance to mechanize.[7] In opposition to this outlook stood a small group of theorists, notably B. H. Liddell Hart and J. F. C. Fuller, calling loudly for a shift to mobile warfare, based primarily upon the new tank arm. The story of Britain's disastrous campaigns in the first years of the Second World War is also well known. The general view is that these disasters were in large part the result of the very British conservatism and doctrinal backwardness just mentioned. Indeed, the British approach to fighting in the Second World War has been widely described as ponderous and set-piece.[8] In the words of British historian G. D. Sheffield, British tactics were "characterized by the deliberate set-piece battle, just as they had been in 1917." [9] This is not an isolated opinion. Indeed, while not uncontested it constitutes the dominant assessment of British (or even all of the Western Allies') military performance in the Second World War.[10] No less a commentator than Sir Michael Howard, the noted British military historian and a serving British officer during the war, has written: "The British army in the Second World War was not very good, and those of us who were fighting in it knew where its weaknesses lay. Staff work was rigid. There was little encouragement of initiative, or devolution of responsibility." [11]

One tactical shortcoming in particular merits special attention, and that was a consistent British failure to effect close tank/infantry cooperation on the battlefield.[12] Perhaps because British doctrinal thinking in the interwar years vacillated between extremes, polarized schools of thought emerged: radical all-tank enthusiasts and reactionary horse-and-infantry conservatives.[13] In consequence, neither camp was interested in close tank/infantry cooperation, and study of this languished. In the Western Desert, British armored units would often charge forward with neither infantry nor artillery--indeed, sometimes regarding other arms as a liability rather than an asset.[14] The consequences were frequently disastrous, and it took the British some time before they even realized that the Germans were using a skillful combination of all-arms (infantry and in particular anti-tank guns) rather than just their *panzers* to smash the British all-tank charges.[15]

This is usually contrasted with the Germans, who elaborated their highly successful stormtroop or infiltration tactics of the First World War into a doctrine of maneuver emphasizing fire and movement and all-arms cooperation.[16] Thus was born the much admired "blitzkrieg." [17]

If we are to believe, then, that the British army was ponderous and positional in its outlook at the beginning of the war, it is surprising to see what Britain's doctrinal manuals actually contained. In fact, contrary to the general view that the maneuver enthusiasts were foolishly ignored by the conservative British army establishment, maneuver did have a prominent place in British doctrine.

Official British doctrine was significantly amended in 1935, when a redrafting of *Field Service Regulations II (Operations)* (commonly known as *F.S.R. II*) was brought out. This redrafting was quite extensive, and--contrary to the usual view of a hidebound British army--it reveals a strong influence from the Fuller/Liddell Hart flexible maneuverist school.

The 1929 version of *F.S.R. II* began with a rather ponderous and arid chapter on "Armed Forces, their Command, and the Principles of War." The 1935 version completely did away with this, coming straight to the point and opening with a section on--of all things--the absolute importance of all-arms cooperation on the battlefield.

Furthermore, and probably more important, the second chapter of the 1929 version [18] listed all the various arms, giving brief descriptions and commentaries on each. Significantly, the infantry was covered first, cavalry second, artillery third, and only then the parvenu armored units. The 1935 edition is very different. It opens with a new preamble dividing all fighting arms into those whose "primary role is to close with the enemy, to seize and occupy points of advantage, or to defend them" and those whose "main function is to support" the first group. The first arm mentioned in the first group is "armored troops," and this time when the manual runs through a section on each of the arms, the order is armored troops, cavalry, infantry, artillery, engineers. Furthermore, the section on armor was

completely rewritten for the 1935 edition and expanded to explain the significance of forming tank brigades which would "form the main striking portion for decisive action." [19]

In a similar vein, the 1929 version stated, "The main object of the infantry, *to which all other operations are preliminaries*, is to close with the enemy and destroy him." [20] That sentence is dropped from the 1935 edition, replaced with a longer but much more thoughtful passage:

Practically all success in war, which is won by the proper cooperation of all arms, must in the end be confirmed by infantry, which, by closing with the enemy, compels his surrender, and holds the objectives which have been secured or the points of importance which have to be protected, as a base for further action. [21]

Overall, the 1935 rewrite of British doctrine is comparable to the famous 1982 rewrite of US Army doctrine that ushered in AirLand Battle. Both doctrinal rewrites aimed to replace a rather positional and attritional approach to war with the concepts of maneuver warfare and operational art. The 1935 revision of the Field Service Regulations produced doctrine that Guderian himself or any maneuver theorist today could be proud of. It stressed maneuver and concentration at a decisive point. It even, we might be surprised to see today, stressed all-arms cooperation. And what effect did it have on the actual behavior of the British army in war? As we have seen, very little. The general consensus among historians is that the British army was positional and notably poor at all-arms cooperation, especially in 1940.

