

Efficient Force v. The Martial Volume Orthodoxy**Michael Donelan****Publication Date**

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Efficient Force v. The Martial Virtue Orthodoxy

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War in Modern History

Second Essay

The reigning paradigm of war esteems an army's number of combatants as the predominant factor in deciding military success. Examples of this large-numbers orthodoxy abound: figures from Clausewitz to Tolstoy all display loyalty to it.¹ Though they, like most, acknowledge other factors, the primacy of army size—or “martial volume”—in the popular mind is evident. But regardless of whether this primacy was justified in the distant past, the historical record demonstrates that, from the Napoleonic Wars onwards, martial volume has been virtually irrelevant. Rather, three related factors have come to dictate the fortunes of war. They are maneuverability, command and control, and logistics—that is, an army's ability to move quickly, to remain organized and coordinated, and to maintain supply. Together, these qualities compose a “martial efficiency”: a measure of a force's ability to maximize the battlefield impact of its soldiers. Though the dominance of martial efficiency coincides with technological, social, and economic developments of modernity, the question of why efficient armies have recently enjoyed such success is beyond the scope of this paper. Nonetheless, two hundred years of warfare—from the fields of France to the Shenandoah Valley, and from Iraq to Eastern Europe—have echoed its decisive advantage. From the Napoleonic Wars to the present, martial efficiency has proven far more predictive of success in conventional land warfare than martial volume.

First, the question of why the Napoleonic Wars should mark the beginning of this trend demands an answer. Admittedly, there are famous instances of numerically inferior forces finding victory far before the Emperor of the French ever saw battle, indeed even into antiquity. Gaugamela and Cannae are most notable, with the former seeing forty-five thousand Greeks route a Persian force of one hundred thousand, and the latter witnessing the near-absolute slaughter of nearly ninety thousand Romans at the hands of a Carthaginian-led coalition

¹ Carl von Clausewitz, *On War* (London: Penguin Books, 1982), 265; Leo Tolstoy, *War and Peace* (Oxford, United Kingdom: Oxford University Press, 2017), 914-915.

numbering at most fifty thousand.² But the very notoriety of these engagements as tactical masterpieces suggests that they defy rather than dictate the dominant trend of ancient warfare. In the modern world, victories against such numeric odds would not be so famed. It thus seems that pre-gunpowder warfare gave significant weight to numeric superiority. But with the introduction of firearms, the ancient way of war revolutionized. The critic indeed may identify examples like the Seven Years War which suggest efficiency's reign began earlier. For, in that case, Prussia's relatively miniscule forces withstood the onslaught of the continent's combined armies campaign after campaign.³ This is a strong case, but the example is not perfectly convincing, since it was only Russia's defection that saved Prussia from defeat. Thus, while there is certainly a strong argument in favor of martial efficiency emerging as the predominant factor of military success decades before Napoleon, it seems more likely that the Seven Years War instead was one episode in its gradual rise. Thus, though military efficiency became increasingly influential before Napoleon, it had not yet achieved primacy by the end of the 1700s.

The 1805 engagement at Austerlitz marks the rewriting of the formula for military success. Other proponents of the martial efficiency thesis may identify earlier Napoleonic War engagements—notably Marengo—as demonstrating the modern path to victory. But these were relatively small affairs, and it is only the Battle of Austerlitz's size, strategic importance, and stunning outcome that can adequately mark the genesis of martial efficiency's predominance. On the morning of December 2, the French and Third Coalition armies each fielded seventy-five thousand men. If, as the martial volume orthodoxy contends, success on the battlefield is primarily a function of numbers, the day would have ended in stalemate, each side sustaining comparable casualties. But by evening twelve thousand Coalition troops were dead or wounded,

² Fuller, J.F.C. *A Military History of the Western World*. Vol. 3. 3 vols. (New York, NY: Da Capo Press, 1956), 45-57.

