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# Issues in strategic thought: from Clausewitz to al-Qaida

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# THESIS

**ISSUES IN STRATEGIC THOUGHT:
FROM CLAUSEWITZ TO AL-QAIDA**

by

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Ever since the quickening of social and technological change that began during the Napoleonic era, there have been many strategic debates inspired by those developments. Six are discussed in this thesis:

- Jomini vs. Clausewitz – How useful are principles of war?
- Mahan vs. Mackinder – Is either land or sea power inherently more valuable for achieving national aims?
- Bernhardi vs. Bloch – Did industrialization make war an impractical endeavor?
- Douhet vs. Mitchell – What is the role of air power in national defense?
- Brodie vs. Wohlstetter – Is nuclear deterrence robust, or is there a "delicate balance of terror?"
- Giap vs. Galula – Can conventional forces defeat insurgencies, and, if so, how?

Though these debates are listed in their rough chronological order of appearance, they do not reflect discrete blocks of time and often overlap. The purpose of this thesis is not to judge whether any particular "debater" was right or wrong. Rather, the intent is to consider the debate itself. While problem definition may seem a less-than-ambitious undertaking, it is nonetheless necessary for understanding the root causes and conduct of war over the last two centuries, as well as for the understanding of possible forms of future conflict. In some cases the differences between the debaters are apparent. In others, the differences are subtle. The conclusion summarizes the debates and addresses underlying themes or patterns that were identified during the course of this research. Last, some possible future strategic debates are identified, along with some topics that may require further research.

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**ISSUES IN STRATEGIC THOUGHT:**
**FROM CLAUSEWITZ TO AL-QAIDA**

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# I. JOMINI VS. CLAUSEWITZ

**Issue: What, if any, are the rules and principles of war?**

Baron Antoine Henrí de Jomini and Carl von Clausewitz were two of the most influential military thinkers produced by the Napoleonic experience. The extent of their legacy is evidenced by the fact that their seminal treatises on military strategy, *Vom Kriege* (*On War)* by Clausewitz and *Précis de l'Art de la Guerre (Art of War)* by Jomini, remain part of the professional education of military officers around the world. Despite the fact that Jomini and Clausewitz were born within a year of each other (1779 and 1780, respectively) and were witness to the radical shifts in the political and military order of Europe during the late eighteenth and early nineteenth centuries, they interpreted their experiences quite differently. Though they never met personally, Jomini and Clausewitz were aware of each other's writings and refuted each other to some degree in their main treatises. In particular, Jomini's notion of immutable principles of war did not sit well with Clausewitz. Meanwhile, Jomini quipped that those who could not accept the principles of war, particularly regarding his concept of decisive points, "may well despair of ever comprehending strategy."[1] While Clausewitz argued that war was too complex an activity to be reduced to scientific principles, Jomini warned against ignoring the principles.

Yet, it would be an over-simplification to say that Clausewitz and Jomini were polar opposites. The purpose of this chapter is to identify the central premise or principle in each man's argument and then assess the extent to which they actually disagreed. Both Clausewitz and Jomini wrote their treatises after a lifetime of military service, during the same era of warfare. Thus, it is likely that the nature of their differences will not be an obvious matter.

[1] Baron De Jomini, *The Art of War*, trans. G.H. Mendel and W.P. Craighill (El Paso, TX: El Paso Norte Press, 2005), 55.

## *BARON DE JOMINI*

Born in Vaud, Switzerland in 1779, Antoine Henri de Jomini was ten years old when the French Revolution began. Though he was excited and intrigued by news of the Revolution, Jomini seemed headed for an established career in banking, rather than in the military.[2] At the age of seventeen, Jomini had his first opportunity to observe French troops in action near Basel, where he had been working as a banker's apprentice. Over the next two years, Jomini furthered his finance career as a trader in Paris, though his interest in military affairs deepened as he followed the developments of General Napoleon Bonaparte's campaign in Italy. Following the Swiss Revolution in 1798, Jomini abandoned banking and finance for a military career, first as an administrator in the newly formed Helvetic Republic, and then in the French military, beginning in 1801. In 1805, he was assigned as aide-de-camp to French army General Ney's staff.[3] By the time Jomini turned thirty-four in 1813, he had attained the rank of brigadier general, and had served as an officer on the General Staffs of Ney and Napoleon during numerous campaigns, including Ulm, Jena, Eylau, Russia, and the Peninsular War. That same year, Jomini left the France to join the Russian Army, initially as an advisor to Alexander I. Despite Jomini's seeming defection, Napoleon excused his transgression and maintained Jomini's commission in the French Army.[4] Promoted to general in the Russian army in 1826, Jomini served as military advisor to Nicholas I and later helped establish the Military Academy in Moscow in 1832.[5] In 1837, he published his seminal military treatise, *Précis de l'art de la guerre* (Summary of the Art of War), in Paris. Jomini retired from military service in 1848, though the czar recalled him briefly in 1853 to serve as a military advisor during the Crimean War. Following his service to the czar, Jomini

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[2] John Shy, "Jomini" in *Makers of Modern Strategy from Machiavelli to the Nuclear Age*, ed. Peter Paret (Princeton, NJ: Princeton University Press, 1986), 143.

[3] Ibid.

[4] Ibid.,156.

[5] Gerard Chaliand, *The Art of War in World History: From Antiquity to the Nuclear Age* (Berkeley, CA: University of California Press, 1994), 724.

returned to retirement, though he briefly advised Napoleon III in 1859, during the Italian War. He died in Paris in 1869.[6]

In *The Art of War*, Jomini proposed one "fundamental principle of war" governing all the operations undertaken in war. The fundamental principle contained four maxims which, according to Jomini, must be followed by the military commander. These maxims are:

1. To throw by strategic movements the mass of an army, successively, upon the decisive points of a theatre of war, and also upon the communications of the enemy as much as possible without compromising one's own.
2. To maneuver to engage fractions of the hostile army with the bulk of one's forces.
3. On the battle-field, to throw the mass of the forces upon the decisive point, or upon that portion of the hostile line which it is of the first importance to overthrow.
4. To so arrange that these masses shall not only be thrown upon the decisive point, but that they shall engage at the proper times and with energy.[7]

On the surface, these maxims appeared simplistic and self-evident. Jomini admitted as much. Anticipating this potential criticism, Jomini clarified that the fundamental principle "must be followed in all good combinations."[8] By this, Jomini implied that success in war depends not only upon a solid understanding of the principles of war, but also upon the manner and skill with which the commander applies them.

It is worth noting that three of four maxims specifically mention "decisive point(s)," suggesting the paramount importance that Jomini placed upon the concept. In Article XIX of *The Art of War*, Jomini's taxonomy of significant "points" in the area of concern suggests how a military commander should evaluate his options on the battlefield. Generally, the commander is concerned with strategic lines and points, though both vary in nature and importance, depending on the circumstances of the conflict. Based on this proposition, Jomini argued that there are three basic types of points that are of interest to the commander: geographical strategic points, which derive their significance simply by virtue of physical location; strategic points of maneuver, which

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[6] Chaliand, *The Art of War in World History, 724.*

[7] Jomini, *Art of War*, 55.

[8] Ibid.

evolve as troops maneuver on the battlefield; and decisive strategic points, which Jomini described as those "whose importance is constant and immense."[9] Decisive strategic points are "those which are capable of exercising a marked influence either upon the result of the campaign or upon a single enterprise."[10] One can conclude that Jomini was primarily concerned with the physical and geographical aspect of points, rather than their philosophical or temporal nature. This is not to say that Jomini had no opinion concerning the role of politics, psychology, or time in the prosecution of war. However, his emphasis on lines of defense, operational fronts, and well-located fortresses as good examples of decisive strategic points illustrate the dominant role of geography in Jomini's analysis.[11]

Going one step further, Jomini broke decisive points down into two types: decisive geographic points (or lines) and decisive points of maneuver. One could argue that Jomini unnecessarily added layers of complexity to his taxonomy of decisive points, given that he had already conceptualized geographic strategic points and strategic points of maneuver. Therefore, adding the term *decisive* to each might seem superfluous. In order to contrast between the concepts of decisive and non-decisive, Jomini used Lyons and Leipzig as examples of points that could be either, depending upon circumstances. Jomini characterized Lyons as an "important strategic point," since it formed the nexus of control of the Rhone and Saône valleys, as well as the "center of communication between France and Italy."[12] Similar to Lyons, Leipsic was also considered an important strategic point, given its position as the bridge of all communications in Northern Germany. However, Jomini argued that these two points were not necessarily decisive "unless well fortified [*sic*] or possessing an extended camp with *têtes de pont*."[13] As for decisive points of maneuver, Jomini characterized them similarly as circumstantial, relative to troop position on both sides.[14] Generally speaking, "the decisive points of maneuver are

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[9] Jomini, *Art of War*, 67.

[10] Ibid.,68.

[11] Ibid.

[12] Ibid.,69.

[13] Ibid.

[14] Ibid. ,69.

on the flank of the enemy upon which, if his opponent operates, he can more easily cut him off from his base and supporting forces without being exposed to the same danger."[15] What can be inferred from Jomini, then, is that a decisive point necessarily implies the immediate presence of troops or military fortifications. If this were not the case, then Jomini would have contradicted himself with the Lyons and Leipsic examples. By his own definition of decisive strategic points, Lyons and Leipsic should have been considered as such. Yet Jomini says that they are merely strategic points of importance to the commander. Logically, Lyons and Leipsic cannot be both decisive and non-decisive at the same time, so there must be some variable which alters the equation, such that a previously non-decisive point becomes decisive. Lyons and Leipsic become decisive only when troops or fortifications are placed at, or near, those points. Therefore, one could infer that Jomini viewed the destruction of the opposing army as the primary objective of a campaign, given the enemy force's "decisive" character.

Jomini's focus on the opposing army becomes much more apparent in his description of *objective points*. Though he did not mention objective points by name in the fundamental principle of war, Jomini introduced them immediately after his discussion of decisive points in Article XIX. Like decisive points, objective points were categorized as either maneuver or geographical. As the name suggests, objective points referred to the goal or end state of a military endeavor. However, Jomini's discussion of objective points was limited to strategy, as opposed to other levels of war such as tactics. "Strategy," as defined by Jomini, "is the art of making war upon the map, and comprehends the whole theatre of operations. … Strategy decides where to act; logistics brings the troops to this point; grand tactics decides the manner of execution and the employment of the troops."[16] From a strategic standpoint, therefore, the geographic objective point is determined by the object of the campaign. Usually, the objective point would be a capital, though it may be a fort or line of defense, depending on circumstances.[17] Perhaps in a nod to Clausewitz, Jomini advised, "As to the choice of

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[15] Jomini, *Art of War*, 69.

[16] Ibid., 54.

[17] Ibid., 70.

objective points, every thing [*sic*] will generally depend upon the aim of the war and the character which political or other circumstances may give it, and, finally, upon the military facilities of the two parties."[18]

Interestingly, Jomini did not identify much variance in the choice of objectives when it came to objective points of maneuver at the strategy level. In fact, Jomini asserted that objective points of maneuver are singularly "those which relate to the destruction or decomposition of the hostile forces."[19] Effectively identifying these points not only gave the greatest probability of success, but was also a critical skill for a general. Jomini added that:

> This was the most conspicuous merit of Napoleon. Rejecting old systems, which were satisfied by the capture of one or two points or with the occupation of an adjoining province, he was convinced that the best means of accomplishing great results was to dislodge and destroy the hostile army,-since states and provinces fall of themselves when there is no organized force to protect them.[20]

Jomini's bias towards offensive operations is evident in this praise of Napoleon. This is not to say that Jomini denied in absolute terms the occasional utility of the defense; however, his idea of a defensive objective point is, not surprisingly, that which is to be defended against an attacking force. By inference, the objective point is the same for both the offense and defense. It is understandable, then, how a disciple of Jomini might come to view the offense favorably as the superior form of warfare. All things being equal, including the objective point, the offense would theoretically have the advantage because it could choose the time and manner of attack, as well as the ability to withdraw. In other words, the offense holds the initiative. Whether or not Jomini intended to build a case for seizing the initiative is unclear. However, his arguments yielded an unspoken lesson that has held widespread and lasting appeal: if one wants to truly accomplish great things in war, he must go on the offensive. He must act. He must create the opportunities that will

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[18] Jomini, *Art of War*, 71.

[19] Ibid.

[20] Ibid.

allow him to achieve greatness. These things will not happen by passively sitting in the defense.

Ultimately, Jomini acknowledged that the fundamental principle is a guideline, not a checklist. “War in its *ensemble* is not a science, but an art. Strategy, particularly, may indeed be regarded by fixed laws resembling those of the positive sciences, but this is not true of war viewed as a whole.”[21] Nevertheless, Jomini was quick to remind his readers that the uncertainties of war did not excuse commanders of their duty to approach the business of war scientifically. Nor did uncertainty preclude the existence of sound rules that, if followed, increased the likelihood of victory. As Jomini advised, “It is true that theories cannot teach men with mathematical precision what they should do in every possible case; but it is also certain that they will always point out the errors which should be avoided; and this is a highly important consideration.”[22]

[21] Jomini, *Art of War*, 258.

[22] Ibid., 260.

## *CARL VON CLAUSEWITZ*

Born in 1780 in Berg, Prussia, Carl von Clausewitz saw his first combat at age twelve, during the winter campaign to drive the French army out of the Rhineland.[23] After the army demobilized in 1795, Clausewitz returned to Prussia where he served in small garrison assignments for the next six years. After sufficiently progressing in his military career, Clausewitz applied and gained admission to the military school in Berlin, which he began attending in 1801. During his studies at the academy, Clausewitz was heavily influenced by the modern ideas of warfare espoused by the school's director at the time, Colonel Gerhard von Scharnhorst. Clausewitz graduated first in his class in 1804, and was appointed adjutant to Prince August of Prussia.[24] Recognizing Clausewitz's talent and penchant for challenging the stifling traditionalism of the Prussian army, Scharnhorst recommended him to the pre-eminent military journal at the time for publication. In 1805, Clausewitz published his first article in which he refuted the strategic theories of Heinrich Dietrich von Bulow, who was considered to be the leading German expert on Napoleonic warfare at the time.[25] Hinting at what he would later write in *On War*, Clausewitz argued that any good theory of war had to be valid for all places, at all times. Von Bulow's theory, he argued, did not meet this standard.[26]

The following year in 1806, Clausewitz fought against Napoleon's forces as the French army swept across Europe. At the battle of Auerstadt, Clausewitz and Prince August were captured and subsequently sent to France, where they would remain under light guard until released back to Prussia in late 1807. In 1808, Clausewitz rejoined his mentor, Scharnhorst, who was heading reform efforts to transform the Prussian army. From his observations of French society, Clausewitz had been similarly convinced, as

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[23] Peter Paret, "Clausewitz" in *Makers of Modern Strategy from Machiavelli to the Nuclear Age* (Princeton, NJ: Princeton University Press, 1986), 188.

[24] Ibid.,189.

[25] Ibid., 190.

[26] Ibid.

was Scharnhorst, of the need to reform the Prussian military, particularly regarding its relationship, or lack thereof, to society.[27] During the next few years, Clausewitz aggressively promoted military reform, both as a member of the general staff, as well as an appointee in various specialty assignments, such as lecturer at the newly formed war college, tutor to the crown prince, and doctrine developer for infantry and cavalry units.[28] In 1812, however, Napoleon's army occupied Prussia unopposed and began using it as a staging ground to launch an invasion of Russia. Clausewitz resigned in protest and sought a commission in the Russian army, where he served as a staff officer and advisor. As Napoleon's forces began their retreat from Moscow in October 1812, Clausewitz attempted to rejoin the Prussian army and was eventually readmitted in time for him to command its Third Corps during the Hundred Days in 1815.[29] In the peace that followed the end of the Napoleonic Wars, Clausewitz returned to his study of military history and theory, with official duty as chief of staff in the Rhineland. He accepted the position of director at the Berlin war college in 1818, and began writing *On War* the next year. He remained at the college until 1830, when the possibility of another European war surfaced. Clausewitz was appointed chief of staff of Prussian forces, though he died in 1831, as a result of a widespread cholera epidemic that was sweeping through Europe.[30] Although Clausewitz never had the chance to complete *On War* as he had intended, his widow, Countess Marie von Brühl, published the unfinished manuscript in 1832.

In *On War*, Clausewitz's main goal was to develop a theory of war. The search for such a theory, he argued, was indicative of a natural intellectual endeavor that traced its beginnings to the early development of weapons, armor, and fortifications. As humanity evolved, so did the tools and conduct of warfare, adding more layers of complexity, as siege warfare gave way to mass melee combat, which subsequently gave way to formations and ordered battle.[31] Eventually, the growing complexities in human

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[27] Paret, "Clausewitz," 192.

[28] Ibid., 194.

[29] Ibid., 195.

[30] Ibid., 197.

[31] Carl Von Clausewitz, *On War*, trans. Michael Howard and Peter Paret (Princeton, NJ: Princeton University Press, 1976), 134.

affairs necessitated a broad, normative understanding of the nature of war, such that "… the principles and rules whereby the controversies that are so normal in military history—the debate between the conflicting opinions—could be brought to some sort of resolution. This maelstrom of opinions, lacking in basic principles and clear laws round which they could be crystallized, was bound to be intellectually repugnant."[32] Consequently, some tried to derive principles and rules that could be applied to the conduct of war, yet the overwhelming complexities involved in war stymied efforts to grasp the whole. Those who had constructed models of warfare and soon realized the inherent limitations of those models in complex problems adjusted by reducing war to "only factors that could be mathematically calculated."[33] Examples of such factors that Clausewitz identified were numerical strength, supply and logistics, basing operations, and the geometry of interior lines. Yet, Clausewitz was critical of focusing only on the quantifiable factors of war, because doing so ignored the moral forces that are inextricably linked to it. As he explained:

> It is only analytically that these attempts at theory can be called advances in the realm of truth; synthetically, in the rules and regulations they offer, they are absolutely useless. They aim at fixed values; but in war everything is uncertain, and calculations have to be made with variable quantities. They direct the inquiry exclusively toward physical quantities, whereas all military action is intertwined with psychological forces and effects. They consider only unilateral action, whereas war consists of a continuous interaction of opposites.[34]

Consequently, the moral values held by competing sides in a conflict cannot be ignored because it is those moral values which provide the emotional spark necessary to drive men to violence. "Military activity," Clausewitz asserted, "is never directed against material force alone; it is always aimed simultaneously at the moral forces which give it life, and the two cannot be separated."[35] Of war, Clausewitz thus concluded:

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[32] Clausewitz, *On War*, 134.

[33] Ibid.

[34] Ibid., 136.

[35] Ibid., 137.

> As a total phenomenon its dominant tendencies always make war a paradoxical trinity—composed of primordial violence, hatred, and enmity, which are to be regarded as a blind natural force; of the play of chance and probability within which the creative spirit is free to roam; and of its element of subordination, as an instrument of policy, which makes it subject to reason alone.[36]

Respectively, these three aspects manifest themselves in the people and their passions, the character and talent of the army and its commanders, and the government. Clausewitz insisted that a valid theory of war must maintain a balance between these forces and recognize that the relationship between these forces will vary according to the particulars of any given situation. Ignoring any of these forces or treating their inter-relationships arbitrarily risks creating theories of war that are useless and have no bearing on reality.[37] War, Clausewitz emphasized, is a human endeavor.

Taken solely in the abstract sense, war inevitably leads to extremes, Clausewitz believed. Without human reason and intellect to moderate it, war naturally progresses toward the absolute, following a line of logic reminiscent of Newtonian physics in which an object in motion tends to remain in motion until another force acts against it. In theory, "the aim of warfare is to disarm the enemy" or to otherwise "put him in a situation that is even more unpleasant than the sacrifice you call on him to make."[38] In order to accomplish this, one must apply force, though there is no naturally occurring limit as to how much force to use. "Each side, therefore, compels its opponent to follow suit; a reciprocal action is started which must lead, in theory, to extremes."[39] Furthermore, war is an interaction between opposing wills, each with theoretically the same aim of disarming the other. Clausewitz stressed that resistance is a necessary component of war, such that total control in its conduct becomes illusory. "So long as I have not overthrown my opponent I am bound to fear he may overthrow me. Thus, I am not in control: he dictates to me as much as I dictate to him."[40] Consequently, one side must match his own

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[36] Clausewitz, *On War*, 89.

[37] Ibid.

[38] Ibid., 77.

[39] Ibid.