### **The US Army in Operation Desert Storm: A Victory, but with New Doctrine?**

Like the late 1920s and 1930s for the British army, the late 1970s and 1980s was a time of doctrinal ferment for the US Army. Indeed, there are many intriguing parallels between the two cases. In both instances, a body of dynamic thinkers tried to change what they perceived as a static, positional, and unimaginatively attritional approach to warfare. The criticisms made by writers such as William S. Lind and Wayne A. Downing in the late 1970s and early 1980s are remarkably similar in many respects to the criticisms Fuller and Liddell-Hart were making in the interwar period. [22] So too are the proposed solutions: a fluid form of maneuver warfare. [23]

The institutional response in the two cases, however, differs markedly. While the British army may have allowed new ideas to influence the rewriting of the Field Service Regulations, [24] the reformers were not welcomed by the establishment. A British Chief of the Imperial General Staff of the period, General Montgomery-Massingberd, is reputed to have remarked of Fuller's prolific writing on the military art, "I hope someone will stop him making such an ass of himself." [25] Perhaps because it was busy dragging itself up by its bootstraps and reinventing itself after the Vietnam debacle, the US Army's institutional reaction was very different. In the 1980s, in the form of the 1982 rewrite of Field Manual 100-5, *Operations*, [26] the US Army officially welcomed maneuver warfare with open arms. Articles extolling the virtues of Rommel, Guderian, Von Manstein, and the German World War II operational art became all the rage in the professional journals and staff colleges. *Auftragstaktik* was domesticated and enshrined in US Army doctrine as "mission orders" and the "commander's intent" paragraph of the operations order format. Everyone seemed to buy into the new paradigm, certainly everyone who wanted to be up on the new buzzwords. All of this, it should be noted, was in direct contrast with what Russell Weigley, one of the deans of US military historians, has called "the American way of war"--reliance on firepower and material superiority. [27] Indeed, much of the new emphasis on maneuver warfare was consciously reformist, even ardently so, and in direct reaction to Weigley's depiction of an "American way of war."

Coming after all of this doctrinal ferment, the US Army fought the 1991 Gulf War. As a military engagement, it was obviously quite a success, but was it fought with a maneuver warfare approach? Many seem to assume that because it was all over so quickly, ended so well, and involved such a dashing envelopment movement, it must have been maneuver warfare. There are, however, serious grounds for suggesting that it was not.

Military theorist Martin van Creveld, for one, has reached this conclusion: "Desert Storm was not a good example of maneuver warfare." [28] He suggests that the wide "Hail Mary" sweep through the desert was successful (and safe) simply because of the coalition's vastly superior military power, but that it was neither flexible nor probing. It featured

rigidly controlled phases and "more thought was given to keeping one's units abreast of each other than to rapid movement with the aim of penetrating deep into the Iraqi rear." [29] Dr. van Creveld further argues that the objectives were neither strategic (Baghdad) nor operational (Nasiriyah or the destruction of the Republican Guard) centers of gravity but rather arbitrary geographic points. [30]

Others have complained that the command style was rigidly centralized and not the least bit like *auftragstaktik* and what the maneuver warfare enthusiasts had been on about for years, particularly at the tactical level. [31] As Richard Hooker observed in a previous article in *Parameters*:

At the tactical level . . . American forces seem to have performed in the traditional manner. US soldiers were well trained and fought courageously. Their leaders proved themselves masters of the art of coordinating fire support, movement, and logistics. . . . [But] while US forces may have carried traditional methods, techniques, and doctrine to new heights, they have not absorbed maneuver warfare at division level and below. Command and control remain rigidly centralized. Units moved in strict conformance to planned control measures. Fire control of artillery and close air support was consolidated at high levels; much was planned in advance. Units moved primarily to mass fire systems against enemy forces and expressed a clear preference for the use of fires over maneuver. These methods worked well against a passive enemy. But they do not reflect the spirit of AirLand Battle doctrine at the tactical level, and they do not reflect a conceptual grasp of maneuver warfare. [32]

Richard Swain, in perhaps the best history of the campaign yet, characterized the ground attack as like a "drill bit" boring remorselessly into a rock face. [33] In his introduction to Swain's book, Roger Spiller stresses this same theme, noting that "a [US] national style of warfare, defined by its attritional impulse even in those instances when a more strictly modulated application of violence may have been appropriate . . . [prevailed in] the Persian Gulf War." [34]

In sum, Desert Storm was a great success, but it appears to be one that owes more to the coalition's overwhelming force than to the precepts of maneuver warfare. [35] For the hundred hours of the ground campaign, the US Army fought more or less the way it always has, albeit at a faster pace.