³ Fuller, 371.

and fifteen thousand more were in French captivity; French casualties numbered 6,800.⁴ Such an outrageous discrepancy in expected and observed casualty ratios suggests that martial volume was not the primary principle deciding the engagement. Rather, there must have been another metric in which the armies were disparate enough to merit the lopsided result. And indeed, martial efficiency is such a metric. By 1805, the French had begun subdividing their army into corps, themselves composed of divisions. The new system, unique to the French, “enhanced command and control,” thus also allowing for faster and more coordinated maneuver, rendering the *Grand Armée* the most efficient force of its time. At Austerlitz, this advantage was decisive, allowing the French to isolate and destroy elements of the Coalition army through precise and rapid maneuver.⁵ Thus, though critics could suggest Napoleon’s superior command ability as an alternative explanation for the casualty ratio, it is plain that his genius did not overshadow French martial efficiency. Rather, it was martial efficiency which enabled him to command as he desired. Thus, at Austerlitz, martial efficiency claimed its throne.

The 1864 March to the Sea demonstrates the continued reign of efficient force into the mid-19th century. The success General Sherman enjoyed in his famed campaign is a direct result of his realization of the importance of martial efficiency. Indeed, as B.H. Liddell Hart—one of the architects of modern maneuver warfare and an early proponent of military efficiency—wrote in 1929, Sherman was “the first modern general.”⁶ In his recognition of the enormous importance of Georgia’s railways and urban centers to the Confederate war effort, he displays a virtually anachronistic understanding of the vital role of logistics and maneuver.⁷ For it was not only the Confederate economy which rested on these targets, but also the ability of Confederate armies in

⁴ Fuller, 407.

⁵ Geoffrey Parker, *The Cambridge Illustrated History of Warfare*, 2nd ed. (Cambridge University Press, 2021), 211-215.

⁶ Liddell Hart, B.H. *Sherman: Soldier, Realist, American*. (Safety Harbor, FL: Simon Publications, 2001), 430.

⁷ William T. Sherman, Notre Dame Archives: Sherman Letters, accessed April 29, 2022, <http://archives.nd.edu/findaids/ead/index/fulltext/sherman.htm>.

the region to maintain proper supply and speed of maneuver. Where Sherman's main opponent, General Hood, saw martial volume as key to victory, Sherman understood that martial efficiency decided both tactical and campaign-scale engagements. Consequently, General Hood's cumbersome, large-scale attacks proved fruitless against his dispersed, fast-moving enemy, and his attacks only grew less practical as Sherman ravaged the infrastructure necessary to support massed units.⁸ Further, Sherman's command style reflected his fear that his army was too large, highlighting how his absolute focus on efficiency was key to his victory. He ordered each corps to forage, minimizing logistics challenges. And beyond his initial orders, he largely allowed his divisions to act independently, maximizing their maneuver speed and simplifying the command structure.⁹ Sherman's March thus highlights how predictive martial efficiency is of success.

The Franco-Prussian War underscored martial efficiency's importance, even asserting its role over that of technology. But notably, Prussian success hinged on the Kriegsakademie and the highly competent General Staff.¹⁰ Thus, critics will be quick to note the General Staff's historical association with martial volume doctrine—the famed Clausewitz, in 1831, even wrote “superiority in numbers is the most important factor in the result of combat.”¹¹ And it is true that, at the start of the war, Prussian soldiers outnumbered their French counterparts 380,000 to 224,000. Despite this, martial volume cannot explain the Prussian victory, as the French technological advantage more than compensated for their numbers. Armed with the superior *chassepot* rifle and the first machine gun—the *mitrailleuse*—the French consistently dominated tactical engagements.¹² Thus, neither technology nor numbers explain the war's outcome. Rather, the moment which essentially decided it—the 1870 Battle of Sedan—pivoted entirely on

⁸ Parker, 248.

⁹ Gérard Chaliand, *The Art of War in World History: From Antiquity to the Nuclear Age* (Berkeley: University of California Press, 1994), 760.

¹⁰ Parker, 250.

¹¹ Clausewitz, 265.

¹² Parker, 253-255.

superior Prussian efficiency. Though traditionally more focused on volume, the General Staff were confident in the military potential of railroads. So, when a large but inefficient French army attempted to relieve a nearly-encircled French force at Metz, Prussian infantry, moving by rail, quickly maneuvered behind them, enveloping the bulk of French ground forces.¹³ This underscores the primacy of efficiency over size, as the French force put itself in position to be surrounded through its logistical failures and its reliance on depots near the Belgian border.¹⁴ Thus, maneuver and logistics remained the deciding factors in the Franco-Prussian war.