[40] Ibid.

efforts against the enemy's power of resistance, calculated as the inseparable combination of means and will, if he is to win. As one adjusts his own efforts to overcome the enemy, so will the enemy adjust in return, thereby escalating hostilities to the extreme.[41]

However, the tendency to reach for extremes is characteristic of war only in an abstract sense. In a world ungoverned by reason or temperance, the interplay of extremes becomes "a clash of forces freely operating and obedient to no law but their own."[42] Taken to its logical end, this dynamic dictates that an actor in war should always apply the maximum force possible. In fact, Clausewitz noted, "If we were to think purely in absolute terms, we could avoid every difficulty by a stroke of the pen and proclaim with inflexible logic that, since the extreme must always be the goal, the greatest effort must always be exerted."[43] Yet abstraction does not mirror reality. If this were the case, war could be conceived as a single decisive act, isolated from the considerations of pre-existing relations between its actors and estimates of its consequences. In reality, wars never come about completely unexpectedly, as there is always some political condition existing between the parties in war that allows them to evaluate each other's tendencies and motivations. Preparations for war are gradual, and the reality of resource constraints sets in as "material calculations take the place of hypothetical extremes."[44] Clausewitz thus concluded that warfare "eludes the strict theoretical requirement that extremes of force be applied."[45]

How much force or effort to apply in a given situation becomes a matter of judgment, subject not only to the laws of probability, but also the political objective of the war. As the central moderating element, "the political object—the original motive for the war—will thus determine both the military objective to be reached and the amount of effort it requires."[46] The political object itself does not, however, have any intrinsic value. Rather, it can be measured only within

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41 Clausewitz, *On War*, 77.

42 Ibid., 78.

43 Ibid.

44 Ibid., 79.

45 Ibid., 80.

46 Ibid., 81.

> the context of the two states at war. The same political object can elicit differing reactions from different peoples, and even from the same people at different times. … Thus, it follows that without any inconsistency wars can have all degrees of importance and intensity, ranging from a war of extermination down to simple armed observation.[47]

In other words, no two wars are ever the same. Nor, Clausewitz argued, are victory and defeat in war permanent outcomes. Of defeat, Clausewitz termed the condition as merely a "transitory evil" that the losing party seeks to overturn at some future time.[48] Any periods of perceived military inaction are temporary, as both sides wait to gain an advantage over the other before acting once again.[49]

Theoretically, however, there would never be periods of inactivity in war. Yet, as Clausewitz noted, such periods exist. In fact, "history so often shows … that immobility and inactivity are the normal state of armies in war, and action is the exception."[50] Briefly, Clausewitz highlighted three factors that cause periods of inaction. First, there is the dominant human tendency towards fear, indecision, and laziness. The loss of momentum caused by these tendencies can only be overcome by strong military leadership or overwhelming political pressure. Second, war is too complex to be understood in its entirety, and both sides in a conflict deal will consequently deal with imperfect information as they try to understand their own situation as well as that of the enemy. As a result, one side might miscalculate and fail to exploit an advantageous position over his enemy, and instead wait for a more opportune moment. Third, prudence and risk aversion often find ways to creep into the minds of military commanders and "…tame the elemental fury of war."[51]

Clausewitz judged the effects of these behaviors quite negatively concerning the era of warfare prior to Napoleon and Frederick. Earlier conflicts, he reasoned, generally amounted to little more than petty squabbles where no vital interests were threatened. Somewhat derisively, Clausewitz characterizes pre-Napoleonic warfare as often "tame

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[47] Ibid.

[48] Ibid., 80.

[49] Ibid., 82.

[50] Ibid., 217.

[51] Ibid., 218.

and half-hearted" and "…a mild attempt to gain some small advantage before sitting back and letting matters take their course … to be discharged with as little effort as possible."[52] Invoking the image of a fencing duel, Clausewitz portrayed the art of war prior to Napoleon as a series of "feints, parries, and short lunges" from which contemporary thinkers distilled military theory.[53] Similarly, Clausewitz criticized the notion of his contemporaries as "petty" that the recent Napoleonic wars represented little more than "…crude brawls that can teach nothing and that are to be considered as relapses into barbarism."[54] Drawing lessons from the exploits of Napoleon and Frederick the Great, Clausewitz warned of the danger in clinging to half-hearted political measures in the face of a determined enemy:

> Woe to the government, which … meets a foe who, like the untamed elements, knows no law other than his own power! Any defect of action and effort will turn to the advantage of the enemy, and it will not be easy to change from a fencer's position to that of a wrestler. A slight blow may then often be enough to cause a total collapse.[55]

In spite of all his admonitions and criticisms, Clausewitz did not intend to dismiss wars with more limited aims as an anachronistic concept. Rather, his argument was that analyzing campaigns such as those of Napoleon and Frederick provided a more comprehensive case study from which to extract valuable insights.

Although Clausewitz's drew heavily on the Napoleonic experience during his quest for a general theory of war, he absolutely rejected the idea that theory should become "a positive doctrine, a sort of manual for action."[56] Instead, Clausewitz treated theory as an analytical process of inquiry "leading to a close *acquaintance* with the subject; applied to experience—in our case, to military history—it leads to a thorough *familiarity* with it."[57] Good theory, he said, could foster sound principles and rules, subject to the scientific law of reason. Nevertheless, "even these principles and rules are

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[52] Clausewitz, *On War*, 218.

[53] Ibid.

[54] Ibid.

[55] Ibid., 219.

[56] Ibid., 141.

[57] Clausewitz, *On War*, 141.

intended to provide a thinking man with a frame of reference, …rather than to serve as a guide which at the moment of action lays down precisely the path he must take."[58] A positive doctrine which will always serve as a reliable guide for a commander can never be achieved. No matter how encompassing a theoretical model of war may be, that commander will inevitably find himself in conflict with it and will have to rely on his own unique capacity to discern truth. As Clausewitz put it, "talent and genius operate outside the rules, and theory conflicts with practice."[59] Ultimately, valid theory must never conflict with reality.

In Book Two, Chapter 2, of *On War*, Clausewitz converges on a singular conclusion pertaining to the proper role of theory. Despite the aforementioned difficulties with arriving at valid theory, Clausewitz proposed that such a theory was possible if kept within certain bounds. In the context of warfare, theory could not be prescriptive if it were to retain validity. By his conception of validity, Clausewitz argued that theory must be true across time, and in all cases. He thus concludes, "It is the task of theory, then, to study the nature of ends and means."[60] In a purely theoretical sense, the main goal or end of war is to disarm the enemy, while doing so also represents the means for achieving the war's political purpose (understood in the abstract to mean a return to peace). In reality, however, it is not a necessary condition that any one side in a conflict must achieve total disarmament of his enemy before pursuing peace. As Clausewitz observed, wars had been fought in the past between opponents of unequal strength. Theoretically, the stronger side should have fought the war until his enemy was completely disarmed, yet this did not necessarily happen. To explain this phenomenon, Clausewitz identified two deterrents that induce a moderating effect on the natural tendency of war toward the extreme: one is the "improbability of victory," and the second is the "unacceptable cost" of prosecuting a war beyond a certain threshold.[61] The degree to which these factors influence either side in war will vary from situation to situation:

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[58] Ibid.

[59] Ibid., 140.

[60] Ibid.,142.

[61] Ibid., 142.

> Once the extreme is no longer feared or aimed at, it becomes a matter of judgment what degree of effort should be made; and this can only be based on the phenomena of the real world and the *laws of probability*. Once … war is no longer a theoretical affair but a series of actions obeying its own peculiar laws, reality supplies the data from which we can deduce the unknown that lies ahead.[62]

By his own standards at least, Clausewitz's theory of war passed the validity test.

For all of Clausewitz's skepticism regarding principles and rules, he did however advance one idea that could serve future commanders as a useful guide for action; namely, the principle of polarity. While not necessarily a principle of war in the tactical sense, polarity was Clausewitz's way of thinking about the underlying logic of conflict, absent the moral or emotional component. Using a hypothetical example as a starting point for his analysis, Clausewitz imagined two battling commanders whose interests "are opposed in equal measure to each other" as a way of conceptualizing pure polarity.[63] In this scenario, the two commanders completely cancel each other out, because achieving victory cannot apply to both at the same time; one commander's victory necessarily excludes the other from accomplishing the same. Clausewitz emphasized, however, that the principle of polarity applies in this example only with regard to the interests of the two commanders, and not the commanders themselves. As Clausewitz explained:

> The principle of polarity is valid only in relation to one and the same object, in which positive and negative interests exactly cancel one another out. … When, however, we are dealing with two different things that have a common relationship external to themselves, the polarity lies not in the *things* but in their relationship.[64]

In other words, the polarity principle concerns objectives, not actors.

With the goal of linking the polarity principle to the formulation of military strategy, Clausewitz began with the proposition that there are only two distinct forms of action war: offensive and defensive.[65] The defense, he argued, was the stronger form of warfare because of the very nature of polarity. Clausewitz reasoned that polarity "does

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[62] Clausewitz, *On War*, 80.

[63] Ibid., 83.

[64] Ibid.

[65] Ibid., 84.

not lie in attack or defense, but in the object both seek to achieve: the decision. If one commander wants to postpone the decision, the other must want to hasten it, always assuming that both are engaged in the same kind of fighting."[66] Ultimately, the question both commanders would have to ask themselves is whether postponing the decision is more advantageous for one side than the defense is for the other. If the attacker must postpone the decision because he cannot, or thinks he cannot, overcome the defender's advantage, then the drive towards offensive action fizzles, along with the war's progression.[67] Conversely, if the defender is too weak to assume an offensive posture, it will have to accept unfavorable fighting conditions for the foreseeable future; however, this prospect may still be preferable to attacking immediately or suing for peace.[68] Clausewitz was convinced that this rationale caused the periods of military inaction that were so prevalent in the historical record. Furthermore, he concluded that the superiority of the defense negates the effects of polarity. The implication polarity has for military strategy, then, is two-fold. First, if polarity lies in relationships and not things, then the commander must carefully identify and understand the objective over which he is fighting. Second, once the commander understands the objective and its relation to both sides, he must apportion his forces commensurate with the value of the objective. "The weaker the motives for action," Clausewitz warned, "the more they will be overlaid and neutralized by the disparity between attack and defense, and the more frequently will action be suspended—as indeed experience shows."[69]

The final piece to Clausewitz's polarity principle lies in the nature of the decision which opposing forces seek. "War," said Clausewitz, "is a clash between major interests, which is resolved by bloodshed—that is the only way in which it differs from other conflicts."[70] Therefore, "the destruction of enemy forces must be regarded as the main objective; not just in war generally, but in each individual engagement and within all the

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66 Ibid., 83.

67 Ibid., 84.

68 Ibid.

69 Ibid.

70 Ibid., 149.

different conditions necessitated by the circumstances out of which war has arisen."[71] Destruction, by Clausewitz's definition, meant tactical successes on the battlefield. Only tactical success leads to strategic success, so tactical success is of utmost importance in war.[72] Hence, the decision which opposing commanders seek is victory. This conclusion is self-evident and tautological, but it is important to note that Clausewitz did not specify how much of the enemy one must destroy in order to achieve victory, only that at least some must be destroyed. Indeed, whether one achieves victory depends on the metrics both sides are using and the objective. The central idea Clausewitz tried to advance was that war necessitated some measure of violence, the application of which should always be the "dominant consideration."[73] This means that destroying the enemy, or some portion of it, is a necessary, though not always sufficient, condition for achieving victory. The value of the polarity principle lies not in its power to tell a commander how to conduct his battles. Rather, it assists the commander in identifying the right objectives over which he will fight and possibly to what degree he may have to commit resources.

As a principle, Clausewitz's concept of polarity tells the commander, not what to do, but how to think. Indeed, the principle of polarity reflects Clausewitz's approach to theory, which used opposing extremes in the abstract in order to emphasize ideas. Acknowledging that reality is not characterized by extremes, Clausewitz said that "war generally falls somewhere in between, and is influenced by these extremes only to the extent to which it approaches them."[74] As to what a commander should do once he thinks he has arrived at the truth of a situation, Clausewitz advised:

> All means … have only a relative value; all are inhibited by certain limitations on both sides. Beyond this sphere, a different set of rules applies, in a totally different universe of phenomena. A general … must never expect to move on the narrow ground of illusory security as if it were absolute; he must never permit himself to feel that the means he is using are absolutely necessary and the only ones possible, and persist in

71 Ibid., 229.

72 Ibid., 228.

73 Ibid.

74 Ibid., 517.

> using them even though he may shudder at the thought of their possible inadequacy.[75]

While accepting the existence of truth, Clausewitz did not believe that there was any system or fixed procedure for recognizing it. Only seasoned judgment and experience could enable one to see the truth.[76] Furthermore, even if one could arrive at some ontological truth, such an accomplishment would still be no guarantee of victory, since chance and probability are always a factor.

In conclusion, it is important to highlight Clausewitz's emphasis on the role of theory and his skepticism towards the utility of principles and rules in war. As stated previously, Clausewitz's goal in *On War* was to formulate a theory of war that had universal applicability. Theory, he concluded, studies the nature of means and ends. It does not, however, prescribe how to employ means to achieve ends. Because of the interplay of chance and probability in all war, Clausewitz hesitated to advance any principles or rules that seemed to guarantee victory if followed. To the extent which Clausewitz offered anything prescriptive, one could argue that the polarity principle best fits this categorization. Though the principle was derived from Clausewitz's theory of ends and means, it provides the commander with a practical tool with which to understand his objectives, either at the tactical or strategic level of analysis. This is not to say that Clausewitz had no advice to offer commanders regarding various tactical tasks. Indeed, he had much to say on conducting attacks, building defenses, moving formations through various terrain, and maneuver in battle. However, Clausewitz would have cautioned that even his own advice should not become fixed law or principle, for it is either too tempting or too easy to interpret military history out of its proper context. Never, wrote Clausewitz, should ..". a critic…rank the various styles and methods that emerge as if they were stages of excellence, subordinating one to the other. They exist side by side, and their use must be judged on its merits in each individual case."[77]

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[75] Clausewitz, *On War*, 517.

[76] Ibid.

[77] Ibid., 516.

## Analysis

One of the great challenges in assessing the debate between Clausewitz and Jomini over rules and principles is that each viewed the role of theory differently. For Clausewitz, the ultimate purpose of theory was to educate the commander, whereas for Jomini, the end of theory was to derive a set of principles that would guide the actions of the commander on the battlefield. Yet, Clausewitz was not silent regarding actions on the battlefield, as any comprehensive text such as *On War* would presumably address tactics and strategy in a practical manner. Although *On War* was never completed, what survived of Clausewitz's manuscript addressed many of the same concepts that Jomini had in *Art of War*, such as superiority of numbers, surprise, theatre geometry, lines of operation, and, particularly, decisive points and concentration of forces.[78] The scope of this thesis does not allow addressing all these considerations in detail. What it has tried to do, however, is identify from the treatises of Clausewitz and Jomini their respective central principles concerning the art and science of war.

Jomini's fundamental principle emphasized the importance of decisive points in war. According to the principle, the commander is obliged to mass his combat power on the decisive point at such a time and to such a degree as to assure victory. While doing so, the commander must not expose his own forces to counterattack. In order to lessen the danger to his own forces, the commander should strive to employ the bulk of his own forces against fractions of the enemy's whenever possible.

It is unlikely that Clausewitz would have disputed the logic of Jomini's fundamental principle. In fact, Clausewitz incorporated much of Jomini's principle into his own discussion concerning the importance of numerical strength. If a numerically inferior force goes into battle against a numerically superior force, Clausewitz argued, the weaker side can still achieve victory by employing its forces "…with such skill that even in the absence of absolute superiority, relative superiority is attained at the decisive point."[79] Hence, both Clausewitz and Jomini understood decisive points as something to which a commander should focus the bulk of his attention and resources.

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[78] Clausewitz, *On War*, 204.

[79] Ibid., 196.

Similarly, it is unlikely that Jomini would have disputed the logic of Clausewitz's polarity principle. In his discussion on objective points, Jomini said that choosing the right ones depends on the aims of the war, the war's character, political circumstances, and the disposition of the opposing armies. Like Clausewitz, Jomini understood that objective and decisive points were considered as such only within the relational context of the opposing armies to something external from them. As Clausewitz said, polarity lies not in the actors, but in their relationships. Thus, one might conclude that Clausewitz's polarity principle complements and provides the underlying logic for the Jominian decisive and objective point.

Overall, the debate between Jomini and Clausewitz does not indicate that they held diametrically opposed viewpoints on the nature and conduct of war. Jomini's fundamental principle and Clausewitz's polarity principle were not mutually exclusive concepts. While Clausewitz and Jomini disagreed on some aspects of warfare, such as the significance of interior lines, such disputes are to be expected in the course of interpreting military history. The distinction between the two men is that each wrote for different purposes. As one viewpoint put it, "Clausewitz's clear intention in *On War* was philosophic speculation. … Jomini's *Precis* is a manual; it is intended to be taken to the field."[80] Essentially, the debate between Clausewitz and Jomini was over the role of theory.

In his conclusion to *Art of War*, Jomini asserted that, "Correct theories, founded upon right principles, sustained by actual events of wars, and added to accurate military history, will form a true school of instruction for generals."[81] Clausewitz was clearly uncomfortable with the notion of "right" principles, particularly because such claims to correctness ignored the uncertainty inherent in war. Jomini, on the other hand, acknowledged and accepted many Clausewitzian concepts, such as chance, military genius, passion, and morale. In fact, Jomini explicitly wrote that war as a whole could not "be regulated by fixed laws resembling those of the positive sciences."[82]Yet, he rejected

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80 Richard M. Swain, "The Hedgehog and the Fox: Jomini, Clausewitz, and History," *Naval War College Review*, 43, no.4 (1990): 100.

81 Jomini, *Art of War*, 261.

82 Ibid., 258.

Clausewitz's implicit conclusion that no practical theory of war could be formulated because the outcomes could not be guaranteed. In a rhetorical challenge Jomini asked, "Shall a theory be pronounced absurd because it has only three-fourths of the whole number of chances of success in its favor?"[83]

83 Jomini, *Art of War*, 259.

# II. MAHAN VS. MACKINDER

**Issue: Which is more consequential for national objectives– land power or sea power?**

The debate between Alfred Thayer Mahan and Sir Halford J. Mackinder concerned the relative importance of sea power versus land power to national objectives. While neither argued that land or sea power was inconsequential, their interpretation of history differed, leading them to arrive at different conclusions. Widely recognized as the modern champion of sea power, Mahan postulated that navies were critical to the prosperity and security of nations. Mackinder, on the other hand, took a more nuanced view. Though he acknowledged the importance of sea power, Mackinder argued that geography and technological trends suggest a greater relevance for land power. This chapter will examine the various arguments of Mahan and Mackinder as advanced in their major publications. For Mahan, this chapter will focus chiefly on *The Influence of Sea Power upon History (1660–1783)*, published in 1890, as well as *Naval Strategy Compared and Contrasted with the Principles and Practice of Military Operations on Land*, published in 1911. For Mackinder, this chapter will draw primarily from "The Geographical Pivot of History," published as an article in 1904, as well as *Democratic Ideals and Reality*, published in 1919. The intent of this chapter is not to declare a winner of the debate, or to say that one was right while the other was wrong, but to evaluate each argument on its own merits and within the proper historical context.

## ALFRED THAYER MAHAN

Born in West Point, New York on September 27, 1840, Alfred Thayer Mahan was the eldest son of then dean of faculty at the United States Military Academy. In 1852, the young Mahan was sent to boarding school, where he studied for two years before enrolling in Columbia College in New York City.[84] Following two years at Columbia, Mahan entered the U.S. Naval Academy, from which he graduated in 1859. During the American Civil War, Mahan conducted naval patrols along the Confederate coasts, but saw relatively little action. After the war, Mahan returned to the Naval Academy and briefly served as an instructor in seamanship before embarking on a series of assignments in navy yards and at sea over the next two decades.[85] In 1884, at the invitation of Commodore Stephen Luce, Mahan accepted a faculty position at the newly established Naval War College in Newport, Rhode Island. After several delays, Mahan eventually reported for duty at the college in 1886. Upon arriving, however, he discovered that Luce had been deployed at sea, and that Mahan would immediately assume duties as the school president, as well as lecturer in naval history and strategy.[86] Between 1886 and 1893, Mahan published his two most well-known works, *The Influence of Sea Power upon History (1660–1783)* and *The Influence of Sea Power upon the French Revolution and Empire (1793–1812).* He left the Naval War College briefly to take command of the steam-powered cruiser USS *Chicago*, but returned in 1895 to resume lecturing. After retiring from active service in 1896, Mahan spent most of his time writing for various publications and journals, eventually resulting in honorary degrees from several prestigious universities. Well-regarded as a naval historian and advisor, Mahan was occasionally asked to serve on various governmental delegations and policy boards, including the Naval War Board in 1898, The Hague Peace Conference in 1899, and the

[84] Philip A. Crowl, "Alfred Thayer Mahan: The Naval Historian" in *Makers of Modern Strategy from Machiavelli to the Nuclear Age*, ed. Peter Paret, 444 - 77 (Princeton, NJ: Princeton University Press, 1986), 444.

[85] Ibid., 445.

[86] Ibid., 446.

committee to reorganize the Navy Department under President Theodore Roosevelt.[87] In December of 1914, Mahan died of heart failure at the age of seventy-four.