### **Doctrinal Dissonance**

So how do we account for this doctrinal dissonance? How do we explain the sometimes strong difference between what is written in armies' doctrine manuals and the way they actually behave on the battlefield? A broader interpretation of "doctrine" is probably called for. Those who study business have developed the concept of "corporate culture" to describe the organizational culture or character of a business. [36] Some firms are hierarchical and conservative while others are imaginative risk-takers. This character, these writers have pointed out, may begin with individuals, but with time it comes to permeate the entire organization. Whatever the specific corporate culture is, it will tend to become self-replicating since the sort of person hired and promoted will be a reflection of the sort of characteristics the corporation values. Corporate culture may change over time, but at any given moment actions strongly at odds with the prevailing culture are unlikely to appear among any of the corporation's decisionmakers.

Much ink has been spilt debating whether or not "national characteristics" make for distinctively "national ways" in warfare. There may or may not be nationally determined ways in warfare, but specific military organizations certainly have specific organizational cultures, in the same sense that business theory describes corporate cultures. The French army of the interwar years inculcated certain attitudes in its junior officers and rewarded certain proclivities with promotion. The German army inculcated very different attitudes in its junior officers and rewarded a very different set of proclivities with promotion. This led them to quite different solutions to the same tactical problems. The French adopted a rigidly set-piece defensive attitude, epitomized by the Maginot Line, while the Germans opted for fluid mobility, eventually epitomized by the *panzer* divisions. [37] In this larger sense, an army's character or culture springs from many sources and is reflected in many ways.

Certainly formal doctrine is an important source of this character. So too are experience and the value systems of the army's leaders. Reflections of this character include the organization an army adopts for itself, the types of training it chooses to indulge in, and indeed, the formal doctrine it chooses to adopt for itself. Since armies choose doctrines, and not the other way around, fundamentally doctrine may be more an effect than a cause. The French army of the interwar

years provides perhaps an extreme example of this phenomenon.

## **The French Army between 1914 and 1940: A Disastrously Successful Doctrinal Transformation**

The first two cases we considered--the British before World War II and the Americans after Vietnam--revealed attempts to change doctrine that achieved at best moderate success in altering the way an army thinks. An interesting counterpoint is an example of an army that did change its doctrine and its method of operation, radically and to the core. The French army marched off to the First World War in 1914 perhaps more imbued with the spirit of the offense than any other army in Europe. Yet in 1939 it entered the Second World War with unquestionably the most defensive outlook of any European army.[38] Notwithstanding that in both cases French doctrine or military culture precipitated a national disaster, how do we account for such a marked shift in an army's mindset?

There can be no real doubt that the First World War was a searing experience for the French army, indeed for the French nation. It was so searing that it burned away much of the French army's pre-existing attitudes and institutional culture. From a pre-war population of approximately 40 million, the French lost 1.7 million young men.[39] By 1917 the French army was so shaken that it mutinied, that is to say, it refused to accept further offensive orders. John Keegan has noted that such suffering deeply affects a national consciousness, and that "France sought literally to wall itself off from a renewal of the trench agony by building a simulation of the trench system in concrete along its frontier with Germany." [40]

That is the background to the French doctrinal shift from offensive- to defensive-mindedness. That doctrinal shift could hardly have been more extreme or more total, but neither could the experience that precipitated this shift have been more extreme or more total.

Psychologists have long noted that rational debate seldom convinces people of the truth of an argument, unless they enter the debate uncommitted. To actually change someone's mind requires an emotional experience. Armies, as collections of humans, are no different. If the way an army fights is a function of its "mindset" more than the contents of its formal doctrine manuals, then so too does that mindset change not simply in response to what is written into the doctrine manuals, but in response to vivid experience.

## **Conclusion**

It is not enough to write new doctrine, if the purpose is to change the way an army will fight. Ultimately, an army's behavior in battle will almost certainly be more a reflection of its character or culture than of the contents of its doctrine manuals. And if that culture--or mindset, if you will--is formed more by experience than by books, then those who would attempt to modify an army's behavior need to think beyond doctrine manuals.