The eventual failure of the Schlieffen Plan spoke to martial efficiency's continuing primacy into the 20th century. Like the Franco-Prussian War, the plan may at first appear to support a thesis in favor of volume's role: though the General Staff designed it with a focus on speed and precise maneuver, it eventually failed in the face of a larger Allied force.¹⁵ But the plan in fact exemplifies the utter importance of martial efficiency. Indeed, the German assault faltered primarily due to the inward bending of the hook on Paris. And this resulted from command and control failures, as the many junior officers of such an enormous army could not have possibly maintained perfect communication during such a lengthy operation.¹⁶ As J.F.C. Fuller, a British officer and First World War veteran, wrote in 1956, the battle front was simply "so enormous that command would become impossible."¹⁷ This coming from an Allied soldier, who, unlike the Germans, was not operating hundreds of miles from established communication infrastructure. To complete the German nightmare, these navigation issues compounded with logistical challenges: the two hundred thousand men of the German army, after all, received their supply

¹³ Parker, 256; Ian Johnson, "The Military-Industrial Revolutions" (University of Notre Dame, 23 February 2022).

¹⁴ Fuller, 120-122.

¹⁵ Parker, 290-294.

¹⁶ Ian Johnson, "The First World War" (University of Notre Dame, 14 March 2022).

¹⁷ Fuller, 184.

through “ever-lengthening” lines with “railheads... all the way back in Brussels.”¹⁸ Critics of the efficiency thesis should thus confront themselves with the counterfactual: would greater manpower have improved the Schlieffen Plan’s execution? Ultimately, it seems volume was a detriment which highlighted efficiency’s primacy.

Fall Gelb IV, the German invasion of France, poses an exceptional example of the effectiveness of efficient forces against numerically superior opponents. By the eve of May 10, 1940, the Wehrmacht had massed nearly three million soldiers along the German borders with the Netherlands, Belgium, Luxembourg, and France. The Allies, including the Low Countries, had nearly four million regulars on the continent, with untold millions of potential guerilla combatants not yet in arms.¹⁹ The rapid German advance thus poses a puzzle to advocates of martial volume’s importance. While the Allied numerical advantage may not have been outrageous, Allied victory would still be the logical conclusion of war if numbers played anything resembling a decisive role in modern combat. But it was the German advantage in command and control that carried the day. German tanks, for instance, were fewer in number than their French counterparts, and generally of lower quality. Each one, however, possessed a radio; French tanks communicated with signal flags during battle.²⁰ Innovations such as this—notably including the doctrine of *auftragstaktik*, which gave junior officers more freedom—improved command and control, and aided maneuver.²¹ Martial efficiency therefore explains the outcome of *Fall Gelb IV* while martial volume cannot; by focusing on maximizing

¹⁸ Liddell Hart, B.H. *The Real War, 1914-1918: With Twenty-Five Maps*. (Boston: Little, Brown, 1964), 84; Parker, 294.

¹⁹ Ian Johnson, “The Interwar Revolution in Military Affairs” (University of Notre Dame, 6 March 2022).

²⁰ Ian Ona Johnson, *Faustian Bargain: the Soviet-German Partnership and the Origins of the Second World War* (Oxford: Oxford University Press, 2021), 222.

²¹ Ian Johnson, “The Interwar Revolution in Military Affairs” (University of Notre Dame, 6 March 2022).

the impact of its soldiers, the Wehrmacht fielded a more capable force than the more numerous Allies. Efficiency thus appears to be the undisputed master of warfare from Napoleon to 1940.²²