Perhaps the most elucidating aspect of Mahan's theory of naval strategy was the distinction he drew between military strategy and naval strategy. Strategy, Mahan noted, was generally synonymous with military strategy, such that use of either term limited analysis to "military combinations embracing one or more fields of operations, either wholly or mutually dependent, but always regarded as actual or immediate scenes of war."[88] Mahan believed that strategy differed from military strategy in that the former possessed both peacetime and wartime considerations, whereas the latter was only necessary for war. To underscore this point, Mahan argued that a peacetime land force "may gain its most decisive victories by occupying in a country, either by purchase or treaty, excellent positions which would perhaps hardly be got by war."[89] Mahan subsequently asserted that naval strategy mirrored strategy in general. In other words, naval strategy concerned peacetime operations, as well as the conduct of war. Thus, Mahan concluded, "Naval strategy has indeed for its end to found, support, and increase, as well as in peace as in war, the sea power of a country."[90]

The term "sea power" was coined by Mahan and was, in his assessment, the critical ingredient to national prosperity.[91] However, Mahan's definition of sea power was two-fold. In one instance, he describes sea power by recounting the example of how Louis XIV systematically built up France's maritime infrastructure during the 1660s by controlling domestic manufacturing, increasing the size of the navy, consolidating government power, and securing new markets for goods. The aggregate of "all these means, embracing countless details, were employed to build up for

87 Crowl, "Mahan," 448.

88 Alfred Thayer Mahan, *The Influence of Sea Power upon History: 1660–1783*, Dover ed. (New York: Dover Publications, Inc., 1987), 22.

89 Ibid.

90 Ibid., 23.

91 Crowl, "Mahan," 450.

France (1) Production; (2) Shipping; (3) Colonies and Markets, - in a word, sea power."[92] In another instance, Mahan describes sea power in more militaristic language:

> It is not the taking of individual ships or convoys, be they few or many, that strikes down the money power of a nation; it is the possession of that overbearing power on the sea which drives the enemy's flag from it, or allows it to appear only as a fugitive; and which, by controlling the great common, closes the highways by which commerce moves to and from the enemy's shores. … This overbearing power can only be exercised by great navies.[93]

Though Mahan defined sea power ambiguously, this was likely intentional. As his definition of naval strategy encompassed both war and peacetime considerations, so did the application of sea power. Therefore, depending on the state of affairs of the nation in question, one definition might prove more useful than the other.

Nevertheless, it is likely that Mahan intended for both definitions of sea power to complement each other. In 1911, Mahan wrote that, "Commercial value cannot be separated from military in sea strategy, for the great interest of the sea is commerce."[94] Almost twenty years earlier, Mahan noted that "the history of sea power, while embracing in its broad sweep all that tends to make a people great upon the sea or by the sea, is largely a military history."[95] Thus, Mahan saw commercial and military interests as inextricably linked. As he put it, the *raison d'être* of the navy is the protection shipping interests.[96] Consequently, he warned, the importance of the navy's role should not be underestimated. Using the example of a country's key trade routes, Mahan argued that such passages could not fall outside military purview or interest. Without a powerful navy "it may be beyond the ability of the country interested effectively to control it, and in such a case, in war, commercial convenience must yield to the conditions imposed by the limitations of the nation's military strength."[97]

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92 Mahan, *Influence of Sea Power*, 71.

93 Ibid., 138.

94 Alfred Thayer Mahan, *Naval Strategy Compared and Contrasted with the Principles and Practice of Military Operations on Land* (Boston: Little, Brown, 1911), 302.

95 Mahan, *Influence of Sea Power*, 1.

96 Ibid., 26.

97 Mahan, *Naval Strategy*, 309.

As to the extent of sea power's importance to national objectives, Mahan had the following to say:

> The interests of a nation in the sea are almost wholly interests of trade—of carriage. The productions of the sea, though valuable, are trifling in amount as compared with those on land. Its great value to mankind is that it furnishes the most copious means of communications and traffic between peoples; often the only means.[98]

In Mahan's view, trade and commerce were fixed national interests. Though a nation's production capacity and wealth are tied to the land, opening new markets, establishing trade agreements, and maintaining diplomatic relations with other nations are tied to the sea. Also, in order to secure those national interests to the extent that they rely on control of the sea, a navy is necessary.

However, in order to understand Mahan's conception of national interest, it is important to first examine his theoretical approach to war and its connection to the goals of a nation. Mahan's inspiration, as evidenced by his frequent references, was Baron de Jomini. In his writings and lectures, Mahan incorporated many of the same ideas and principles that Jomini had developed, such as theatres of war, zones of operation, concentration of forces, unity of command, geometry, lines of communication, and decisive points. Another indicator of Jomini's influence was Mahan's conviction that war was governed by immutable principles:

> War … has principles; their existence is detected by the study of the past, which reveals them in successes and in failures, the same form age to age. Conditions and weapons change; but … respect must be had to these constant teachings of history in the tactics of the battlefield, or in those wider operations of war which are comprised under the name of strategy.[99]

Also, like Jomini, Mahan separated his discussion of war into tactical and strategic realms. Strategy, as defined by Jomini and Mahan, concerns when and where to deploy forces for the purpose of military confrontation. Tactics, on the other hand, is concerned with how best to employ forces during a battle.

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98 Mahan, *Naval Strategy*, 303.

99 Mahan, *Influence of Sea Power*, 7.

Within the context of military operations and the principles that guide their proper execution, Mahan and Jomini were very much in agreement, particularly concerning the principle of concentration. However, Mahan's concept of sea power drove him toward a more expansive view of strategy, as compared to Jomini. In Jomini's view, the statesman and general might jointly decide on the nature or character of the war to be fought, but formulation of strategy and its execution was a matter best left to the general.[100] Whereas Jomini treated the statesman and the general as unrelated fields, Mahan viewed them as necessarily linked together, with strategy being a shared function between them. Using the recent 1909 decision to divide the U.S. Navy's fleet between the Atlantic and Pacific coasts to both reinforce his point, yet show his opposition to the plan, Mahan asserted that, "No more convincing instance exists, to my knowledge, of the need of statesmen and people to know something about the A, B, C of Naval Strategy; for this principle of concentration is the A, B, C."[101] Additionally, Mahan encouraged naval officers to immerse themselves in current events and international relations. Addressing future naval officers, Mahan advised:

> avoid dissipating your energies upon questions interior to the country; questions financial, sociological, economical, or what not. The sphere of the navy is international solely. It is this which allies it so closely to that of the statesman. Aim yourselves to be statesmen as well as seamen.[102]

The navy, in Mahan's view, is not just a tool of war, but is also a direct extension of a nation's foreign policy.

Unlike land power, sea power plays a direct role toward achieving national objectives during times of peace. During his discussion on the difference between military strategy and naval strategy, Mahan characterized the value of sea power in peacetime as:

> …due to the unsettled or politically weak conditions of the regions to which navies give access, which armies can only reach by means of navies, and in which the operations of an army, if attempted, depend upon

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100 Jomini, *Art of War*, 12.

101 Mahan, *Naval Strategy*, 6.

102 Ibid., 21.

> the control of the sea. If a nation wishes to exert political influence in such unsettled regions it must possess bases suitably situated; and the needs of commerce in peace times often dictate the necessity of such possessions, which are acquired … when opportunity offers.[103]

As to the role of land power, Mahan observed that the disposition of "great armies now prevent such acquisitions, except at the cost of war." [104] Thus, the true value that sea power holds over land power is that sea power allows for the expansion of a nation's territory and holdings without incurring the costs of war.[105]

The notion that sea power might be more relevant than land power because of a peacetime consideration might seem ironic, given that Mahan drew mostly from military combat history to build his theory of sea power. Indeed, Mahan often attributed sea power as the decisive element in determining victory, particularly during the campaigns of the seventeenth and eighteenth centuries in which the British eventually overcame the French.[106] Yet, a major criticism of Mahan is that the methodology by which he drew his conclusions constituted a reductive fallacy, through which he reduced complexity to simplicity by focusing only on facts from historical case studies that supported his own preconceived notions. Through this methodology, Mahan's naval case studies predictably concluded that sea power was both a necessary and sufficient cause of the outcome.[107] His steadfast belief in sea power may be best exemplified in his assessment of the rise of Great Britain's naval might. "It was not by attempting great military operations on land, but by controlling the sea, and through the sea the world outside Europe, that [England] ensured the triumph of their country."[108]

As the evangelist of sea power and its influence upon history, Mahan appeared to simultaneously diminish the overall importance of land power. Yet, if sea power, but not land power, was the critical factor in the greatness of a nation, then Mahan's theory failed

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[103] Mahan, *Naval Strategy*, 122.

[104] Ibid.

[105] Ibid., 124.

[106] Crowl, "Alfred Thayer Mahan," 454.

[107] Ibid.

[108] Alfred Thayer Mahan, *The Influence of Sea Power upon the French Revolution and Empire: 1793–1812* (Boston: Little, Brown and Company, 1892), 402.

to explain the rise in non-maritime empires, such as Russia, the Ottoman Empire, and Germany under Bismarck.[109] However, it was not Mahan's intent to dismiss the relevance of land power. Indeed, most principles from his naval strategy were derived from Jomini's land strategy. Rather, Mahan's aim was to develop naval doctrine for nations that desired to become, or maintain their status as, maritime powers.

At the time Mahan published his two major *Influence* works on sea power in 1890 and 1892, the United States was not a formidable maritime power. As a naval officer, he clearly desired that it become one. Recognizing that U.S. economic and commercial activity was focused on the interior of the country at the time, Mahan understood that maritime commerce and trade was not currently part of the national strategy.[110] However, Mahan foresaw that the U.S. would eventually require a commercial shipping fleet and, therefore, a bigger navy. History has shown that Mahan's forecast was accurate, though it is likely that Mahan's exhortations might have had some influence on expanding the size of the U.S. Navy.

Mahan did not categorically dismiss land power as less important than sea power. That said, based on the limited number of case studies and his selective collection of various facts from among them, one could reasonably claim that Mahan was guilty of confirmation bias regarding his promotion of sea power. Essentially, Mahan began with a theory of sea power and used only those facts from history that would back it up. Despite a flawed scientific approach, this does not necessarily render Mahan's theory of sea power as meaningless or invalid. In fact, sea power may be every bit as critical in a particular situation as Mahan suggested. Commerce, trade, and the military forces required to safeguard those interests have been, and always will be, in the national interests. Whether or not a country is partly, or mostly, a maritime power varies. Regardless of the extent to which a nation has maritime interests, however, Mahan's lesson is that sea power is a critical component that must not be ignored.

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[109] Crowl, "Alfred Thayer Mahan," 452.

[110] Mahan, *Influence of Sea Power*, 39.

## *SIR HALFORD JOHN MACKINDER*

Generally recognized as the founder of geopolitics, Halford J. Mackinder did not come from a military background. Born in Lincolnshire, England in 1861, Mackinder attended Oxford University from 1880 to 1884. While at Oxford, he studied natural sciences and history, earning degrees in both. Before graduating, Mackinder was awarded a research scholarship in geology. In 1885, Mackinder studied law in London, and was admitted to the bar the following year. In 1887, Mackinder delivered his first paper to the Royal Geographic Society (RGS) and was appointed later that year as Reader in Geography at Oxford. With assistance from the RGS, Mackinder founded the Oxford School of Geography in 1899, the same year that he led the first expedition to the summit of Mount Kenya.[111] After a serving as an educator and administrator at Oxford University, the University of Reading, and the London School of Economics, Mackinder switched to a career in politics in 1908. From 1910 to 1922, he served as a member of the British Parliament and briefly as High Commissioner to South Russia from 1919 to 1920. Retiring from politics in 1923, Mackinder accepted a professorship at the London School of Economics. He died in 1947.[112]

Of all Mackinder's professional publications, two potentially stand out as his most influential. The first is "The Geographical Pivot of History," presented in 1904 to the RGS and concurrently published as an article in *The Geographic Journal*. The second is *Democratic Ideals and Reality*, published in 1919. In the former, Mackinder introduced the concept of the Pivot Area, which referred to the core interior of the Eurasian region, and suggested that controlling the Pivot Area would enable its owner to dominate the world. Following the experience of World War I, Mackinder expanded the Pivot Area concept and renamed it as the "Heartland," which he detailed at length in *Democratic Ideals and Reality*.[113] Mackinder's Pivot Area and Heartland Theory raised many

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[111] Brian W. Blouet, "Sir Halford John Mackinder: a Brief Biography," The Mackinder Forum, accessed September 5, 2012, http://www.mackinderforum.org/sir-john-halford-mackinder.

[112] Ibid.

[113] Stephen V. Mladineo, introduction to *Democratic Ideals and Reality* by Halford John Mackinder (Washington, D.C.: National Defense University Press, 1942).

eyebrows at the time, presumably because these ideas suggested that land power had a greater influence over history than sea power. These accusations were, however, only half-correct.

Mackinder heuristically divided the previous two millennia into three broad epochs. The first epoch, which he did not officially name, essentially spans ancient Rome to the time of Christopher Columbus. The second epoch is the "Columbian epoch," and covers the roughly 400 year period following Columbus' voyage to the New World. The third epoch is the "post-Columbian epoch," which marked its beginning around the year 1900.[114] Justifying the beginning of the twentieth century as the transition between epochs, Mackinder explained that the previous 400 year period, marked by exploration and discovery, had effectively run its course, and that the world map was nearly completed. With most of the world officially claimed by some major power by 1900, any move to acquire or annex territory in the post-Columbian epoch would almost certainly result in major war.[115]

The key similarity between the Columbian and post-Columbian epochs was the shared characteristic of what Mackinder called a "closed political system."[116] In such a system, social forces have far-reaching ripple effects. In contrast, the pre-Columbian era was not a closed political system because the barbarians acted as a social and physical buffer against medieval Christendom. Within the context of the post-Columbian period, Mackinder described the effects of a closed system:

> Every explosion of social force, instead of being dissipated in a surrounding circuit of unknown space and barbaric chaos, will be sharply re-echoed from the far side of the globe, and weak elements in the political and economic organism of the world will be shattered in consequence. … Probably some half-consciousness of this fact is at last diverting much of the attention of statesmen in all parts of the world from territorial expansion to the struggle for relative efficiency.[117]

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[114] Halford J. Mackinder, "The Geographical Pivot of History,"*The Geographic Journal* 13 (1904), no. 4,: 421.

[115] Ibid., 422.

[116] Ibid.

[117] Ibid.

Within the context of the Columbian epoch, the effects of a closed political system shared the same dynamic, but on a much smaller scale.[118]

As an open system, the pre-Columbian epoch was marked by the formative years of European civilization. Broadly speaking, this was a period in which the people that lived in what is now called Europe were under constant threat foreign invaders. "I ask you … to look upon Europe and European history as subordinate to Asia and Asiatic history, for European civilization is, in a very real sense, the outcome of the secular struggle against Asiatic invasion."[119] This particular struggle, it turned out, was a contest of land power.

Beginning in the fifth century A.D., the Huns under Attila occupied the Danubian outlier of the Eurasian steppes in what is now the southern lowlands of Hungary. From there, the Huns launched a series of raids to the north, west, and south against the Europeans. Mackinder argued that the coalescing of a European identity began with these attacks:

> The Angles and the Saxons, it is quite possible, were then driven across the seas to found England and Britain. The Franks, the Goths, and the Roman provincials were compelled, for the first time, to stand shoulder to shoulder on the battlefield of Chalons, making common cause against the Asiatics, who were unconsciously welding together modern France. Venice was founded from the destruction of Aquileia and Padua; and even the Papacy owed a decisive prestige to the successful mediation of Pope Leo with Attila at Milan.[120]

On the heels of Attila began a thousand year period of constant invasion from Asian horse-riding peoples who freely flowed west through the plains of Russia (now Kazakhstan and western Siberia), between the southern tip of the Ural Mountains and the northern edge of the Caspian Sea.[121] Because they were essentially a nomadic people that thrived on the plains, the hordes could not sustainably project their power beyond the steppes into the surrounding mountains and forests. Consequently, the hordes could not

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[118] Mackinder, "Geographical Pivot of History," 422.

[119] Ibid., 423.

[120] Ibid., 426–27.

[121] Ibid., 427.

decisively conquer Europe, though the successive invasions inevitably shaped and defined the history of those who opposed them. [122]

As for the role of the sea-faring Scandinavians who threatened Europe, Mackinder argued that they had a similarly formative, yet non-decisive, effect during the pre-Columbian epoch. Like the nomadic hordes from Asia, the Scandinavians had limited ability to project beyond their power base, which, in this case, was water. Nevertheless, the Scandinavians were a formidable threat to Europe, second only to the Asian nomads in terms of influence. "Thus, the settled peoples of Europe lay gripped between two pressures—that of the Asiatic nomads from the east, and on the other three sides that of the pirates from the sea. From its very nature neither pressure was overwhelming, and both therefore were stimulative."[123]

From a geographical perspective, that the state of affairs in Europe remained static for almost a thousand years should not have been surprising. Mackinder argued that the inner core of the combined continental land mass of Europe and Asia could have sustained the nomads almost indefinitely. This inner core, which he referred to as the Pivot Area, contained six of the world's largest rivers. Though the steppes of the inner core contained several deserts, the rivers provided enough water to sustain numerous pastures and a few oases nonetheless. These conditions allowed "for the maintenance of a sparse, but in the aggregate considerable, population of horse-riding and camel-riding nomads."[124]

Ironically, Mackinder suggests that sea power was the catalyst that sparked the transition from the pre-Columbian to the Columbian epoch. After the fall of the Byzantine Empire to the Ottomans in 1453, the Europeans' spice trade with the Indies was hampered. Prior to the Ottomans, Europe's trading link with the East was over land along the Silk Road, though it required one major water crossing at the Bosphorous in Constantinople. Not wanting to become too dependent on the Ottomans for trade with the Indies, European powers, beginning with the Portuguese, began looking for alternate sea

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[122] Mackinder, "Geographical Pivot of History, 427.

[123] Ibid., 428.

[124] Ibid., 429.

routes to the Indies by sailing east around the southern tip of Africa. Eventually, Vasco de Gama succeeded in opening a direct trade link between Europe and India in the late fifteenth century, ushering in the Age of Discovery. Aside from the economic benefits, however, the opening of a direct route to the India "neutralize[d] the strategic advantage of the central position of the steppe-nomads by pressing upon them in rear."[125] Ultimately, sea power provided the means for Europe to break out from its relatively fixed existence.

The Columbian period thus defined, and was defined by, sea power. As Mackinder noted:

> The revolution commenced by the great mariners of the Columbian generation endowed Christendom with the widest possible mobility of power, short of a winged mobility. The one and continuous ocean enveloping the divided and insular lands is, of course, the geographical condition of ultimate unity in the command of the sea, and of the whole theory of modern naval strategy and policy as expounded by such writers as Captain Mahan and Mr. Spencer Wilkinson.[126]

The effects of European sea power were so great that it reversed the political and military relationship of Europe and Asia. Europe "now emerged upon the world, multiplying thirty-fold the sea surface and coastal lands to which she had access, and wrapping her influence round the Euro-Asiatic land-power which had hitherto threatened her very existence."[127] Essentially, Mackinder admitted, the expansion of European power over the 400 years of the Columbian epoch could not have taken place without sea power.

At the turn of the twentieth century, however, Mackinder cautioned that the importance of sea power might well be overcome by the combined effects of the railroad and the expansion of the Russian Empire. Noting that railroads were replacing the horse and camel mobility of the Eurasian heartland, Mackinder raised the possibility that land power might once again shift the balance of power. The fact that the Russian Army had a presence in Manchuria was "as significant evidence of mobile land-power as the British

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[125] Mackinder, "Geographical Pivot of History," 432.

[126] Ibid.

[127] Ibid., 433.

army in South Africa was of sea-power."[128] Though the Trans-Siberian line was the only line that spanned the length of Russia in 1904, Mackinder predicted that Asia would be covered by a network of railways by the end of the twentieth century. The significance of these developments, he argued, is that the sheer size of Russia and Mongolia and their combined resources represented powerful economic potential; yet, this potential economic engine was inaccessible to the oceans.

Mackinder proposed that this area of great economic and military potential represented the "pivot region of the world's politics" by which a strategic shift in the balance of power might soon occur. Generally speaking, Mackinder envisioned Russia consolidating its power by first replacing the Mongol Empire, and then absorbing what he termed the "Marginal" or "Inner Crescent" lands of Euro-Asia.[129] After that, the pivot state could use its new-found resource base to build a massive fleet with which to conquer the world. In this particular scenario, Germany would ally itself with Russia, thereby causing any number of possible strategic alliances world-wide. However, Mackinder conceded that the particular combinations of power or alliances were speculative and not material to his main point, which was that "from a geographical point of view they are likely to rotate round the pivot state, which is always likely to be great, but with limited mobility as compared with the surrounding marginal and insular power."[130]

In the aftermath of World War I, in 1919, Mackinder published *Democratic Ideals and Reality*, in which he updated some of his thoughts and ideas from "Geographical Pivot of History" in order to reflect current political trends. On the issue of sea-power and land-power, Mackinder did address each topic in more detail than he had in 1904, though his conclusions regarding the over-emphasis of sea power to the exclusion of land power remained much the same. Attributing the current infatuation with sea-power to the British victory at Trafalgar, Mahan observed that, "So impressive have been the results of British sea-power that there has perhaps been a tendency to neglect the warnings of history and

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[128] Mackinder, "Geographical Pivot of History, 434.

[129] Ibid., 436.