What experiences form an army's real culture? Unfortunately for those who would try to reform an army between wars, the historical record suggests that it is wartime experience rather than peacetime innovation that changes an army's corporate culture. As we have seen, the British failed to change theirs between the two world wars despite more internal debate than is generally remembered. Likewise, the US Army arguably failed in the 1980s to reform itself in the maneuverists' image, a failure predicted by Major General John S. Wood, Commander of the US 4th Armored Division in the Second World War: "Fuller and [Liddell] Hart are contrary to the US Army tradition set down by Grant: attrition--wear the enemy down." Note that Wood credits the creation of "US Army tradition" to a wartime experience, the Civil War. Our one example of real doctrinal change, the French from 1914 to 1939, further reinforces this pattern. It was the wartime experience of the French from 1915 to 1918 that transformed their military culture. This transformation was complete by the Armistice in 1918 and probably even earlier, certainly no later than after the mutinies.

Does this mean that peacetime reformations are inevitably doomed to failure? Perhaps not, but it does suggest at the very least that the task is difficult and not sufficiently addressed by merely rewriting doctrine. Deeper questions must be asked about how to push the new doctrine into the collective mindset of the army. How are attitudes passed on? What are that army's collective experiences? What proclivities are rewarded? What are the formative experiences in the careers of its officers? And then, how can all of those things and more be shaped so they tend to create the mindset we seek? At the very least, a doctrinal rewrite should involve not just the re-release of field manuals, but changes in

training, personnel, promotion, and perhaps even recruitment policies.

If the leadership really wants to change the doctrine of the US Army today to some sort of "digital" post-RMA approach, then they will have to do more than just authorize the release of new manuals that few will ever read cover-to-cover. They will have to change the Army itself.

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## NOTES

1. US Department of Defense, Joint Publication 1-02, *DOD Dictionary of Military and Associated Terms*, Internet, <http://www.dtic.mil/doctrineljel/doddicct/data/d/02018.html>, accessed 15 February 2000.

2. *Concise Oxford Dictionary*. This is also the root for the word "doctor."

3. See, for instance, Gunther E. Rothenberg, "Maurice of Nassau, Gustavus Adolphus, Raimondo Montecuccoli, and the 'Military Revolution' of the Seventeenth Century," in *Makers of Modern Strategy*, ed. Peter Paret (Princeton, N.J.: Princeton Univ. Press, 1986), particularly pp. 40-42.

4. This sentiment was notably strong among the British. See Canadian historian Tim Travers' remarks on this score, quoted in Shelford Bidwell and Dominick Graham, *Firepower: British Army Weapons and Theories of War, 1904-1945* (London: Allen and Unwin, 1982), p. 41.

5. In the US Army's case, the FM 100 series of publications, plus other amplifying material.

6. In particular: Brian Bond, *British Military Policy between the Two World Wars* (Oxford: Clarendon Press, 1980); Jay Luvaas, *The Education of an Army: British Military Thought, 1815-1940* (Chicago: Univ. of Chicago Press, 1964); and Harold Winton, *To Change an Army* (Lawrence, Kans.: Univ. Press of Kansas, 1988).

7. *Ibid.*, in particular Winton, *To Change an Army*.

8. This forms the theme of John Ellis, *Brute Force* (London: Andre Deutsch, 1990), in particular, pp. 373-88.

9. G. D. Sheffield, "Blitzkrieg and Attrition," in *Warfare in the Twentieth Century*, ed. C. McInnes and G. D. Sheffield (London: Unwin Hyman, 1988), p. 73.

10. Aside from Ellis, *Brute Force*, see for instance Carlo D'Este, *Decision in Normandy* (London: William Collins Sons, 1983); John English, *Failure in High Command: The Canadian Army and the Normandy Campaign* (Ottawa: Golden Dog Press, 1991); Martin van Creveld, *Fighting Power: German and US Army Performance 1939-1945* (Westport, Conn.: Greenwood Press, 1982); or Trevor Dupuy, *A Genius for War* (Englewood Cliffs, N.J.: Prentice-Hall, 1977).

11. Quoted in "The Scholarship on World War II," *The Journal of Military History*, 55 (July 1991), 379.

12. This is mentioned repeatedly across a wide range of historians. See for instance Bidwell and Graham, *Firepower*; Michael Carver, *Dilemmas of the Desert War* (Bloomington: Indiana Univ. Press, 1986); Max Hastings, *Overlord: D-Day and the Battle for Normandy, 1944* (London: Pan, 1984); Carlo D'Este *Decision in Normandy*; Williamson Murray, "British Military Effectiveness in the Second World War," in *Military Effectiveness*, ed. Allan R. Millet and Williamson Murray (Boston: Allen and Unwin, 1988); Sheffield, "Blitzkrieg and Attrition."