The 2003 Invasion of Iraq demonstrated that the ineffectiveness of large and inefficient forces continued into the 21st century. Truly, no army which allows its capital to fall after less than a month of war is a superior force. And yet, according to the martial volume thesis, an army like Iraq's in 2003, composed of well over one million soldiers, should have dominated the Coalition army, numbering hardly over four hundred thousand combat personnel.²³ Critics may raise the objection that the Coalition enjoyed multiple advantages which explained its success, including technology superiority, air supremacy, and better morale. This is surely true, but critics should consider whether this better supports the efficiency thesis or their own. Considering the Coalition's technological edge, for instance, yields the observation that satellite surveillance, advanced geolocation capabilities, and secure radio networks would support an army's maneuver and command and control, but would not add one soldier to it. In the case of morale, high morale would surely increase the maneuverability of a force by fostering the willingness to take initiative in combat. The primacy of efficiency thesis, essentially, can accommodate and explain many facets of warfighting and their contribution to force effectiveness; the primacy of volume thesis cannot. Indeed, an official U.S. Army doctrinal statement from 2014, in reflection on the war in Iraq, focused on the important role initiative and rapid maneuver played in the destruction of Iraq's conventional armed forces.²⁴ The 2003 invasion thus reaffirmed the continuing dominance of the efficient force on the modern battlefield.

²² The obvious counterpoint is Germany's eventual defeat. Admittedly, volume did play some role in this. Germany's military was spread too thin by 1945. The impact of production, and thus logistics, however, was vital. Indeed more important than troop numbers.

²³ Linwood Carter, "Iraq: Summary of U.S. Forces," Federation of American Scientists (Congressional Research Service, November 28, 2005), <https://sgp.fas.org/crs/mideast/RL31763.pdf>.

²⁴ *Auftragstaktik: The Basis for Modern Military Command?* (United States Army Command and General Staff College, 2014), 54.

The 2022 Invasion of Ukraine offers a final lesson in the dominance of martial efficiency, and its continued reign to the present day. International security experts anticipated the Russian military would overrun Ukraine in a matter of days, despite Ukraine's numerical advantage compared to the invasion force.²⁵ The Ukrainian resistance, however, proved fierce, dulling the Russian offensive and eventually forcing a retreat from the northern axis of advance, originally intended for the capital city of Kyiv. In the east, along the Kharkhiv and Donbass axes, and especially in the south where the Russian spearhead targeted Kherson, the Russians saw greater success. Generally, however, infantry armed with anti-tank missiles blunted their armored attacks and prevented the occupation of significant amounts of territory.²⁶ Proponents of the martial volume thesis might again launch at the 2022 invasion as an episode of large numbers deciding the course of conflict. But again, they would be mistaken. Rather, in the invasion, despite the general technological divide, it is the Ukrainians who possess the more efficient force. Fighting on their own territory, in familiar landscapes—often even their own home villages or neighborhoods—Ukrainian combatants possess far superior logistics and maneuver capabilities than the Russian forces. Additionally, the Ukrainian regular army, in the wake of their resounding defeat in 2014 in Crimea, took up the doctrine of *auftragstaktik*, which the Germans pioneered in the Second World War and much of the Western world has since made its core martial tactical doctrine. Embracing the doctrine allows the Ukrainian regular army to fight with significantly greater command and control than their Russian counterparts, who employ a

²⁵ Though Russia's entire military outnumber's Ukraine, Ukraine boasts more troops than the invasion force.

²⁶ David Sanger et al., "How the U.S. Raced to Arm Ukraine Against Russia," The New York Times, accessed April 17, 2022, <https://www.nytimes.com/2022/03/06/us/politics/us-ukraine-weapons.html>; "Fighting Has Intensified in the Donbas Region," The Economist, accessed April 25, 2022, <https://www.economist.com/europe/russia-begins-a-new-phase-of-its-war-in-ukraine/21808840>.

cumbersome top-down approach in order to control poor morale.²⁷ The invasion thus further testifies to the enormous power of efficient forces.

In tandem with Napoleon's rise rose a new power. Far outlasting the man it first associated itself with, it came to decide the fate of nations for two centuries. Martial efficiency, though commonly rejected in favor of the role of army size, has molded the course of warfare from Austerlitz to Kyiv, radically changing the world in the process. Whether the states of the world recognize the governing power of martial efficiency over their affairs remains unanswered. But recognized or not, it writes their fates.

²⁷ Detsch, Jack. "Winging It': Russia Is Getting Its Generals Killed on the Front Lines." Foreign Policy. Foreign Policy, March 21, 2022. <https://foreignpolicy.com/2022/03/21/russia-generals-dead-ukraine/>.

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