[130] Ibid., 437.

to regard sea-power in general as inevitably having, because of the unity of the ocean, the last word in the rivalry with land-power."[131] The key lesson of history, Mahan argued, was simply that land power could neutralize sea power by cutting off fleets from their bases.[132] Put another way, sea power could not exist independently of land power, for sea power relies on the resources of the interior.

The Heartland still retained the industrial and economic potential that Mackinder had discussed fifteen years earlier, though he expanded the concept somewhat. Taking into account recent political developments and advances in new technology, particularly the airplane, Mackinder created the concept of the World-Island, which incorporated Europe, Asia, and Africa.[133] Yet, Mackinder's idea of the Heartland as the pivot from which power emanated around the world did not radically change in 1919. Somewhat prophetically, Mackinder warned:

> Not until about a hundred years ago … was there available a base of man-power sufficient to begin to threaten the liberty of the world from within this citadel of the World-Island. No mere scraps of paper, even though they be the written constitution of a League of Nations, are, under the conditions of today, a sufficient guarantee that the Heartland will not again become the center of a world war.[134]

[131] Mackinder, *Democratic Ideals and Reality*, 43.

[132] Ibid., 42.

[133] Ibid., 45.

[134] Ibid., 80.

## Analysis

While Mahan and Mackinder favored sea power and land power, respectively, neither denied the importance of the other. Mahan respected the value of land power and even applied many of Jomini's principles of war directly to his own theory of naval strategy. Likewise, Mackinder respected sea power and credited it with bringing Europe out of the Middle Ages. The main difference between the two arguments is that Mackinder took the long view, whereas Mahan focused on a comparatively thin slice of history.

Mahan's theory of sea power was mostly inspired by the accomplishments of the British Navy, particularly the victory of Admiral Lord Nelson at the Battle of Trafalgar in 1805. The defeat of the combined French and Spanish fleets at Trafalgar assured the British command of the oceans and the ability to cripple France's maritime commerce with blockades. The decisive result of the uncontested blockades, Mahan argued, was that it drove Napoleon to institute a Continental blockade of English goods, which, in turn, led to privations that forced Czar Alexander I to defy Napoleon and open his ports to British merchant ships.[135] In return, according to Mahan, Napoleon launched his fateful campaign against Russia in 1812, setting in motion a series of defeats that led to his inevitable downfall. Hence, the logic went, the disruption of commerce imposed by sea power has the ability to cause internal collapse. In other words, wars can be won on sea power alone.

Mackinder readily acknowledged that, after Trafalgar, the British "could deny all the ocean to the fleets of her enemies, could transport her armies to whatsoever coast she would and remove them again, could carry supplies home from foreign sources, could exert pressure in negotiation on whatsoever offending state has a sea-front."[136] While sea power was a critical, if not necessary, factor in the British defeat of the French, having command of the sea was not always a sufficient condition for achieving the national interest. In fact, Mackinder probably would have argued that possessing superior sea power is rarely, if ever, a sufficient condition, at least in the long run. However,

[135] Crowl, "Mahan," 452.

[136] Mackinder, *Democratic Ideals and Reality*, 42.

Mackinder did not purposefully set out to de-bunk the theory of sea power, so much as he wanted to put it into its proper perspective. His Heartland theory was a warning to world leaders, meant to draw their attention to a part of the world that was, and had been, capable of sustaining its owner with the resources necessary to conquer the world on land and at sea. When Mackinder presented "The Geographical Pivot of History" to the RGS in 1904, he said to his audience:

> I have spoken as a geographer. The actual political balance of political power at any given time is, of course, the product … of geographical conditions, both economic and strategic, and … of the relative number, virility, equipment, and organization of the competing peoples. ... And the geographical quantities in the calculation are more nearly constant than the human. Hence we should expect to find our formula apply equally to past history and to present politics. The social movements of all times have played around essentially the same physical features.[137]

Basically, Mackinder was less concerned with telling his audience how to fight a war, than he was in predicting where the next one might flare up.

Mahan's purpose, of course, was to demonstrate how sea power could be applied as a tool of the state to achieve national interests. The limitation of Mahan's theory of sea power is that it relies heavily on the British experience and spans a comparatively finite period of time. The near-absolute supremacy of the Royal Navy played an inordinately vital role in the welfare of Britain because Britain was an island nation. The obvious objection to Mahan's theory is that it has little applicability to non-maritime nations. Thus, Mahan's conclusion concerning the significance of sea power could be considered skewed, in light of the examples he chose to examine.

Ultimately, Mahan and Mackinder were not diametrically opposing theorists, nor would it be fair to say that either was completely right or completely wrong. Regarding land power, Mahan might have subordinated its importance to sea power in the sense that he viewed commerce as central to national interests in war and peace, and that sea power had a greater role in commerce than did land power. Mackinder would likely have ceded this point to Mahan, but only in very specific circumstances. Mackinder's theory of a pivot area held greater explanatory power across time and civilizations and, therefore,

[137] Mackinder, "Geographical Pivot of History,"437.

indicated that land power might hold greater importance in the long run. As Mackinder might have otherwise put it, the Heartland is necessary for sea power, but sea power is not necessary for the Heartland.

# III. BERNHARDI VS. BLOCH

**Issue: How would industrialization affect the characteristics and conduct of war?**

The catastrophic results of World War I are now a matter of public record, although the debate over what caused the conflict remains unresolved. Some theories emphasized the general militarism of the European theatre, while other theories place more weight on the growth of nationalism. Other theories argue that Europe's complex alliance structure allowed a relatively minor incident (e.g., the assassination of Archduke Ferdinand) to rapidly and unexpectedly drag the major powers into a continental war. Realistically, however, it was a combination of factors that steered the great powers of Europe into the Great War.

Yet, militarism, nationalism, and alliances were not new concepts in the early twentieth century. Indeed, a broad survey of European military history over the past 600 years would show that the various powers were constantly at war with each other. Thus, war was not a novelty to nineteenth or twentieth century European leaders. Perhaps one could argue that nationalism, as an outgrowth of the French Revolution, was a comparatively recent development, but even that was well over a century old by the time of World War I.

What was unique in the decades leading up to World War I was the advent of mass industrialization. Coupled with militarism, industrialization allowed a country to rapidly harness its wealth, resources, and manpower to support wartime mobilization. In the conduct of war, industrialization allowed for the delivery of massive amounts of firepower and the ability to shift forces around on the battlefield much more quickly than in the days of horse and wagon. Although the capabilities and new advances conferred by industrialization were hardly in dispute, the effects they would have on the outcome of a major European war were.

Two contemporary thinkers of the time who shared very different visions of industrialized warfare and published works on the subject were General Friedrich von Bernhardi, a German Cavalry officer, and Ivan Stanislavovich Bloch, a financier and

railway planner from Warsaw. In 1912, Bernhardi published *On War of Today*, in which he set out to characterize modern and future warfare. Despite all the new complexities introduced in modern warfare, Berhardi believed all these new phenomena could be comprehended and tested against principles of modern warfare in order to arrive at rational courses of action.[138] Bernhardi understood that industrialization had changed the means of warfare, particularly in transportation, logistics, and firepower; these new means demanded new principles. His primary concern, of course, was for the long-term welfare of Germany, and he feared his country's numerical inferiority to France and Russia. Despite Germany having fewer men with which to fill its military ranks, Bernhardi believed that swift victory over its adversaries was still possible, provided that enough forces could be levied quickly enough and brought to bear at the right place, at the right time.

Ivan Bloch, on the other hand, viewed the outcome of modern warfare much more pessimistically than Bernhardi. While he agreed in principle with Bernhardi that industrialization had improved the quality of modern armies and the weapons with which they fought, Bloch predicted that modern warfare would not entail swift victories. Rather, modern warfare would be characterized by a slow, grinding attrition that would eventually lead to a devastatingly high number of casualties. Additionally, the weapons and resources needed to conduct modern warfare would tax a much greater portion of national wealth than they had in the nineteenth century. Industrialized mass warfare, in Bloch's assessment, had made the costs of waging war so high as to make it impractical.

[138] Friedrich Von Bernhardi, *On War of Today*, trans. Karl Von Donat (London: Hughs Reed Limited, 1912), 16.

## *FRIEDRICH VON BERNHARDI*

Bernhardi was born in St. Petersburg, Russia, in 1849, though his parents immigrated to the Prussian province of Silesia in 1851. At twenty-one, Bernhardi fought in the Franco-Prussian War as a cavalry lieutenant and was the first to ride into Paris during the victory procession.[139] Following the war and the unification of Germany in 1871, Bernhardi continued to serve in a variety of command and staff positions. In 1891, he served as a military attaché to Bern, Swizerland. Three years later, Bernhardi was assigned to head the military history department for the Grand General Staff in Berlin. He was assigned as General of the Seventh Army Corps in Westphalia in 1907, but retired shortly thereafter in 1909. Berhardi continued to write, and he soon published several influential works, including *Germany and the Next War* (1911) and *On War of Today* (1912). Broadly speaking, his intent with the first was to lay the moral foundation and justification for German militarism.[140] His purpose with the second was to address the general theory and principles underlying modern warfare. Perhaps due to the widespread impact of his writings, Bernhardi was recalled to active service during World War I, in which he served on both the Eastern and Western fronts. He earned the highest award bestowed under the Prussian monarchy, the Pour le Mérit, for meritorious action on the Eastern front during Germany's defense against the Brusilov Offensive in 1916. After the war, Bernhardi published his final major work, On War of the Future, in Light of the Lessons of the World War, in which he repeated many of the same ideas from his first two books and expressed his faith that Germany would once again rise in power, though not during his lifetime. Berhardi died in 1930, at the age of 80.[141]

In 1912, Bernhardi wrote, "I am writing for to-day, and have set me the special task of depicting and critically examining the effect and importance of the present conditions which by their nature are bound to determine the character of *modern* war, and

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[139] *Wikipedia*, "Friedrich von Bernhardi," accessed September 25, 2012, http://en.*Wikipedia*.org/wiki/Friedrich_von_Bernhardi.

[140] Ibid.

[141] Ibid.

the kind of operations in the *next* war."[142] Although Bernhardi did not explicitly say so, the "present conditions" he mentioned most likely alluded to the effects of industrialization. Evidently, Bernhardi believed that something in the nature and conduct of war had changed during his lifetime; otherwise, he would not have felt the need to distinguish between "modern" war and any other type of war. The changes in the nature of war were so great, in fact, that they required the development of new types of operations to wage successfully. In order to accomplish this task, Bernhardi first established a theoretical foundation for modern war, mostly by reviewing past strategic theorists, such as Carl von Clausewitz, Baron de Jomini, and the elder Helmut von Moltke. Second, he derived certain principles of modern warfare that would accommodate the technological and social changes brought about by industrialization. Regarding success in future wars, Bernhardi said that "it is more a question of clearly discerning the principles which must guide our actions, than of making use of all the novelties in technics, and of competing with our enemies in numbers."[143] While this did not mean that technology and numerical superiority were not important considerations, achieving victory in Industrial Age warfare demanded adjustments in doctrine and principles.

Bernhardi seemed to accept Clausewitz's general theory of war, noting that "the past, the present, and the future are invariably dominated by the general laws which are always and everywhere inherent in war as a social phenomenon."[144] More precisely, he accepted Clausewitz's paradoxical trinity as the basis from which to derive principles. To make his point on the matter of theory, Bernhardi contrasted his methodology by describing that of Jomini:

> It takes the successful combats of victorious generals as the basis of its reflections; tries to prove a certain constancy in these combats; deduces from this constancy certain rules and principles, and then, attributing them a general validity, frames on them a theory of war… . When we read [Jomini], there is apparently nothing problematic in war; rules and laws insuring success are laid down for every act, and we begin to think that

[142] Bernhardi, *On War of Today*, 5.

[143] Ibid., v.

[144] Ibid., 18.

> [Napoleon] gained his laurels merely by the fact that he conscientiously adhered to the rules construed by his wars … after the events.[145]

This was a slight misinterpretation of Jomini, as he did not purport that adhering to his rules and laws would always ensure success. Nevertheless, this criticism of Jomini was common enough, and understandably so amongst Prussian officers who had been so influenced by Clausewitz.

Bernhardi's inspiration toward an applied theory of war was Moltke the Elder, who served as the Chief of Staff for the Prussian Army from 1857 to 1887. The key lesson that Bernhardi drew from Moltke was that any practical theory of war must ultimately guide the strategist in determining "what in war is altogether possible and feasible."[146] Moltke, who was himself a disciple of Clausewitz, argued that the outcomes of war become more uncertain the further into the future one tries to predict them. In any calculation of the future, the variables will be a mix of known and unknown factors. Thus, Moltke concluded, any measures of success or failure can only be based on what is probable.[147] Expanding on the concept of probability, Bernhardi argued that all the known factors in war, such as "frictions, moral influences, chances, and personal elements" become known through war experience, and are of "far-reaching importance."[148] Taken altogether, the known factors make up the realm of what is possible in war.

Yet, the realm of the feasible was more important to Bernhardi, as his ultimate goal was to develop a theory of war that was applicable to his own time. Comprehending what might be feasible, Bernhardi said, requires examining

> …under what external and internal conditions a future war must probably be conducted; how the conduct of the war will be affected by the changes in military matters since [the] last experiences in war; what effects these changes will produce. … In this way alone can we succeed in ascertaining

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[145] Bernhardi, *On War of Today*, 55.

[146] Ibid., 18.

[147] Ibid., 17–18.

[148] Ibid., 18.

> the conditions that will probably obtain in the next war, and in gaining some guiding rules for our action.[149]

In the quest for greater certainty, Bernhardi was cautious in using the past as a predictor of the future. Past wars, he noted, had played themselves out in unexpected ways. For example, some wars dragged on without ever leading to a decisive end. Some wars were characterized by a slow attrition of the weaker side. In some other wars, the numerically inferior force achieved decisive victory over the stronger army.[150] In cases where a seemingly weaker side overcame a stronger enemy, Bernhardi attributed the outcome to two reasons. One reason is the existence of some particular variable or circumstance that resulted in an advantage for the weaker force. This variable could be anything, such as "a happy coincidence of favourable conditions; a numerical or tactical superiority; a special kind of armament; a moral superiority inherent in the character of an army; or a superior principle of acting."[151] The second reason, Bernhardi noted, is the genius of the commander, which has the power to snatch victory from the jaws of defeat.[152] Bernhardi was particularly interested in the notion of the weaker achieving victory over the stronger because this dynamic mirrored his own understanding of the Prussian military experience, which he characterized as a long history of military leaders that were forced by disadvantageous circumstances to make the complex calculations needed to understand what was feasible and, ultimately, necessary for victory. His next challenge, then, was to derive the actual principles of modern war that would translate what was feasible into action.

As a starting point for his principles, Bernhardi proposed three factors of war that are immutable and universally true under any and all conditions. First, the object of war, as Clausewitz had once argued, is to impose one's will on the enemy by destroying or physically hurting him. Second, every military action is characterized by one of two possible forms: offensive or defensive. Third, war is fundamentally a human activity,

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[149] Bernhardi, *On War of Today*, 19.

[150] Ibid., 19.

[151] Ibid., 20.

[152] Ibid., 19.

expressed by the "physical, mental, and moral qualities of men."[153] Bernhardi added, "All laws and principles which can be derived directly and purely from these three factors must evidently be looked upon as permanent laws and of general application in war, which retain their decisive influence under all circumstances."[154] These permanent factors pertain to what Bernhard referred to as constancy in war.

Bernhardi also addressed a second type of principle that he characterized as having "transient validity."[155] As the term suggests, such principles were applicable only within the social context of a particular period in history. Or, as Bernhardi put it, "A lasting validity can be attributed to constancy only in so far as it is part of the nature of war itself and independent of whatever form a war assumes."[156] Thus, principles or laws of transient validity require "constantly to be checked and further developed to remain of practical use, and not hamper the freedom of action by dead routine."[157] Bernhardi acknowledged the many difficulties in identifying any principles of warfare, due to objections regarding the veracity of the evidence, divergent interpretations of war experiences, or differing world views. He argued, however, that it would "never be possible to arrive at incontrovertible results in all that concerns military matters, … but we must rely on the theory of probabilities."[158]

The principles of modern warfare that Bernhardi sought were of the transient variety and were influenced by the wide-spread social and technological changes brought about by the Industrial Revolution. Through his theoretical approach to war, Bernhardi first explored the major developments that had surfaced in the conduct of war due to industrialization, and then proposed a new set of principles with which to plan the next war. Accordingly, Berhardi began his analysis with the advent of nationalism and mass armies. "Of all the features which are destined to influence the conduct of war under present conditions, and cause it to strike new lines," he declared, "it is the levy of masses,

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[153] Bernhardi, *On War of Today*, 33.

[154] Ibid.

[155] Ibid., 32.

[156] Ibid., 31.

[157] Ibid., 32.

[158] Ibid., 36.

above all, which no doubt will give its peculiar stamp to the next war."[159] Though Bernhardi did not believe this was true of all warfare everywhere, he did see armies of masses as the common organizational characteristic of the great powers in Europe. Unlike in the past, he observed, modern armies were such that it was "right to some extent to speak of the armies of millions of modern times, the like of which have not been seen before in history."[160] While industrialization tied the masses to the country's economy and brought them greater wealth, it consequently tied their interests directly to war as well. Unlike the days of monarchs hiring professional armies to settle political scores, modern warfare ensured that its effects were felt across all social strata and classes. Thus, warfare could no longer be confined to the narrow interests of kings and princes, nor could its costs be contained. In an age where entire nations went to war against each other, Bernhardi warned, "The sacrifice in wealth and blood that must be exacted will probably surpass everything we have experienced hitherto; and the dangers of such enterprise, moreover, as well as the evil consequences of defeat in war, will be far greater than ever."[161]

Acknowledging the high cost of both preparing for, and conducting modern warfare, Bernhardi readily identified the core counterargument to his thesis that modern warfare was feasible:

> It has been asserted and seemingly substantiated scientifically, that no State could carry through a war at all, waged with the masses levied in our days. It would not only mean absolute domestic ruin, but war itself would be completely paralyzed by the want of means that could not fail to be felt soon after its outbreak; the economic strength for maintaining such huge armies would simply fail. For this reason alone a war of that nature between two civilized nations would become impossible.[162]

Bernhardi countered by arguing that economic hardship brought on by war does not manifest itself immediately. In other words, inflation caused by wartime expenses do not hit the population overnight, so any shocks to the economic system of the state are

[159] Bernhardi, *On War of Today*, 61.

[160] Ibid., 62.

[161] Ibid., 64.

[162] Ibid., 65.

weathered gradually. Furthermore, the enemy would economically feel a similar pain and would be forced to make many of the same adjustments to its domestic policy, whatever those might be, such that a pre-existing advantage may be maintained.[163]

To illustrate how this might play out in a wartime setting, Bernhardi proposed using reserve forces to fulfill domestic agricultural and industrial requirements while not engaged in military operations. The victor in the initial decisive battles would then be afforded the ability to de-mobilize the rear echelon, because the danger of a hostile counter-attack or invasion would be gone. The defeated party, economically unable to re-establish the balance of power, would then be likely to pursue peace terms. Even in the event that the struggle ends up in a stalemate, victory will ultimately go to whichever side

> …can boast of the highest moral energy and self-sacrificing spirit, or, where on both sides the moral motives are of an equally high standard, can hold out financially the longest to finish the war. In this way the factors ruling the conduct of war will automatically adapt themselves, as it were, to the economic conditions, and a compromise between what was intended and what was possible will of necessity be the result.[164]

Thus, Bernhardi concluded, two practical lessons become evident. First, the economic superiority of a nation and the stewardship of its finances, become "essential factor[s] for success."[165] Second, material and economic preparations for war cannot be done half-heartedly or sporadically. On this point, Bernhardi warned of extremely dire consequences, should a nation fail to arm itself adequately. The danger of defeat was so great, in fact, that "even the greatest sacrifices for armaments seem justified by themselves and under all circumstances."[166]

Yet, the mass armies characteristic of the Industrial Age were problematic in terms of war conduct, as well as economic cost. Because of their relative unwieldiness compared to smaller units, the movement, supply, transport, and concentration of mass forces were much more difficult to execute. However, the modern railroad networks mitigated many of these disadvantages by enhancing the "strategic mobility" of mass

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[163] Bernhardi, *On War of Today*, 65.

[164] Ibid., 66.

[165] Ibid.

[166] Ibid.

armies.[167] In times of war, all rail lines would be under military authority, at least in Germany. In 1912, Germany's steam-powered trains could attain a speed of 138 kilometers per hour, enabling the transport of large numbers of troops and equipment across the country in a matter of hours.[168] Use of the railways also ensured sufficient freedom of action for commanders by relieving combat troops from having to maintain and guard their own supply lines.[169] Bernhardi cited other forms of motorized transport, such as vans, lorries, buses, motorcycles, and automobiles, that could also be made available for military use, though mostly on the battlefield.[170] The railroad, however, was the key strategic asset.