13. English, *Failure in High Command*, p. 163.

14. See Murray, "British Military Effectiveness in the Second World War," pp. 110-12.

15. See English, *Failure in High Command*, p. 165, for a fascinating description of this.

16. For a thorough examination of this see: Bruce Gudmundsson, *Stormtroop Tactics: Innovation in the German Army*,

1914-1918 (New York: Praeger, 1989); and James Corum, *The Roots of Blitzkrieg: Hans von Seeckt and German Military Reform* (Lawrence, Kans.: Univ. Press of Kansas, 1992).

17. There is still debate about who coined the term blitzkrieg and what was originally meant by it. See William J. Fanning, Jr., "The Origin of the Term 'Blitzkrieg': Another View," *The Journal of Military History*, 61 (April 1997), 283-302.

18. *F.S.R. II* (1929), "Fighting Troops, their Characteristics and Armament."

19. *F.S.R. II* (1935), p. 4.

20. *F.S.R. II* (1929), p. 11. Emphasis added.

21. *F.S.R. II* (1935).

22. See for instance William S. Lind, "Some Doctrinal Questions for the United States Army," originally written for TRADOC in 1976 and subsequently published in the *Marine Corps Gazette* and reprinted in *Military Review*, 75 (January-February 1997). See also Wayne A. Downing, "Firepower, Attrition, Maneuver--US Army Operations Doctrine: A Challenge for the 1980s and Beyond," written while the author was attending the Air War College 1979-1980, reprinted in *Military Review*, 75 (January-February 1997).

23. Compare, for instance, William S. Lind and M. D. Wyly's *Maneuver Warfare Handbook* (Boulder, Colo.: Westview Press, 1985) with much of Fuller and Liddell Hart's work.

24. Possibly because no one in the fashionable regiments even realized that the F.S.R.s were being rewritten.

25. Brian Holden Reid, *J.F.C. Fuller* (London: St. Martin's Press, 1990), p. 87.

26. Field Manual 100-5, *Operations*, is the US Army's keystone manual for operational-level doctrine.

27. Russell F. Weigley, *The American Way of War: A History of United States Military Strategy and Policy* (New York: Macmillan, 1973).

28. Martin van Creveld, *Air Power and Maneuver Warfare* (Maxwell Air Force Base: Air Univ. Press, 1994), p. 220.

29. *Ibid.*, p. 219.

30. *Ibid.*

31. See for instance Donald E. Vandergriff, "Without the Proper Culture: Why Our Army Cannot Practice Maneuver Warfare," *Armor*, January-February 1998, pp. 20-24.

32. Richard D. Hooker, Jr., "The Mythology Surrounding Maneuver Warfare," *Parameters*, 23 (Spring 1993), 36.

33. Richard M. Swain, *"Lucky War": Third Army in Desert Storm* (Fort Leavenworth, Kans.: US Army CGSC Press, 1997).

34. Roger J. Spiller, "Introduction," *ibid.*, p xxvii.

35. For another example of the same view of US performance in Desert Storm, see Robert Leonhard, *The Art of Maneuver* (Novato, Calif.: Presidio Press, 1991).

36. The literature in this field is vast. See for instance T. E. Deal and A. A. Kennedy, *Corporate Cultures* (Reading, Mass.: Addison-Wesley, 1982); D. R. Denison, *Corporate Culture and Organizational Effectiveness* (New York: John Wiley & Sons, 1990); or J. S. Pedersen and J. S. Sorensen, *Organizational Cultures in Theory and Practice* (Aldershot, UK: Gower Publishing, 1989), the preface to which (p. xiii) gives an excellent overview of the founding



works in the field.

37. For a thorough examination of both sides to this, see: Corum, *The Roots of Blitzkrieg*, for the German story; and Robert Doughty, *The Seeds of Disaster: The Development of French Army Doctrine, 1919-1939* (Hamden, Conn.: Archon Books, 1985), for the French side. Also, Len Deighton's *Blitzkrieg* (London: Jonathan Cape, 1979) provides an excellent and highly readable study of the contrast between French and German doctrinal approaches to war.

38. The standard work on this is Doughty's *The Seeds of Disaster*.

39. John Keegan, *A History of Warfare* (London: Hutchinson, 1993), p. 365.

40. *Ibid.*, p. 366.

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