Regarding size of the modern army, Bernahardi was concerned about the fascination with possessing large numbers of troops. As a result of the combination of the Industrial Revolution and the growth of nationalism and, hence, national armies, the fixation on mass by the European powers as reliable indicator of strength seemed natural. Bernhardi, however, warned that "this faith in numbers is a delusive idea."[171] From a theoretical standpoint, Bernhardi said that the tendency to focus on numbers made sense at the time, because the size of an army was the only empirical measure of strength. However, numerical strength as the single-most determining factor presumed that all other factors, whether tangible or intangible, were of equivalent value between adversaries. Placing too much emphasis on mass ignored various other factors, such as training, leadership, doctrine, and equipment. In fact, Bernhardi argued, history has shown that numerical superiority is often not the decisive factor. Often, it had been the restrictions of the terrain or battlefield formation which prevented the commander from effectively employing his full contingent of troops. Such was the case at the Battle of Arcole, where Napoleon, with fewer troops, relied on brilliant maneuver to enable his army to bring full force to bear on the Austrians.[172] In another example, the numerically

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[167] Bernhardi, *On War of Today*, 142.

[168] Ibid.

[169] Ibid.

[170] Ibid., 158.

[171] Ibid., 80.

[172] Ibid., 83.

superior Persians at Marathon were unable to deploy all of their troops at once, due to the battlefield's restrictive terrain. Nor was a numerically superior army of any added benefit to the Persians during maritime operations.[173] More recently, Bernhardi added, the experience of the Russo-Japanese War exposed a key limitation of mass armies. In this case, time constraints prevented the Russians from concentrating their vastly superior numbers at the right moment. The key insight that Bernhardi gained from these and several other examples is that "it is the tactical and operative clumsiness of armies which makes it impossible for them to use their superior numbers effectively in the face of a more mobile and tactically better organized enemy."[174] Even from a broad strategic perspective, numerical superiority was never a guarantee of victory. As Bernhardi noted, "The Romans conquered the world with inferior numbers; and we need only open the great book of Prussian history to become aware of this fact from our own glorious past."[175]

Clearly, factors other than numbers must come into play during calculations of strength. Within the context of modern warfare, Bernhardi asserted:

> the moral worth of troops … gains decisive importance in addition to numbers, and this … will weigh all the more heavily on the scale. The capability of modern troops to endure fatigues and fight with energy, and their moral strength under privations and disaster depend, under modern conditions, on many other things, and differ, therefore, much more from those prevailing at the time of professional armies, which contained … numerous old warriors, who had faced death a hundred times.[176]

This did not mean that numbers were not important measure of strength. However, Bernhardi did not see a direct relationship between larger numbers and increases in strength. In some cases, an increase in numbers might involve a trade-off in decreased moral and tactical value of troops, and would, therefore, be counter-productive. Consequently, Bernhardi argued that the true measure of actual strength should not be calculated on numbers alone, but rather by the aggregate force which an army could

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[173] Bernhardi, *On War of Today*, 83.

[174] Ibid.

[175] Ibid., 85.

[176] Ibid.

apply at any given place and time to decisive effect.[177] Since all the great European powers in the modern era either possessed standing national armies or the ability to mobilize them quickly, Bernhardi concluded that the only way to achieve victory in the modern era was to develop new ways of conducting war.

Although Bernhardi conducted a very comprehensive analysis of the technical developments of modern war, he cited the improved range, accuracy and destructive power of modern arms as the most significant.[178] In particular, Bernhardi predicted that the advancements in firearms would fundamentally change the way the infantry, the artillery, and the cavalry were employed on the battlefield. Maintaining Clausewitz's dictum that the destruction of the enemy's army must be the objective in war, Bernhardi acknowledged that the infantry remained the decisive arm of battle.[179] However, increased range and rate of fire for rifles meant that closed infantry formations could no longer approach an objective without exposing themselves to devastating fire. Consequently, infantry would have to begin dispersing themselves as far out as 2,000 meters from the enemy and approach the objective and "fight as a single rank in loose skirmishing lines."[180] Once within range of a defender's fire, the infantry would be forced to advance rushing, crawling, or both, until within about 800 to 1000 meters of the objective. At that point, the infantry would wait to conduct the final assault until either their own small arms or artillery fire had sufficiently softened the defensive positions.[181]

Significantly, however, Bernhardi pointed out that attacking infantry that have already dispersed into an extended rank configuration consequently lose their ability to maneuver. At this point, only forward or backward movements for the attacking infantry are viable options. In fact, Bernhardi wrote, the whole character of the infantry fight had changed, such that:

> While it was formerly a question of leading men forward in more or less closed bodies, under the direct control of their officers, with a portion only

[177] Bernhardi, *On War of Today*, 87.

[178] Ibid., 102.

[179] Ibid., 103.

[180] Ibid., 105.

[181] Ibid.

> of the men extended in skirmishing lines or swarms, all the fighting troops now move in an extended order, where each man fights and acts individually. Officers can no longer assert a direct influence, as formerly; the greater noise … renders it more difficult for orders to be heard.[182]

Furthermore, the recent addition of automatic weapons into the modern arsenal made infantry assaults a much riskier proposition than had previously been the case. While Bernhardi did not believe that automatic rifles would change the tactics of attacking infantry, he did assess however, he argued that they would provide greater killing power to defending infantry. Putting such weapons in the hands of the attacking infantry would result in little more than a lot of wasted ammunition.[183]

As for crew-served machine guns, Bernhardi was similarly critical. In addition to the maintenance hassles, employing machine guns in concert with an infantry advance risked limiting freedom of action. Also, effective use of the machine gun relied on several special circumstances, such as favorable terrain and mutual fire from other guns.[184] Even for infantry in the defense, Bernhardi questioned the extent of the machine gun's value. Assuming favorable terrain for the defense, Bernhardi argued that operator error and mechanical breakdowns made the machine gun, on the whole, unreliable. Ultimately, therefore, the infantry assault remained the decisive action in modern warfare, yet, paradoxically, its ability to maneuver had been limited by advances in firearms technology. One could easily envision multiple machine gun positions tearing down waves of attacking infantry in World War I, though Bernhardi did not appear to predict this. He did suggest conducting movement at night in order to prevent the defenders from spotting the attackers' advance, although this plan failed to account for land mines, shrapnel, and illumination flares.

As with rifles and automatic weapons, industrialization played a major role in increasing the battlefield utility of artillery. For some time during nineteenth century warfare, mostly smaller guns (i.e., present day mortars) were used in battle. However, the smaller guns were only effective against troops in the open, so light and heavy howitzers

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[182] Bernhardi, *On War of Today*, 105.

[183] Ibid., 106.

[184] Ibid., 109.

had been recently re-introduced to target entrenched infantry with exploding shrapnel. While heavy guns could be used to target infantry in the open, they were also effective in destroying field fortifications.[185] At the time, the German Army was only using the heavy howitzer, due to its ability to target both personnel and equipment. Prior to its re-introduction, the howitzer had fallen into disuse because of frequent mechanical breakdowns and insufficient rate of fire.[186] Industrialization led to advancements in the guns and the rapid production of munitions, making the howitzer a cost-effective and necessary addition to the battlefield. Aside from a Germany's failure to update its howitzers with fixed ammunition cartridges, as other European powers had done, Bernhardi believed that this modification would be made soon, thereby putting the artillery capability amongst the European powers on relative equal ground.[187]

Regarding the cavalry, Bernhardi argued that its role in modern warfare would fundamentally change. Behind this change, Bernhardi said, are firearms, which "have altogether changed the conditions under which cavalry can act, conditions which the cavalry cannot disregard without losing its place in modern war."[188] Similar to the infantry, the cavalry in modern war would be forced to alter its tactical formations, or risk catastrophic losses from long-range, but accurate, small-arms fire, or by shrapnel. Unlike the infantry, however, the cavalry would have a different purpose on the modern battlefield. The traditional and almost singular role of the cavalry had always been to charge the flanks or rear of the infantry, or, depending on circumstances, to attack vulnerable artillery behind the main infantry lines. However, the traditional cavalry charge had only been decisive when the infantry fought with inaccurate firearms and, consequently, could not engage from a distance. Against melee infantry opponents, the cavalry charge had long been the *coup de grâce*. Bernhardi observed, however, that with modern firearms, the traditional cavalry charge could be engaged from a distance and neutralized. In fact, he argued, the role of the cavalry acting in decisive concert with the

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[185] Bernhardi, *On War of Today*, 111.

[186] Ibid., 110.

[187] Ibid., 112.

[188] Ibid., 123.

infantry and artillery was a remnant of a bygone era.[189] Bernhardi proposed instead several new roles for the cavalry. The primary non-combat tasks for modern cavalry would be reconnaissance and screening.[190] Becoming decisively engaged was only advisable when in contact with other cavalry units. Otherwise, the cavalry were expected to conduct swift attacks and raids on lightly-defended positions, particularly the enemy's lines of communication. Because of the massive size of modern armies, Bernhardi argued that this was a critical task, since doing so would cut off supplies to the main enemy force.[191] When not engaged, the cavalry would remain on the flanks of friendly forces, mainly to cover a friendly retreat. However, Bernhardi also proposed that modern cavalry, armed with modern weapons, and supported with modern logistics, would also be able to conduct pursuit operations, unlike their predecessors. Unconstrained by logistics, modern cavalry could use their enhanced range and lethality to decisively defeat retreating enemy forces. They could also rapidly shift where required on the battlefield, making them the ideal force for exploiting any opportunity during battle.[192]

Overall, Bernhardi's assessments suggested that, on a material and technological level, the European powers were more or less on the same footing in 1912. In his analysis of the infantry, artillery, and cavalry, Bernhardi did not view any one country's forces or soldiers as markedly superior to another, whether in terms of training, technical expertise, or equipment. While numerical superiority would logically be the decisive factor, Bernhardi showed that this was not, nor ever had it been, the case. Bernhardi explained:

> The reason for this apparent inconsistency is very simple. The way of *conducting* war … gives victory to the one or the other party. … The superiority which one or the other side may thus obtain, may … compensate for the original inferiority, and thus procure for the weaker army, supposing the troops to be equally efficient, the possibility of

[189] Bernhardi, *On War of Today*, 193.

[190] Ibid., 194.

[191] Ibid., 198.

[192] Ibid., 209.

> conquering the stronger enemy. But for such a success we must always presume superior leadership, which can change almost everything to its favour.[193]

Nevertheless, Bernhardi realized that there was a limit to what great generalship on the battlefield could accomplish in the face of overwhelming enemy forces. Even the most genius of maneuvers or the most efficient use of resources could not achieve victory if the numbers of the enemy precluded decisive action. Bernhardi hypothesized that there must be a relationship between the importance of numerical strength and the effects of great leadership. He expressed this idea in the "law of numbers," which basically said that the greater the numbers of the adversary, the lower the probability that the genius of a general could compensate for his own inferior numbers.[194] Although Bernhardi could not quantify this probability, he maintained that historical examples of inferior forces overcoming larger armies proved his theory was valid.

By 1912, the effects of industrialization had essentially leveled the playing field in Europe, regarding weaponry, logistics, training, and equipment. Because of the sheer size of the national armies amongst the competing European powers, the next war would certainly be much bloodier than it had been in the past. In order to achieve decisive advantage in modern warfare, new tactics and principles were necessary. All other consideration being roughly equivalent, the decisive factor in modern war, Bernhardi concluded, was the "superior principle of acting."[195] This principle praised bold and decisive behavior. "All great captains," he said, "gave preference to the offensive which afforded great scope to their energies."[196] On a grand scale numbers were certainly important. However, mass provided no advantage if it could not be maneuvered and its energy focused at the decisive point in space and time. Only a fraction of the army could participate in any given battle at any given time, so the total size of one's army was not decisive in itself. The key to victory, Bernhardi said, "is above all a question of *discerning the weak points* inherent in the modern military system and the conduct of

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[193] Bernhardi, *On War of Today*, 89–90.

[194] Ibid., 91.

[195] Ibid., 24.

[196] Ibid., 25.

war. Only by recognizing this fact may we succeed in arriving at a standard of acting, which will ensure us a *superiority*, on which we can rely."[197] As a follower of Clausewitz, Bernhardi embraced the idea of applying maximum combat power at the decisive point, and he accepted the dictum that the destruction of the enemy's forces must always be the object of military action. Ultimately, Bernhardi believed that accomplishing these ends was possible in the age of modern war, as long as one adjusted the tactics and conduct of operations to account for the changes brought on by industrialization.

[197] Bernhardi, *On War of Today*, 25.

## *IVAN STANISLAVOVICH BLOCH*

Originally born as Jan Gotlib Bloch in July of 1836, Ivan Bloch's professional occupations were that of a banker, railway financier, political theorist, and economic analyst. He left Poland to study at the University of Berlin, and worked at a Warsaw bank following graduation. Later, he moved to St. Petersburg, Russia, where he worked as a financier for Russian Railways and established several banking and insurance companies.[198] In Russia, he was known as Ivan Stanislavovich Bloch. In 1877, he was appointed to sit on the Russian Finance Ministry's Scientific Committee.

During his tenure at the ministry, Bloch began analyzing the effects of industrialization and new technologies on modern warfare. The recent Prussian victory over France in the Franco-Prussian War of 1870–71 led Bloch to theorize that warfare as a means to resolve political differences amongst the great powers of Europe was becoming obsolete. The unexpected defeat of the numerically superior French forces, suggested that the Prussians had made more efficient use of their railways to rapidly move large numbers of troops to where they were needed. Furthermore, the Franco-Prussian War also demonstrated the superior logistics and tactical maneuvers of the Prussian armies. Prussia's more efficient use of its capabilities and material resources enabled it to mobilize more men than France, despite the fact that France had a greater population at the start of the war.[199] Bloch believed, however, that the advantage which the German states enjoyed during the war had eroded since then. By the time Bloch published *Is War Now Impossible?,* in 1898, he argued that none of the major European powers wielded any decisive capability over another. The next war, he concluded, would be one of attrition, so ruinous to the economies and populations of the participants, that it would be impractical. In 1899, Bloch distributed copies of his manuscript to several delegates at the first Hague Peace Conference, yet the admonitions contained within it

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198 *Wikipedia*, "Jan Gotlib Bloch," accessed September 28, 2012, http://en.*Wikipedia*.org/wiki/Jan_Gotlib_Bloch.

199 *Wikipedia*, "Franco-Prussian War," accessed September 28, 2012, http://en.*Wikipedia*.org/wiki/Franco-Prussian_War.

failed to impress Europe's military or political leadership.[200] Bloch died on December 25, 1902.

Key to understanding Bloch's thesis regarding the impossibility of war is the context in which he viewed the subject. When pressed by his British publicist, W.T.Stead, as to whether or not his thesis referred to all wars, Bloch responded that the scope of his analysis concerned only the great Powers of Europe, not the "minor States."[201] For the minor states of Europe, starting a war was no longer even thinkable:

> It is as impossible for Denmark or for Belgium to make war to-day as it would be for you or for me to assert the right of private war, which our forefathers possessed. We cannot do it. At least, we could only try to do it, and then be summarily suppressed and punished for our temerity. … They are in the position of the descendants of the feudal lords, whose right of levying war has vanished, owing to the growth of a strong central power whose interests and authority are incompatible with the exercise of what used to be at one time an almost universal right. For the minor States, therefore, war is impossible. … Impossible, that is to say, without the leave and licence of the great Powers.[202]

The war of the future, Bloch predicted, would most likely be a contest between the Franco-Russian alliance and the Triple Alliance of Germany, Austria-Hungary, and Italy.[203] Unlike many of his detractors who believed with moral certitude that war in the modern era was not only possible, but winnable, Bloch argued that the great Powers were deluding themselves into thinking that they could overcome the material realities of modern war:

> The very development that has taken place in the mechanism of war has rendered war in impracticable operation. The dimensions of modern armaments and the organisation of society have rendered its prosecution an economic impossibility, and , finally, if any attempt to were made to demonstrate the inaccuracy of my assertions by putting the matter to a test on a grand scale, we should find the inevitable result in a catastrophe

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[200] *Wikipedia*, "Jan Gotlib Bloch," accessed September 28, 2012, http://en.*Wikipedia*.org/wiki/Jan_Gotlib_Bloch.

[201] Ivan S. Bloch, *Is War Now Impossible?*, ed. W.T. Stead (London: Ballantyne, Hanson, & Company, 1899), xi.

[202] Ibid., x.

[203] Ibid., xi.

> which would destroy all existing political organisations. Thus, the great war cannot be made, and any attempt to make it would result in suicide.[204]

When asked how confident he was in his assessments, Bloch responded that his research spanned many years, and that he had consulted several military officers from different countries. In consideration of all the experts and officers he had interviewed, Bloch concluded that there was essentially "not much difference of opinion as to the general conclusions as to the nature of future warfare."[205] The disagreement, he said, was over whether wars were still winnable.

Of all the developments and advancements in technology that had transformed the conduct of war, the small-caliber magazine rifle was, according to Bloch, most responsible for turning warfare into an impractical endeavor. Prior to the magazine rifle's development, accuracy beyond a few hundred meters was dubious, at best. Furthermore, the rate of fire on the battlefield had been limited by the speed at which the infantry were capable of loading and re-loading individual rounds by hand. The invention of the cartridge allowed the modern infantryman to accurately fire, in Bloch's estimation, sixty rounds per minute.[206] More importantly, the effective range of the bullets fired from these newer rifles was projected to increase from 660 yards to 1210 yards within a few years after Bloch conducted his analysis.[207] In effect, the lethality of the modern infantry reduced almost completely the likelihood of close-in or melee combat. Decisive cavalry charges or mass formations of infantry overrunning the enemy were anachronistic by the end of the nineteenth century, Bloch argued. Instead, armies would be inclined to entrench themselves in fortified earthworks, thereby enabling the defenders to shoot at any rushing attackers from positions of relative safety. With attacking infantry unable to simultaneously shoot and move, the defense would wield an enormous advantage.[208]

Even in the event that the attackers could muster a significant numerical superiority over the defenders, Bloch predicted a similar outcome, albeit with more losses

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[204] Bloch, *Is War Now Impossible?*, xi.

[205] Ibid., 12.

[206] Ibid., 5.

[207] Ibid., 3.

[208] Ibid., 11.

on the attacker's side. Aside from having to overcome the primary fortification of the defense, the attackers would also have to make it through secondary obstacles within its vicinity. The losses of the attacking force would be so devastating, as a result, that the remainder would likely be insufficient to overrun the fortified position. "To overcome these obstacles," Bloch said, "great sacrifices must be made."[209]

In addition to the infantry, the cavalry would be similarly limited. Drawing on his interviews with several military generals in the European theater, Bloch accepted that the new role of the cavalry would less decisive than it had been in pre-Industrial times. Just as vulnerable on the open battlefield as the infantry, the cavalry would no longer be able to charge into the enemy ranks without exposing itself to deadly fire. Survivability of the cavalry in open battle would be one-third that of the infantryman, due to the power of modern firearms.[210] Bloch agreed with the idea of some military generals that the cavalry should be kept distant from the main force, and that its main focus should be on conducting strategic reconnaissance or raids on enemy lines of communication.[211] Using the cavalry in a major engagement with enemy forces was simply impractical, unless a commander was willing to lose a disproportionately higher number of horses and men than his opponent. In some cases, the cavalry might be directed to pursue a retreating enemy, but Bloch dismissed the significance of this task, arguing that it would be too easy for the enemy to simply fall back into prepared defensive positions, thereby forcing the exhausted cavalry to fight against fresh infantry once again. The more important role for the cavalry in this instance, Bloch argued, would be to intercept any reinforcements far away from the defenders' position. Even so, Bloch added, these new roles for the cavalry had not yet been vetted through experience. Consequently, he could only estimate the cavalry's effectiveness in these roles. In the major battles of modern war, however, the ratio of combat effectiveness of the infantryman to the cavalryman had essentially been reversed.[212]

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[209] Bloch, *Is War Now Impossible?*, 11.

[210] Ibid., 14.

[211] Ibid., 16.

[212] Ibid.

Regarding artillery, Bloch believed that losses in this branch of the service would be equally as devastating as in the infantry and, potentially, the cavalry. The armies of the future, he said, would be entirely dependent upon the artillery in order to defeat entrenched infantry.[213] However, the modernization and mass production of artillery, advancements in the range and destructive power of munitions, and improvement in tactics meant that the comparative quality of each side's artillery would be roughly the same. The first exchange of fire in battle would occur between the artillery, and it would be incumbent upon each side to annihilate the other. Thus, Bloch reasoned, the attacker would have to bring more artillery to the fight than the defender possessed in order to have a chance at victory. Nevertheless, even if the attacker possessed considerably more artillery pieces than the defender, the likely result would still be mutual destruction. The losses sustained by the artillery service would be so great "that their action will be paralyzed, or the losses in the army will become so tremendous that war itself will be impossible."[214]

Ultimately, Bloch's thesis rested on material considerations. As he told W.T. Stead, "I am not dealing with moral considerations, which cannot be measured, but with hard matter-of-fact, material things, which can be estimated and measured with some approximation to absolute accuracy."[215] Industrialization had provided the great European powers the means with which to make war upon one another using the full resources of the State. However, the process of waging near total war would inevitably bankrupt the economy. Bloch estimated that it would collectively require £1.46 billion a year, just to feed the troops in a war of the scale that was under discussion in the Dual and Triple Alliance countries.[216] The richest country could ill-afford that price, he argued. Even if a country were to pay for the war on credit, the resulting inflation would drive up domestic prices to unbearable levels. Furthermore, even if domestic prices were kept within tolerance, meeting internal demand for goods would be logistically difficult.

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[213] Bloch, *Is War Now Impossible?*,17.

[214] Ibid.

[215] Ibid., xi.

[216] Ibid., xliv.

Since railroads would likely be shifted to military use in the event of war, they would be unavailable to transport food and supplies to civilians. Because of the massive population shifts caused by industrialization, significant portions of the population lived in urban areas where food was not produced and, therefore, relied on what came in from the rural areas. Bloch reasoned that the railroads were critical to transporting food into these densely-populated areas, and that supply problems would soon occur after the rail capacity was diverted to the war effort.[217] Consequently, internal domestic pressures would be as great a concern for the government as existential threats from other countries. Even dealing with moral considerations, Bloch might have argued that here, too, war had become impossible.

[217] Bloch, *Is War Now Impossible*, xlvi.

## Analysis

Bernhardi and Bloch agreed with each other on many issues related to modern warfare. Both recognized the effects of industrialization on the massive size of modern armies and on the ways which war would be conducted in the future. Industrialization had enabled governments to mobilize armies that numbered in the millions, and the expansion of the railway systems in the major European countries allowed for the rapid deployment of soldiers and equipment across hundreds of miles. They agreed that industrialization had effectively leveled the playing field in terms of quantity and quality of equipment and weaponry. They also agreed that improvements in the accuracy and range of the rifle were the most significant technological factors affecting the conduct of modern war. Both saw similar new roles for the cavalry, infantry, and artillery. Both envisioned that a large portion of a future war would be fought in the trenches, and that war, from an empirical standpoint, would be a stalemate.

However, Bernhardi and Bloch differed on whether that stalemate could be broken. Unlike Bloch, Bernhardi argued that moral factors and good leadership could turn the tide in battle as it had in Germany's Prussian past. Bernhardi correctly understood that numerical superiority in itself was not a guarantee of victory. Conversely, numerical inferiority was no predictor of defeat. Thus, his reasoning went, if one could channel the intangible strengths, such as "moral worth," and combine them with superior maneuver, the stalemate could be broken and any disadvantage in number could be overcome.

By Bernhardi's own admission, however, the infantry would only be able to move forward or backwards and would, therefore, have little opportunity for maneuver. Because of the modern rifle's accuracy and rate of fire, attacking infantry would be rushing across open ground while exposed to a hail of bullets from hundreds of yards away. Without the ability to move laterally to any significant degree, the attacking infantry would remain within the defenders' line of fire during the entire approach. It is doubtful that any degree of morale, whether high or low, would have made any difference in battle under these conditions.

That is not to say that military genius or an aggressive mindset did not have a role to play during major operations in World War I. Indeed, had Britain not assisted the French at the First Battle of the Marne, and had Russia not mobilized its army as quickly as it had in the East, Germany might well have achieved the quick, decisive victory envisioned by the Schlieffen Plan and avoided the subsequent war of entrenchments along its two fronts. In an attempt to break the trench warfare stalemate, the German Spring Offensive of 1918 was, comparatively speaking, very successful. But, even with such gains on the battlefield, the Germans were unable to supply their forces and eventually ceded the territory they had captured. As Bloch might have said to Bernhardi, there are limits to how much moral strength will overpower hunger and deprivation.

From Bloch's perspective, the results of World War I would not have surprised him, had he lived to see them. All the countries involved incurred massive war debts, though some more than others. The domestic unrest he foresaw led to a revolution in Russia and the end of an empire in Germany. Although there were undoubtedly quick and decisive battles throughout the conflict, none would have won the war so long as there were more troops ready and willing to mobilize. The magazine rifle and the machine gun enabled one infantryman to kill multiple targets at greater speed, thereby making any attempt to cross open ground between trench lines almost suicidal. By the end of the war casualties numbered in the tens of millions.

One could argue that Bloch was wrong, and that war was possible. After all, the Allies did win, albeit at enormous cost in lives and property. Furthermore, the horrors of World War I did not seem to discourage the same countries from getting involved in another world war twenty years later. Perhaps if Bloch had foreseen the advent of the tank, he might have viewed the possibility of victory differently. Yet, this is doubtful, as Bloch was concerned with the larger forces at work in the age of industrial warfare. Weapons were important, but the ability of a country to economically and politically sustain such a conflict was just as critical. Modern warfare was empowered by the forces of industrialization, such that war no longer had a logical stopping mechanism. Thus, even after World War I, Bloch would have adhered to his original thesis. The

‘impossibility’ of modern war did not mean that war could not be conducted. Rather, Bloch argued, it could not be conducted at acceptable cost.

# IV. DOUHET VS. MITCHELL

**Issue: How should air power be incorporated into military strategy?**

From the first hot-air balloons of the mid-1700s, to the Zeppelin airships in the early 1900s, governments and individual innovators alike recognized the potential of flight for military and commercial purposes. Jean-Pierre Blanchard's hot-air balloon flight over the English Channel in 1785 and Dupuy de Lome's construction of a large navigable balloon in 1872 are just two examples of many that highlight man's continuous quest to conquer the skies.[218] By the time the Wright brothers conducted their historic flight in 1903, the concept of military aviation had been around for well over a century.

However, the development of the airplane in the beginning of the twentieth century altered the way some military theorists thought about war and its future conduct. Italian air force officer Giulio Douhet and American air force officer Billy Mitchell were two such theorists who saw the airplane as more than simply another tool of war. The airplane, they argued, should be the centerpiece of strategy. At first, their enthusiasm for the airplane met with institutional resistance from the entrenched interests of the army and navy in both countries, and both men shared the dubious honor of being court-martialed for criticizing the official view of their superiors concerning the proper role of air power. In the aftermath of World War I, Douhet and Mitchell published their theories of air power in *Command of the Air* (1921) and *Winged Defense* (1925), respectively. Although they agreed on the importance of the airplane in future conflict, Mitchell took a more nuanced approach, arguing that air power had civil and commercial benefits, in addition to military application. Douhet, on the other hand, seemed less interested in the commercial applications of aviation. Rather he simply equated air power with the ability to affect the conduct and outcome of war.

[218] *Wikipedia*, "Airship," accessed October 5, 2012, http://en.*Wikipedia*.org/wiki/Airship#Early_pioneers.

## *GIULIO DOUHET*

Born in Caserta, Italy in 1869, Giulio Douhet was commissioned as an artillery officer in the Italian Army in 1882. As the airplane was being refined in the first decade of the 1900s, Douhet thought deeply about its future impact on war, and from 1912 to 1915, he commanded the first Italian Army air unit.[219] By the time Italy entered World War I, Douhet had already developed most of his theories concerning air power, and was particularly focused on using bombing campaigns to degrade the morale of an enemy population.[220] With Italy seemingly locked in a stalemate with Austria in 1915, Douhet urged a strategic bombing campaign against Austrian cities with a force of 500 aircraft. Having had his proposals rejected, Douhet criticized his superiors' conduct of the war in a memorandum to the Italian cabinet, and was subsequently court-martialed and jailed for a year.[221] Following his release, Douhet was recalled to duty and assigned as head of the Italian Central Aeronautical Bureau in 1918. Douhet was exonerated in 1920, and promoted to general the following year, at which time he also published *The Command of the Air*. He retired shortly thereafter, spending the rest of his life writing about airpower, publishing Part II of *The Command of the Air* in 1926. He died in 1930. [222]

Douhet viewed future conflict through the lens of Total War. "The prevailing forms of social organization," he said, "have given war a character of national totality—that is, the entire population and all the resources of a nation are sucked into the maw of war. And, since society is now definitely evolving along this line, it is within the power of human foresight to see now that future wars will be total in character and scope."[223] He had witnessed the massive destruction and loss of human life in World War I, blaming the outcome on war planners who extolled the virtues of the offense, yet who had failed to appreciate the degree to which advanced firearms shifted the advantage to the defense.

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[219] Chaliand, *The Art of War in World History*, 891.

[220] Richard H. Kohn and Joseph P. Harahan, introduction to *The Command of the Air*, by Giulio Douhet (Washington, D.C.: Office of Air Force History, 1983), vii.

[221] Ibid.

[222] Ibid., viii.

[223] Giulio Douhet, *The Command of the Air*, reprinted (Washington, D.C.: Office of Air Force History, 1983), 5.

"The truth, "Douhet wrote, "is that *every development or improvement in firearms favors the defensive*."[224] As other skeptics such as Ivan Bloch had argued prior to World War I, it seemed that war had indeed become impossible.

Douhet acknowledged that waging war had become impossible, but only in the context of warfare in which the army and navy were the sole actors. "War," he said, "is a conflict between two wills basically opposed on to the other. On one side is the party who wants to occupy a certain portion of the earth; over against him stands his adversary, the party who intends to oppose that occupation, if necessary by force."[225] In total war, a defending power was continually forced to extend its lines in order to guard its flanks. Eventually, the defensive lines had been extended to such a degree as to make the passage of troops in either direction impossible, or too costly.[226] Douhet concluded that the high casualty rate in World War I was, therefore, inevitable because an attacking army had no choice but to fight through the defending force in order to reach its objective.

Air power, Douhet argued, made war possible again. Since the airplane was unhindered by the constraints of navigating and fighting on the surface of the earth, it could freely travel long distances in the shortest possible time.[227] Massive armies and navies squaring off in battle would no longer be the decisive element, because planes could simply fly over them. Douhet asserted:

> Nothing man can do on the surface of the earth can interfere with a plane in flight, moving freely in the third dimension. All the influences which have conditioned and characterized warfare from the beginning are powerless to affect aerial action. By virtue of this new weapon, the repercussions of war are no longer limited by the farthest artillery range of surface guns, but can be directly felt for hundreds and hundreds of miles over all the lands and seas of nations at war. "[228]

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[224] Douhet, *The Command of the Air*, 11.

[225] Ibid., 8.

[226] Ibid., 9.

[227] Ibid.

[228] Ibid.

Of course, future events would prove this assertion wrong. Improvements in anti-aircraft guns and the development of Surface-to-Air missiles would later deny the freedom of maneuver that Douhet envisioned for his airplanes. At the time, however, the airplane provided the ability to bypass the defensive lines of the enemy's army.

However, Douhet was more concerned with the strategic implications of air power, versus its tactical benefits. The airplane, he argued, would fundamentally change the nature of war by drawing the civilian population directly into the conflict through aerial attacks. Prior to the airplane, warfare only endangered those who were within the radius of a surface weapon's maximum range. Within a finite battle space, "No enemy offensive could menace them beyond that predetermined distance, so civilian life could be carried on in safety and comparative tranquility. … And so, though the World War sharply affected whole nations, it is nonetheless true that only a minority of the peoples involved actually fought and died."[229] In other words, total war had not necessarily required all the people of a country to share the burden or hardship of war equally. In future wars, everyone would become a combatant, because everyone could be targeted by aerial attack. Douhet thus predicted that there would no longer be any distinction between civilian and military personnel. "The defenses on land and sea," he asserted, "will no longer serve to protect the country behind them; nor can victory on land or sea protect the people from enemy aerial attacks unless that victory insures the destruction, by actual occupation of the enemy's territory, of all that gives life to his aerial forces."[230] Attacking the civilian population centers directly would, in Douhet's view, shatter the morale of the enemy and bring the war to a decisive end.[231] Thus, air power would succeed where land power and sea power had failed by directly attacking a country's capacity to conduct war.

Douhet was a strong advocate of the offense, and he believed his enemies were as well. Consequently, he assumed as fact that other countries would prioritize their development of offensive aerial capabilities in the same manner he had. Because he also

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[229] Douhet, *The Command of the Air*, 9.

[230] Ibid., 10.

[231] Ibid., 128.

dismissed the possibility of any effective defense against aerial attack, Douhet concluded that "there is no practical way to prevent the enemy from attacking us with his air force except to destroy his air power before he has a chance to strike at us."[232] In order to accomplish this, Douhet said, one must attain "command of the air."[233] Analogous to Mahan's command of the sea, in which the enemy was denied freedom of navigation upon the seas by the destruction of his naval fleet, so did Douhet's idea of command of the air entail the destruction of the enemy's aerial capacity. "Conquering the command of the air implies positive action—that is, offensive and not defensive action, the very action best suited to air power."[234]

Anticipating the objections to his theory, Douhet acknowledged that the accuracy of bombers could not match that of ground artillery. He countered that such a level of accuracy for a bomber was unnecessary, because the targets of a bombing raid would be unable to withstand the explosions. Furthermore, bombs needed only to fall on their targets to have the desired effect and would, therefore, require less steel and precision work to manufacture. Consequently, not only would bombs weigh less and carry larger charges relative to artillery shells, bombers could carry large numbers of them.[235] So long as the objective was completely destroyed in only one bombing action, Douhet argued that any large target in enemy territory was fair game. Possible targets of bombing raids could be "…peacetime industrial and commercial establishments; important buildings, private and public; transportation arteries and centers; and certain designated areas of civilian population as well."[236]

The urgency which Douhet placed upon command of the air cannot be overstated. He asserted:

> To conquer the command of the air means victory; to be beaten in the air means defeat and acceptance of whatever terms the enemy may be pleased to impose. … From this axiom we come immediately to this first

[232] Douhet, *The Command of the Air*, 18.

[233] Ibid., 19.

[234] Ibid.

[235] Ibid. 19–20.

[236] Ibid., 20.

> corollary: *In order to assure an adequate national defense, it is necessary - and sufficient—to be in a position in case of war to conquer the command of the air*. And from that we arrive at this second corollary: *All that a nation does to assure her own defense should have as its aim procuring for herself those means which, in case of war, are most effective for the conquest of command of the air*."[237]

Since neither the army, nor the navy, could defend against aerial attack or strike deep enough into enemy territory to wipe out its aerial capability (preferably while it was still on the ground), Douhet reasoned that command of the air could only be achieved by a formidable aerial force. By transitive logic, he concluded that an aerial capability was, ultimately, the only way to ensure an adequate national defense.

However, Douhet's notion of adequacy did not sit well with the entrenched interests of the Italian army and navy. Both the army and navy had employed auxiliary air forces in support of their operations during World War I, yet Douhet argued that auxiliary aviation was basically "…worthless, superfluous, [and] harmful."[238] Out of political expediency, Douhet decided in 1921 to cede the issue of auxiliary aviation to the army and navy, so long as both services included it in their budgets and placed it entirely under their direct commands.[239] Betting that the services would either balk at having to pay for a well-organized air force out of their own budgets, or would fail to dedicate enough attention and study to aerial warfare, Douhet openly advocated in 1926 for the creation of an "Independent Air Force."[240] In his estimation, creating an entirely separate aerial branch of service would remedy the shortcomings of the auxiliary air force, which was, "*Worthless* because [it is] incapable of taking action if it does not have command of the air. *Superfluous* because a part of the Independent Air Force can be used as an auxiliary if the command of the air has been conquered. *Harmful* because it diverts power from its essential purpose, thus making it more difficult to achieve that purpose."[241]

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[237] Douhet, *The Command of the Air*, 28.

[238] Ibid., 94

[239] Ibid., 95.

[240] Ibid.

[241] Ibid., 100.

By Douhet's own admission, the meaning of "command of the air" could be confused with similar ideas, such as "preponderance" or "supremacy" in the air.[242] However, the distinction between the terms was critical for Douhet, because each suggested a different operational relationship to the enemy. "Whoever possesses preponderance or supremacy in the air, " he explained, "will be able to conquer the command of the air more easily; but until he has conquered it he does not possess it and he cannot make use of it."[243] Put another way, command of the air denotes "that state of affairs in which we find ourselves able to fly in the face of an enemy who is unable to do likewise."[244]

An Independent Air Force, Douhet argued, needed to satisfy two conditions. One, it needed to possess enough strength to gain command of the air. Two, it needed to maintain its strength after gaining command of the air and "exploit it in such a way as to crush the material and moral resistance of the enemy."[245] The former condition, Douhet said, was "essential," while the latter was "integral."[246] Depending on which condition described the state of affairs in one's air force, the relative strategic advantage over the enemy could then be ascertained. As Douhet explained these two conditions:

> (1) an Independent Air Force which succeeds in conquering the command of the air, but does not keep up its strength and use it to crush the resistance of the enemy, will nevertheless be able to carry out actions very effective in the achievement of victory; and (2) an Independent Air Force which conquers the command of the air and keeps up enough strength to crush the resistance of the enemy will be able to achieve victory regardless of what happens on the surface.[247]

This axiomatic assertion left no doubt in Douhet's belief that future wars could be won by air power alone, and justifies his emphasis on creating an aerial branch that was administered independently of the army and navy.

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[242] Douhet, *The Command of the Air*, 97.

[243] Ibid.

[244] Ibid., 95.

[245] Ibid., 103.

[246] Ibid.

[247] Ibid.

Ultimately, Douhet saw aviation as the central feature of future warfare. While his theories on air power might have been construed as the fanciful thinking of someone enamored with new technology, Douhet's concern over the future of war ran deeper. The experience of World War I confirmed what many naysayers had predicted beforehand; namely that war was impossible, or that it had become so costly to wage, as to be impractical. The impossibility of war, however, had been considered only within the context of land and sea operations. The airplane, Douhet argued, added a third dimension to the battlefield, thus making war possible again. Critical to this new form of warfare, however, was achieving command of the air, because whoever possessed it would emerge victorious in war. The key to exploiting command of the air would entail massive bombing campaigns against the enemy's civilian population. Doing so, Douhet believed, would destroy the morale of the people and quickly force a political decision. In the end, however, only an independent aerial branch of the service could build and maintain such a capability in the face of enemy nations doing the same.

## *BILLY MITCHELL*

William "Billy" Mitchell was born in 1879, in France, but grew up in his father's home state of Wisconsin. At the age of eighteen, Mitchell enlisted in the First Wisconsin Infantry and served under General MacArthur during the Philippine insurrection.[248] Upon returning home from the war, Mitchell was commissioned as an officer in the U.S. Signal Corps and became an instructor at the U.S. Army Staff College at Fort Leavenworth in 1904. As an Army major, Mitchell travelled to Spain in 1917, after the United States decided to enter World War I. Mitchell immediately joined French General Philippe Pétain at the front and became the first Allied officer to fly over German lines. By September of 1918, he had been promoted to brigadier general and placed in charge of all American air combat units in France.[249] Had the war continued beyond 1919, Mitchell would have been placed in command of all Allied air forces.[250]

After World War I ended, Mitchell reverted from his wartime rank to colonel, and was appointed Assistant Chief of the Air Service in 1921. Like his contemporary Giulio Douhet, Mitchell believed that the airplane would play a central role in the conduct of future war. Consequently, Mitchell pushed U.S. civilian leadership to form an independent aerial branch of the service. Over the next few years, Mitchell actively promoted aviation in both the public and private sector, yet the U.S. War and Navy Department continued to resist, particularly over his advocacy of using airplanes to sink any naval vessel. Tensions boiled over in 1925, when, after a series of fatal aviation mishaps, Mitchell publicly accused senior Army and Navy leaders of incompetence and borderline treason for failing to properly administer national defense.[251] At the direct order of President Coolidge, court-martial proceeding against Mitchell began in November 1925. Seven weeks later, Mitchell was convicted and sentenced to a five year

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[248] G.P. Putnam, introduction to *Winged Defense: The Development and Possibilities of Modern Air Power Economic and Military*, by William Mitchell (New York: Dover Publications, 1988), iii.

[249] *Wikipedia*, "Billy Mitchell," *Wikipedia*, accessed October 5, 2012, http://en.*Wikipedia*.org/wiki/Billy_Mitchell.

[250] G.P. Putnam, introduction to *Winged Defense*, iv.

[251] "Billy Mitchell," *Wikipedia*, accessed October 5, 2012, http://en.*Wikipedia*.org/wiki/Billy_Mitchell.

suspension from active duty without pay. Although President Coolidge amended the sentence to half-pay, Mitchell chose to retire in February of 1926.[252]

Mitchell continued to promote and write about air power, though his most famous and comprehensive work, *Winged Defense*, was actually published the year prior to his retirement. However, because of the publicity surrounding Mitchell's court-martial, *Winged Defense* received little attention in 1925. Despite his hopes to return to an official position in the U.S. Government, Mitchell was never offered the opportunity. He passed away from natural causes on February 29, 1936.[253]

"The world," Mitchell declared, "stands on the threshold of the 'aeronautical era.' During this epoch the destinies of all people will be controlled through the air."[254] With this declaration, Mitchell expressed his core belief that the rise of air power would follow a similar path as that of land and sea power. Just as armies and navies had consolidated power and secured lines of communication within their respective domains, so would an air force be necessary to secure future freedom of movement throughout the atmosphere. While Mitchell acknowledged and respected the army and navy as the "older services," he expressed frustration at the resistance he had encountered from both, concerning the development of aviation. As he noted:

> In the future, no nation can call itself great unless its air power is properly organized and provided for, because air power, both from a military and economic standpoint, will not only dominate the land but the sea as well. Air power in the future will be a determining factor in international competitions, both military and civil.[255]

This was not to say that the army and navy were no longer relevant. Rather, Mitchell's intent was to prioritize the development of air power over the other services.

In much the same way that A.T. Mahan promoted sea power, Mitchell argued that air power was essential to the military and economic welfare of the nation. Comparatively, however, air power provided greater mobility. As Mitchell explained:

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[252] *Wikipedia*, "Billy Mitchell," accessed October 5, 2012, http://en.*Wikipedia*.org/wiki/Billy_Mitchell.

[253] Ibid.

[254] Mitchell, *Winged Defense*, 3.

[255] Ibid., x.

> Air power is the ability to do something in or through the air, and, as the air covers the whole world, aircraft are able to go anywhere on the planet. … The whole country now becomes a frontier and, in case of war, one place is just as exposed to attack as another place. … Not only is this the case on land, it is even more the case on the water, because on the water no object can be concealed unless it dives beneath the surface.[256]

Mitchell also suggested that air forces could conduct an "aerial siege" by sinking naval vessels and merchant ships of an enemy country, much in the same manner as Mahan might have proposed a naval blockade. For attacking the interior of a country, aircraft could fly over coastal and land defenses, subsequently striking the cities which manufactured the tools and ammunition for war-making. The greatest value of aerial attacks, he said, stems from their ability to "deprive armies, air forces, and navies even, of their means of maintenance."[257]

Of course, the country being attacked would presumably have defenses against an aerial bombardment. At the time Mitchell wrote *Winged Defense*, no ground-based system had yet been developed that could effectively defend against an air attack. He concluded that "the only defense against aircraft are other aircraft which will contest the supremacy of the air by air battles. Great contests for control of the air will be the rule of the future."[258] Mitchell's logic was that a defending country would be forced to concentrate its aircraft in order to counter an attacking bomber force. The attackers would respond in kind, resulting in a "succession of great air battles."[259] After a country's air force is defeated, it would be unable to defend the infrastructure necessary to build and maintain its aerial capability. Air bases, hangars, training facilities, and grounded aircraft would be easily destroyed by the attackers, thereby preventing the defender from re-building its aerial capability.[260]

Regarding the United States, Mitchell believed that an "efficient air force … would be able to protect the country from invasion and would insure its

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[256] Mitchell, *Winged Defense*, 4.

[257] Ibid., 5.

[258] Ibid., 9.

[259] Ibid.

[260] Ibid., 10.

independence."[261] His assessment was based upon geographical calculation, yet he was concerned with establishing the ability of U.S. air forces to project air power against a hostile nation, without leaving itself vulnerable in the process. Mitchell asserted that air power would "dominate all sea areas when [aircraft] act from land bases and that no seacraft, whether carrying aircraft or not, [could] contest their aerial supremacy."[262] The best strategy, therefore, would be to establish forward bases on island chains from which to launch attacks against enemy territories or naval vessels. "An island, instead of being easily starved out, taken or destroyed by navies as was the case in the past, becomes tremendously strong," he concluded, "because it cannot be gotten at by any land forces, and while supremacy of the air is maintained, cannot be taken by sea forces."[263]

As for its economic and commercial benefits, aviation showed much promise. In the 1920s, the plane had yet to demonstrate lower operating costs than the railroad or steamer. To make the airplane cost effective, Mitchell pushed for U.S. Government subsidies to develop commercial aviation. Using the European development model, he proposed that the government assist new commercial aviation ventures with approximately half the start-up costs of aircraft and equipment. The new companies would, in turn, agree to government regulation, but continue to receive subsidies and a guaranteed income for maintaining a certain number of pilots and mechanics. The benefit to the government from this system is that it develops commercial aviation, which, in turn, trains skilled aircrews and maintains equipment "at only about half of the cost that the Government would have to pay if it maintained them all itself."[264] Although no formal aviation system had been developed yet, Mitchell foresaw the creation of passenger airlines, freight carriers, and postal aviation through government investment.[265] Here, Mitchell delineated the role of government in developing air power:

> The underlying motive in these services is military and the commercial part of it is entirely secondary. Great nations, however, seeing the coming

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[261] Mitchell, *Winged Defense,* 11.

[262] Ibid., 12.

[263] Ibid.

[264] Ibid., 88.

[265] Ibid., 89.

> of air transportation in the future and knowing its potentialities, are laying plans for monopolizing this means of transportation in the future. … Government really is the only agency in our country that could do a thing of this kind as it involves a great deal of expense and investigation. If such a system were adopted, there is no question but that the United States would soon lead in commercial aviation.[266]

As Mitchell saw it, the costs of aviation would decrease over time, eventually making it competitive with other modes of transportation and, consequently, sustainable. "The substantial and continual development of air power," he concluded, "should be based on a sound commercial aviation."[267]

Eventually, the growth in air power led to a change in the equities between the army, navy, and aerial forces with regard to national defense. In the case of the navy, Mitchell was eager to get rid of the battleship as the bulwark of sea power, though he also dismissed the utility of the aircraft carrier, some naval bases and dockyards, and many ground coastal defenses.[268] His rationale was that the submarine would eventually dominate surface vessels, with aircraft fully capable of providing an extra layer of defense.[269] In the case of the army, Mitchell saw air power as having less drastic consequences. He predicted that armies would serve in a mostly defensive capacity, particularly in the U.S. Any hostile invader, Mitchell noted, would have to transport massive amounts of troops across the ocean. He did not see this as a likely event, and concluded that the best use for the army would be to "hold the land bases from which air forces or sea forces act."[270]

Within the air force organization itself, Mitchell proposed three main branches: pursuit, bombardment, and attack. The first branch, pursuit, is the "main fighting line of an air force."[271] The main objective of pursuit, he said, is to establish control of the air by destroying the enemy's pursuit capability. Mitchell warned that failure to accomplish this

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[266] Mitchell, *Winged Defense*, 89.

[267] Ibid., 95–96.

[268] Ibid., 136.

[269] Ibid., 123.

[270] Ibid., 135.

[271] Ibid., 164.

objective would cause everything else to fail, as control of the air would be lost.[272] The second branch of the air force is bombardment aviation. Mitchell described this branch as "designed to destroy objects on the ground or water by hitting them with projectiles, or covering them with chemicals."[273] These aircraft carried the largest and most powerful ordnance available, including torpedoes, and were escorted by pursuit aircraft. The third branch, attack, is "designed to act close to the ground and to destroy ships on the seas or on canals, railroad trains, motors, convoys or anything of that nature. It attacks from two or three hundred feet altitude and utilizes features on the ground … to conceal its movement."[274] Altogether, these three branches contain the offensive and defensive capabilities required for an air force to achieve control or supremacy of the air.

In his conclusions, Mitchell wrote that, "The influence of air power on the ability of one nation to impress its will on another in an armed contest will be decisive."[275] Air power, as he defined it, was an expression of economics and prestige, but also one of mobility and firepower. Developments in airpower, Mitchell argued, had made many concepts in the navy, such as battleships and coastal defenses, obsolete. The role of the army, he said, would mostly remain unchanged, except that there would be an incorporation of aviation firepower in support to the infantry. On a strategic level, however, Mitchell warned that all the other developed countries around the world were "organizing their air power for striking their adversaries as far away from their own countries as possible, whether the enemy be in the air, on the water, or on the land."[276] Mitchell was adamant that no ground-based defenses could effectively counter air raids. The only adequate defense, he argued, was in "hitting the enemy first, just as far away from home as possible."[277]

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[272] Mitchell, *Winged Defense*, 164.

[273] Ibid.

[274] Ibid.

[275] Ibid., 214.

[276] Ibid., 216.

[277] Ibid., 213.

## Analysis

Douhet and Mitchell were probably more alike than they were different regarding their views on air power. Both men were veterans of World War I, and both encountered institutional resistance from their respective army and navy establishments, though one might argue that Douhet was punished more harshly than Mitchell. Both argued for the creation of a separate branch or arm of the service for the aerial forces, and both agreed that the roles of the army and navy had fundamentally changed with the advent of air power. From a tactical perspective, Douhet and Mitchell agreed that the airplane's main strength was its ability to travel in three-dimensional space, enabling it to reach its objective without having to fight through the enemy's army or navy first. From a strategic perspective, both saw the value in creating a fleet of bombers that could cause significant damage to the interior of a country. Most certainly, both saw the airplane as the future of warfare.

The key difference between the two is that Douhet viewed the airplane primarily through the lens of military necessity, whereas Mitchell viewed the airplane in the broader context of air power. Douhet argued that "command of the air" should be the primary goal of any military strategy, because attaining it was both a necessary and sufficient condition for victory. Having command of the air allowed a country's air forces to conduct strategic bombing campaigns against the enemy's population centers, thereby crushing morale. In Douhet's assessment, such bombing raids were enough to destroy the enemy's will and means to resist. For that reason, he argued, military spending should be weighted heavily in favor of the air forces.

Mitchell, on the other hand, took a more nuanced view. The economic and military interests in aviation, he argued, were closely intertwined. Although he defined air power in terms of mobility, Mitchell's detailed plan to link commercial and military aviation interests together suggest that his definition, as stated, might have been too narrow. Recognizing that aviation would continue to expand into worldwide commercial interests and military relations, Mitchell's grand strategy was to have government partner with private industry in order to grow a sustainable aviation capability in the United

States. The symbiotic relationship between military, government, and commercial aviation would not only ensure its survival in the U.S., but its dominance as well.

However, while the partnership between commercial and government interests ensured the survival of aviation as an institution, it said nothing of how aviation should be employed to achieve military objectives. Mitchell certainly had a strong interest in the development of faster and deadlier airplanes, yet his concern seemed to focus more on the tactical considerations. The reverence that he bestowed upon the pursuit branch of the air force suggests that he saw the great battle in the sky as the decisive event of the air campaign. Unlike Douhet, who saw the bomber bringing terror to the civilian populations in enemy lands as the decisive point of war, Mitchell highlighted several other roles for military aircraft such as their ability to sink naval vessels, or to occupy island chains in order to establish defensive perimeters outside the mainland. Put another way, air power could be used to support land or naval operations, or it could be employed autonomously to achieve different ends, yet Mitchell would not say that air power was a sufficient condition for victory. "Victory," he said, "always comes to that country which has made proper estimate of the equipment and methods that can be used in modern ways."[278]

By contrast, Douhet's viewed air power from a singularly offensive mindset. For Douhet, command of the air was an all-or-nothing proposition. The existence of any aerial resistance to the attacking air force meant that command of the air did not exist. If airspace was contested to any degree, the attacker might be said to have supremacy or control of the air, but not command. Douhet certainly allowed for aircraft to support army and navy operations in his writings, yet placing aircraft in a supporting role might only increase the probability of success, rather than guarantee it. The primary objective of one's own air force, he argued, is to destroy the enemy's air force, whether on the ground or in the air. Within the context of post-WWI Europe, Douhet's almost singular focus on the military aspects of aviation is understandable. Though he did not ignore the governmental or commercial aspects of aviation, Douhet could not have failed to see the possibility of another major war breaking out in Europe, and he was convinced aviation

[278] Mitchell, *Winged Defense*, 127.

would play a major role. Perhaps this was the reason he felt so compelled to discuss a theory of warfare in *Command of the Air*.

As future events would show, some of the predictions and theories of both men would turn out to be wrong. For instance, implementing Mitchell's recommendation to scrap the aircraft carrier from the navy would have proven disastrous to the U.S. Pacific campaign during World War II, and the fire-bombing campaigns of Dresden and Tokyo in that same war failed to cause the social upheaval that Douhet predicted would follow. Nevertheless, their theories were influential enough to inspire the strategic bombing school of thought that emerged from the experience of WWII, and though some of their prognostications turned out to be wrong, both correctly predicted the importance aviation would play in the commercial and military lifeblood of nations.

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# V. BRODIE VS. WOHLSTETTER

**Issue: What are the necessary and sufficient conditions for successful nuclear deterrence?**

In August 1945, President Truman made the controversial decision to authorize dropping the atomic bomb on Japan. Whatever Truman's rationale for deploying the bomb, it was clear that, in the aftermath, the world had entered a new paradigm of international relations that would be heavily influenced by the existence of these new and terrifying weapons. Given the unprecedented destructive power of nuclear weapons, policy-makers and strategists at the time had little in the way of historical analogy with which to guide their analysis regarding both the role and use of this new technology in the post-World War II era.

Central to the debate was the concept of nuclear deterrence. Given the destructive power of nuclear weapons, Bernard Brodie argued in *The Absolute Weapon* (1946) that deterrence is intrinsic to the possession of nuclear weapons, such that one needed only a few of them to achieve a deterrent effect. In effect, the destructive power of the bomb was so great as to make an arms race impractical. Thirteen years later in 1959, strategist Albert Wohlstetter disputed Brodie's automatic deterrence theory, because it assumed mutual extinction was the only outcome of a nuclear exchange. Wohlstetter believed that a war using nuclear weapons was winnable, and, consequently, competing countries had an incentive to build more warheads.

Admittedly, much has transpired since the mid-twentieth century regarding nuclear policy, deterrence thinking, and advancements in technology. It is beyond the scope of this chapter to cover all these aspects in one place, as such a task would be monumental. Indeed, even Brodie and Wohlstetter found it necessary to periodically update their own thinking on these topics over the course of decades. The purpose here, however, is to examine the basic logic of deterrence as it was understood by these two thinkers.

Despite the vast library of writings from both authors on the topic of deterrence, this chapter will focus on their earliest ones. The reason for limiting analysis to these

early works is due to the nature of deterrence itself. In theory, deterrence relies on the existence of some level of uncertainty in order to be effective, and the period in which Brodie and Wohlstetter first wrote about deterrence was certainly characterized by great uncertainty. Thus, focusing on their earliest works is most likely to provide a genuine picture of deterrence psychology at play.

## *BERNARD BRODIE*

Born in Chicago, Illinois, in 1910, Bernard Brodie was the son of Jewish immigrants from Russia. He received his doctorate from the University of Chicago in 1940, and subsequently taught at Dartmouth from 1941 to 1943. During World War II, Brodie served in the U.S. Naval Reserve Bureau of Ordnance and at the Office of the Chief of Naval Operations.[279] Following the war, Brodie taught international relations at Yale University from 1945 to 1951. From 1951 to 1966, Brodie served as a senior staff member at the RAND Corporation, where he advised and consulted the U.S. military services on national security matters, including nuclear strategy.[280] After leaving the RAND Corporation, Brodie taught political science as a professor at the University of California at Los Angeles until his death in 1978. Brodie's legacy consists of several books and articles on nuclear deterrence, although his two best-known works are *The Absolute Weapon* (1946) and *Strategy in the Missile Age* (1959).

In *The Absolute Weapon*, Brodie's theoretical foundation of deterrence was best expressed in the following observation: "Men have in fact been converted to religion at the point of the sword, but the process generally required actual use of the sword against recalcitrant individuals. The atomic bomb does not lend itself to that kind of discriminate use."[281] From this observation, it is evident that Brodie's framework of deterrence consisted on both psychological and technical components. In other words, the one doing the deterring needed to show capability and willingness to use a weapon, but in a measured manner. Brodie argued that the mere threat of retaliation with a relatively small number of atomic weapons represented both a necessary and sufficient condition for successful deterrence, and he proposed a set of six postulates to support his theory. What follows are Brodie's postulates and the analysis of them.

> Postulate 1: *"The power of the present bomb is such that any city in the world can be effectively destroyed by one to ten bombs."*

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[279] *Wikipedia*,"Bernard Brodie," accessed October 13, 2012, http://en.*Wikipedia*.org/wiki/Bernard_Brodie_(military_strategist).

[280] Chaliand, *The Art of War in World History*, 991.

[281] Bernard Brodie, *The Absolute Weapon* (New York: Harcourt, Brace & Co., 1946), 21.

When Brodie wrote this in 1946, he referred to Dr. J. Robert Oppenheimer's recent assessment that the Nagasaki atomic bomb was powerful enough to completely destroy at least ten square miles. Brushing aside criticisms from the U.S. Army Air Forces that equivalent destruction could just as easily have been brought about by a few days' worth of conventional bombing sorties, Brodie countered that the one bomber carrying one atomic bomb could achieve the same result as five hundred conventional bombers. By simple calculation, the five hundred or so bombers that would have been required to destroy Hiroshima with conventional munitions could have been individually armed with atomic bombs and destroyed five hundred cities of similar size. Even with the air forces available at the time, he argued, it was possible to "wipe out all the cities of a great nation in a single day."[282]

Postulate 2: *"No adequate defense against the bomb exists, and the possibilities of its existence in the future are exceedingly remote."*

Here, Brodie warned against placing too much faith in defensive measures or counterweapons against the bomb. Cities, he argued, are static targets (no armor and no maneuverability) with no ability to absorb the punishment of a nuclear onslaught. Thinking that there is, or will be, some sort of counterweapon or defense is, he declared, "the most dangerous kind of illusion." Furthermore, even if there was a way to reduce the number of bombs or missiles that find their target, such a countermeasure would not be sufficient enough to prevent the target's destruction. Inevitably, advances in weapons technology would lead to improved delivery systems and more powerful bombs, possibly in greater numbers, thereby offsetting any gains in defensive measures.[283]

Postulate 3: *"The atomic bomb not only places an extraordinary military premium upon the development of new types of carriers but also greatly extends the destructive range of existing carriers."*

Brodie began by examining the cost-effectiveness of rockets that might be outfitted with nuclear warheads. In 1946, the ICBM was still several years away, but despite the technological challenges at the time, Brodie argued that it was theoretically

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[282] Bernard Brodie, *The Absolute Weapon* (New York: Harcourt, Brace & Co., 1946), 25.

[283] Ibid, 33–34.

possible to develop a rocket that could travel several thousands of miles. Criticism at the time might have focused on the challenges of accuracy, but Brodie dismisses this as inconsequential, since the destructive radius of an atomic blast is measure in miles, instead of yards.[284]

Although Brodie correctly foresaw the development of more powerful and accurate rockets, those advancements had not yet materialized. Consequently, he was more concerned with the immediate implications for strategic bombing capability. He argued that one successfully delivered atomic bomb was sufficient to make a bombing sortie profitable. This increased the effective range of existing bombers dramatically, due to the lighter payloads they would need to carry for each sortie. Although the weight of the atomic bomb was classified, he argued that it was, nevertheless, much lighter than the tonnage in conventional munitions that a B-29 would have to carry in order to make the sortie profitable. In effect, any world power would be able to deliver a nuclear strike from air bases within its own territory against most of the cities in any other country. The major implication for both the attacker and the defender was that distance could not provide immunity from an atomic bomb attack.[285] At the time, Brodie did not discount the value of advanced air bases that put the U.S. military within closer striking distance of its adversaries. However, he disputed the notion that having them was an absolutely necessary condition for employing the atomic bomb. Over time, distance would become less of a factor.

> Postulate 4: *"Superiority in air forces, though a more effective safeguard in itself than superiority in naval or land forces, nevertheless fails to guarantee security."*

Brodie argued that this postulate would be self-evident once long-range rockets or missiles that could deliver a nuclear warhead from afar were developed. However, he limited the scope of this postulate to the capabilities of existing carriers, which were bombers. In particular, Brodie criticized the common notion that command of the air was a necessary, or even realistic, objective for the purpose of conducting warfare with atomic bombs. Command of the air, Brodie said, was frequently viewed in a similar

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[284] Brodie, *The Absolute Weapon*, 35.

[285] Ibid., 40.

fashion as command of the sea. The former, he argued, suggests that the enemy is taking on more losses than he can tolerate, while the latter suggests uncontested domination. In the context of a nuclear strike delivered by bombers, where the acceptability of losses is qualitative, the number of planes shot down becomes irrelevant if enough planes get through.[286] Inevitably, enough planes can, and will, break through, even if attacking forces are inferior. As evidenced by the Japanese attack on Pearl Harbor, where the attacking forces were numerically inferior, the larger number of defenders did not guarantee command of the air. The sky is simply too big to control in the Douhetian sense.[287] To mitigate the damage of a conventional bombing raid, Brodie argued, numbers of aircraft and a robust air defense system matter; against the atomic bomb, they do not. However, once long-range rockets were developed, the number of bombers would become much less relevant anyway.[288]

Postulate 5: *"Superiority in numbers of bombs is not in itself a guarantee of strategic superiority in atomic bomb warfare."*

Based on the existing technology at the time, Brodie assumed that the primary targets for the atomic bomb would be cities. From an economy of force perspective, Brodie noted, "One does not shoot rabbits with elephant guns, especially if there are elephant available."[289] The destructive power of the bomb warranted use against any densely concentrated target; therefore cities would be the likely targets. The victor in such an exchange would be the one who could eliminate the cities of the enemy without similarly losing his own. Furthermore, only the big or important cities require targeting. Expending extra bombs to destroy more cities after a strategic decision has been gained rewards the attacker with rapidly diminishing returns. Because the number of truly critical targets is limited, Brodie argued, so too are the number of bombs required to win a strategic decision.[290]

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[286] Brodie, *The Absolute Weapon*, 44–45.

[287] Ibid., 46.

[288] Ibid.

[289] Ibid., 47.

[290] Ibid., 48.

Postulate 6: *"Regardless of American decisions concerning retention of its present secrets, other powers besides Britain and Canada will possess the ability to produce the bombs in quantity within a period of five to ten years hence."*

Brodie correctly predicted the difficulties in getting the Soviet Union, or any country for that matter, to accept any international regulation of nuclear technology prior to producing an atomic bomb of equivalent power to those possessed by the United States. A State Department Board of Consultant's report from March 1946 concurred with this sentiment when it acknowledged that any hope for international regulation of nuclear technology depended on the accelerated decline of the U.S. nuclear monopoly.[291] Major General Leslie Groves had recently asserted that it would take decades for the Russians to duplicate the U.S. feat of building the bomb, due to their lack of engineering and industrial acumen. However, Brodie predicted that the Soviet Union would develop a nuclear capability within a few short years. In response to Groves' assessment that the Soviets would take a long time to acquire the bomb, Brodie suggested that such an assertion might only be true if the existence of the atomic bomb had been kept secret in the first place. Since all the major world powers had knowledge of the bomb after August 1945, it was only a matter of time before the Soviets and others would acquire the technology necessary to build it.

In sum, Brodie's postulates advance an empirical argument concerning the inescapable result from a nuclear exchange. However, his theory of deterrence also addressed the unique psychology underlying the use of the atomic bomb. As Dr. Oppenheimer declared, the bomb "is a weapon for aggressors, and the elements of surprise and of terror are as intrinsic to it as are the fissionable nuclei."[292] Brodie treated Oppenheimer's statement concerning the nature of the bomb as self-evident, and took the argument to its logical conclusion. "The nation which proposes to launch the attack,

[291] Brodie, *The Absolute Weapon*, 63.

[292] Ibid., 73.

"Brodie said, "will not need to fear retaliation. If it must fear retaliation, the fact that it destroys an opponent's cities some hours or even days before its own are destroyed may avail it little."[293]

Brodie's postulates demonstrated that there was no sufficient defense against an atomic bomb, as it would be impossible to harden or shield cities to any effective degree against the damage from a nuclear blast. Thus, he argued, the element of surprise in a nuclear exchange becomes less consequential, because the attacker knows he will be retaliated against. Brodie concluded, "… no victory, even if guaranteed in advance—which it never is—would be worth the price. The threat of retaliation does not have to be 100 percent certain; it is sufficient if there is a good chance of it, or if there is a belief that there is a good chance of it. The prediction is more important than fact."[294] Basically, a relatively small number of atomic bombs were sufficient for achieving a deterrent effect. Brodie concluded that nations would be deterred automatically from using nuclear weapons because the fear of retaliation would discourage aggression in the first place. Brodie recommended that, in the Atomic Age:

> the first and most vital step in any American security program … is to take measures to guarantee to ourselves in case of attack the possibility of retaliation in kind. The writer in making that statement is not for the moment concerned about who will *win* the next war in which atomic bombs are used. Thus, far the chief purpose of our military establishment has been to win wars. From now on its chief purpose must be to avert them. It can have almost no other useful purpose.[295]

[293] Brodie, *The Absolute Weapon,* 73.

[294] Ibid., 74.

[295] Ibid., 76.

## ALBERT WOHLSTETTER

Born in New York in 1913, Albert Wohlstetter studied mathematics at the City College of New York and Columbia University. During WWII, he worked with the War Production Board at Atlas Aircraft Products Company.[296] From 1951 to 1963, he served as a consultant and policy analyst at the RAND Corporation, where he researched and advised on U.S. nuclear strategy against the Soviets. During his time at RAND, Wolhstetter published "The Delicate Balance of Terror," which appeared in a 1959 issue of *Foreign Affairs* and was perhaps his most influential work, due to its timing and policy implications. After leaving RAND, Wohlstetter taught political science at the University of Chicago until 1980, but continued to publish and conduct policy research throughout the 1970s and 1980s on topics such as proliferation, ballistic missile defense, and nuclear policy. He died in Los Angeles in 1997.[297]

Following the Soviet launch of *Sputnik* in October 1957, the United States increased research and development for its bomber and ballistic missile programs. Matching or exceeding Soviet capabilities became the priority following *Sputnik*, and led to an increased focus in math and sciences in American schools and a greater sense of national urgency to out-do the Russians. As a strategist and advisor to the U.S. Government at the time, Wohlstetter was troubled by what he viewed as a widespread conceptual misunderstanding of deterrence, in which the strategic utility of new technologies was measured by how well they exceeded or overwhelmed the Soviet nuclear first-strike capability. "To deter an attack," he clarified, "means being able to strike back in spite of it. It means, in other words, a capability to strike second."[298] This thinking represented a major shift for many political and military leaders who had previously accepted mutual destruction as the inevitable result of a nuclear exchange. Wohlstetter rejected this notion and said, simply, "Deterrence … is not automatic."[299]

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[296] *Wikipedia*, "Albert Wohlstetter," accessed on October 12, 2012, http://en.*Wikipedia*.org/wiki/Albert_Wohlstetter.

[297] Ibid.

[298] Albert Wohlstetter,"The Delicate Balance of Terror," part II, accessed October 12, 2012,http://www.rand.org/about/history/wohlstetter/P1472/P1472.html#fn1.

[299] Wohlstetter, "The Delicate Balance of Terror," part II (accessed October 12, 2012).

Wohlstetter's theory of deterrence rested on the idea of maintaining the delicate balance of terror. In the simplest sense, balance of terror was a state of affairs in which the U.S. and Soviet Union were both equally fearful that the other was capable of surviving a first-strike and delivering a counter-strike (second strike). He argued that a balance of terror was attained through the possession of an undeniable nuclear second-strike capability by competing powers, although the threshold for what constituted "undeniable" was difficult to calculate, and Wohlstetter acknowledge as much. Nevertheless, the complexities involved and incompleteness of information due to the secrecy of the enemy clearly did not, in Wohlstetter's mind, excuse military planners from conducting a rigorous quantitative analysis of both friendly and enemy nuclear capabilities.

In general, Wohlstetter argued, a credible second-strike capability must possess the following qualities:

> (a) a stable, "steady-state" peacetime operation within feasible budgets (besides the logistic and operational costs that are, for example, problem of false alarms and accidents). They must have also the ability (b) to survive enemy attacks, (c) to make and communicate the decision to retaliate, (d) to reach enemy territory with fuel enough to complete their mission, (e) to penetrate enemy active defenses, that is fighters and surface-to-air missiles, and (f) to destroy the target in spite of any passive civil defense in the form of dispersal or protective construction or evacuation of the target itself.[300]

Within the context of the time, Wohlstetter was primarily concerned with the Soviet Union as the main competitor of the U.S, though his argument was applicable to any totalitarian aggressor."[301] The comparative advantages that totalitarian regimes held were the ability to maintain surprise and secrecy concerning intentions and operations. This uncertainty made planning that much more difficult for open societies such as the U.S., and it was precisely this uncertainty that presented the greatest likelihood of miscalculation that could lead to thermonuclear war. Instrumental in reducing the chances for such a war, Wohlstetter argued, was for U.S. planners to understand the range of

[300] Wohlstetter, "The Delicate Balance of Terror," part III (accessed October 12, 2012).

[301] Ibid.

alternatives and options open to the aggressor and adjust accordingly. "It is important, "he said, "not to confuse our uncertainty with his. The fact that we may not know the accuracy and number of his missiles will not deter him."[302]

Although Wohlstetter warned that deterrence was not automatic and, hence, could fail, he did not intend to diminish the importance of strategic deterrence. Using the scenario of an old Western gun duel, Wohlstetter likened the psychological calculations of the two gunslingers to that of the U.S. and Soviet Union, in which each country had the opportunity to make a crippling first strike:

> It would be extraordinarily risky for one side *not* to attempt to destroy the other, or to delay doing so, since it not only can emerge unscathed by striking first but this is the sole way it can reasonably hope to emerge at all. Evidently, such a situation is extremely unstable. … A protected retaliatory capability has a stabilizing influence not only in deterring rational attack, but also in offering every inducement to both powers to reduce the chance of accidental war.[303]

Hence, the balance of terror exists only when the aggressor believes he will suffer catastrophic damage if he initiates an attack. For this to be the case, the aggressor must be convinced that the defender can withstand the first strike. Put another way, the defender must be able to protect his retaliatory capability. Ultimately, the aggressor has a powerful motivation not to attack, even if it were possible for him to cause massive damage to his opponent.

In his final analysis, Wohstetter asked, "What can we say then, in sum, on the balance of terror theory of automatic deterrence? It is a contribution to the rhetoric rather than the logic of war in the thermonuclear age. In suggesting that a carefully planned surprise attack can be checkmated almost effortlessly, that in short we may resume our deep pre-Sputnik sleep, it is wrong and its nearly universal acceptance is terribly dangerous."[304] Deterrence, he argued, was achievable. However, deterrence could fail. Should it fail, he asserted, the U.S. would have to be prepared to weather the first strike, as well as be able to launch a counter-strike. Wohlstetter did entertain the idea of an air

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[302] Wohlstetter, "The Delicate Balance of Terror," part III (accessed October 12, 2012).

[303] Wohlstetter, "The Delicate Balance of Terror," part VI (accessed October 12, 2012).

[304] Wohlstetter, "The Delicate Balance of Terror," part VIII (accessed October 12, 2012).

defense shield that could protect against incoming warheads, but the technology for it did not exist at the time. Had it been available, Wohlstetter predicted both sides would possess shields, making deterrence difficult to achieve, since the risks to each would decrease to almost zero. Until such a shield could be built, however, the calculations would have to determine how many, not if, thermonuclear warheads would strike their targets. Regardless of who achieved victory, however, Wohlstetter acknowledged that the destruction inherent in any thermonuclear exchange would be devastating.[305]

Ultimatley, Wohlstetter's theory of deterrence dismissed the idea of a few warheads as an adequate safeguard against a nuclear attack. While he believed in the necessity of deterrence, Wohlstetter was very concerned about the consequences should it fail, or if there were an accidental launch. "A deterrent strategy, he said, "is aimed at a rational enemy. Without a deterrent, general war is likely. With it, however, war might still occur. This is one reason deterrence is only a part and not the whole of a military and foreign policy."[306] He recommended various safeguards, such as early warning systems and "fail-safe" measures, in order to give decision-makers extra time to assess the situation before committing to thermonuclear war and reduce the chance of miscalculation. However, Wohlstetter argued that such measures could never reduce the chance of miscalculation to zero. Furthermore, he asserted, any arms inspection treaties or limitation efforts could reduce, but never eliminate, the possibility of a surprise nuclear attack.[307]

A common argument at the time was that a reduction in tension between the U.S. and the Soviets should be the primary foreign policy goal. Wohlstetter argued that while less tension was a good thing, emphasizing it missed a more important point:

> Almost everyone seems concerned with the need to relax tension. However, relaxation of tension, which everyone thinks is good, is not easily distinguished from relaxing one's guard, which almost everyone thinks is bad. Relaxation … is not an end in itself. Not all danger comes from tension. The reverse relation, to be tense where there is danger, is

[305] Wohlstetter, "The Delicate Balance of Terror," part VI (accessed October 12, 2012).

[306] Wohlstetter, "The Delicate Balance of Terror," part VII (accessed October 12, 2012).

[307] Wohlstetter, "The Delicate Balance of Terror," part VII (accessed October 12, 2012).

> only rational. If there is to be any prospect of realistic and useful agreement, we must reject the theory of automatic deterrence.[308]

No matter the results of negotiations and treaties, he argued, there would always be the temptation to hide nuclear weapons in reserve, because inspections and reconnaissance could never catch all of them. Consequently, even if the U.S. and the Soviets were to agree to completely disarm, there would be no way to guarantee compliance. Should the U.S. disarm, it would leave itself dangerously exposed in the event of an unlimited war fought with conventional forces, since even a small number of Soviet thermonuclear weapons would be enough for it to achieve victory.

Presumably, the Soviets were employing a similar logic, but Wohlstetter thought it too dangerous to leave the issue to chance. He acknowledged that conventional military forces might even succeed in deterring the outbreak of general war. However, the military would do little to "remove the danger of accidental outbreak or limit the damage in case deterrence failed, nor would it be at all adequate for crises on the periphery."[309] Any chance of reducing the chance for nuclear war, he concluded, would require an adjustment of foreign policy. Nevertheless, the risks of a nuclear war breaking out could only be mitigated, but never eliminated. A launch might be deliberate or accidental, yet the reasons for the launch would be irrelevant in light of the aftermath. Wohlstetter encouraged greater controls and safeguards for nuclear weapons in order to reduce the chances for miscalculation or accidents, yet he argued that the possibility of nuclear war could not be reduced to zero. Thus, the ability to strike back in case of a nuclear attack was absolutely essential to achieving a deterrent effect, not just to dissuade the enemy from launching first, but to motivate him to implement similar safeguards at his own end.

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[308] Wohlstetter, "The Delicate Balance of Terror," part VII (accessed October 12, 2012).

[309] Wohlstetter, "The Delicate Balance of Terror," part VIII (accessed October 12, 2012).

## Analysis

In 1959, thirteen years after publishing *The Absolute Weapon*, Brodie published *Strategy in the Missile Age*, in which he discussed his framework of deterrence in the context of advanced technologies, particularly the ballistic missile. In *Strategy*, Brodie echoed several recommendations that Wohlstetter had advanced, particularly the requirement for a protected second-strike capability. Such analysis was timely, of course, since the Cuban Missile Crisis three years later would highlight the need for further safeguards and procedures. However, the fundamental debate between Brodie and Wohlstetter remained; namely, whether or not automatic deterrence was a valid concept.

The challenge in assessing the debate, even with the last fifty years to provide data points, is the difficulty in proving successful deterrence. One could easily argue that deterrence has thus far succeeded because there have been no nuclear wars. Certainly, one would be hard-pressed to argue that deterrence has failed. Whether it was Brodie or Wohlstetter who was correct will never be known for certain. However, if deterrence has been successful, then it raises the question as to why. Using Brodie's argument, the answer would be that each side maintained just enough bombs to penetrate the other's defenses and cause enough pain so as to discourage a first strike. Thus, deterrence was automatic. Using Wohlstetter's argument, Brodie's thinking was dangerous, because accidental launches might happen. Furthermore, Wohlstetter was not as convinced that the Soviets would calculate the risks of a nuclear exchange in the same manner as the U.S. At a minimum, he was not convinced that a nuclear exchange would necessarily lead to mutual extinction. Russia, Wohlstetter noted, suffered over twenty million casualties in WWII, yet recovered quite well from that catastrophe.[310] Therefore, efforts to harden cities and protect infrastructure from nuclear attack mattered considerably, according to Wohlstetter. Such measures, Wohlstetter said, "might mean, for example, the difference between fifty million survivors and a hundred and twenty million survivors, and it would be quite wrong to dismiss this as an unimportant difference."[311]

[310] Wohlstetter, "The Delicate Balance of Terror," part IV (accessed October 12, 2012).

[311] Wohlstetter, "The Delicate Balance of Terror," part VI (accessed October 12, 2012).

Both Brodie and Wohlstetter made the foundational assumption that the Soviets would definitely launch a nuclear strike, had they not feared some sort of counterstrike. This assumption was critical because it may very well have been the case that the Soviets had no intention to launch a first strike, even if they could have done so without the fear of nuclear retaliation. Nevertheless, the debate between Brodie and Wohlstetter assumed deterrence was the governing factor in the decision to launch nuclear weapons. However, whether ten warheads or ten thousand warheads were sufficient enough to deter the enemy remains unanswered.

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# VI. GIAP VS. GALULA

**Issue: Can conventional forces defeat insurgencies and, if so, how?**

This chapter will discuss insurgency warfare. While the debate over the entire history of insurgencies demands a research project in its own right, this chapter will narrow the scope to "wars of national liberation" or "People's Wars," as they came to be called during the anti-colonialist period of the mid-twentieth century. The topics that will be explored in this debate concern the strategic utility of insurgency warfare and its countermeasures. For this thesis, guerrillas and partisans are synonymous with insurgents. Similarly, guerrilla warfare, revolutionary warfare, insurgency warfare, and partisan warfare are synonymous with each other.

Revolutionary warfare using guerrilla tactics had come to characterize many of the world's conflicts in the anti-Colonial period following the end of WWII, particularly the struggle for control in French Indochina and, later, Vietnam. However, guerrilla tactics were not unique to the anti-colonial uprisings in the mid-twentieth century. Indeed, the etymological origin of the word *guerrilla* (small war) traces back to the operations that partisans undertook to drive Napoleon's armies out of Spain in early 1800s, yet the tactics by any name are as old as military history. In *On Guerrilla Warfare* (1937), Mao Tse-Tung wrote, "Though the strategy of guerrillas is inseparable from war strategy as a whole, the actual conduct of these hostilities differs from the conduct of orthodox operations."[312] By this statement, Mao implied that guerrilla warfare is not a strategy unto itself. Rather, it is method of fighting that is preferable to conventional warfare under certain conditions. The distinguishing characteristic of guerrilla warfare, Mao said, is that "there is in guerrilla warfare no such thing as a decisive battle; there is nothing comparable to the fixed passive defense that characterizes orthodox war."[313]

People's Army of Vietnam (PAV) commander General Vo Nguyên Giap was schooled in guerrilla warfare and applied it extensively in Vietnam during its struggle

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[312] Mao Tse-Tung, *On Guerrilla Warfare*, trans. Samuel B. Griffith II (Champaign, IL: University of Illinois Press, 1961), 95.

[313] Ibid, 52.

against the French and the Americans in the mid-twentieth century. Although history deems Giap victorious in both struggles, the debate remains as to whether the contest Vietnam was ever winnable by either the French or Americans. For that matter, much of the debate often concerns the definition of *win* or *victory*. In 1964, on the eve of America's escalation in Vietnam, David Galula published *On Counterinsurgency Warfare: Theory and Practice*, in which he argued that fighting against guerrilla forces could done successfully, but would require a strategy different from that of conventional warfare. The timing of Galula's book is ironic, as its release coincided with the U.S. foreign policy shift towards Vietnam following the Gulf of Tonkin. Though the history of Vietnam is now written, a comparison of Giap and Galula's writings suggest how events might have turned out differently.

## *GENERAL VO NGUYÊN GIAP*

Giap was born in 1912, in a poor area of central Vietnam. His formal education consisted of modern schooling, first at the French-run Lycée at Hué for high school, and later at Hanoi's Lycée Albert-Sarraut, where he pursued undergraduate law studies. During his time at Hué, Giap joined his first underground revolutionary nationalist group in 1926, and later led student demonstrations against colonial authorities in the early 1930s.[314] He was briefly imprisoned for his activities at Hué, but was soon released. He earned his law degree in 1937 and his doctorate the following year, though he remained active in Communist politics.[315]

In 1939, Giap fled to southern China after France outlawed Communist parties at home and in its overseas possessions. Several members of Giap's family who had stayed behind in Vietnam were arrested by French colonial authorities, tortured, and executed. Giap's wife, who had also been arrested by the French authorities, later died in prison in1943. While exiled in China, Giap met Ho Chi Minh, who mentored him and tasked him to recruit and build a Communist military force in Vietnam. Giap returned to Vietnam in 1944 with his "Armed Propaganda Brigade for the Liberation of Vietnam" in order to attack French positions in the north, though he helped organize limited operations against occupying Japanese forces during that time as well.[316] Upon the return of Indochina to French control, following the Japanese surrender in WWII, Giap spent the next few years mobilizing and leading the Viet Minh army to oust the French. The Viet Minh victory at Dien Bien Phu in 1954 effectively ended French control in Vietnam and solidified Giap's role as de facto head of the People's Army of Vietnam. By the time American advisors began arriving in force to Vietnam, Giap's model of revolutionary warfare had already become an inspiration for other similar movements worldwide.

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[314] Bernard B. Fall, biographical profile in *People's War, People's Army*, by Vo Nguyen Giap (New York: Frederick A. Praeger, Inc.), xxix.

[315] Ibid., xxxii.

[316] Ibid., xxxv.

In *People's War, People's Army*, Giap argued that the key factors that led to his decisive victory at Dien Bien Phu were having the correct policy and strategy. Giap first, and foremost, viewed the struggle inside Vietnam to be a war of national liberation, or revolutionary war. As a policy objective, national liberation meant that Giap's army would have to first unite the people in common cause.[317] Giap argued that the French colonials' efforts to oppress those who were sympathetic to the Democratic Republic of Vietnam violated the terms of the Preliminary Convention of 1946, and consequently de-legitimized the government of the French Union.[318] Although the Communist Party attempted to reconcile, their efforts towards peace were continually rebuffed by the French colonials in word and deed. As Giap explained, "Our Party's policy of resistance was a precise one, in conformity with the masses' requirements, whose wrath towards the aggressors had reached a climax. For this very reason … they were determined to wage the War of Resistance to final victory and annihilate the aggressors."[319] Giap also credited the final victory over the French to the Party's steadfast adherence to the "national democratic revolution line." [320] Keeping this singular objective always in the forefront of the peoples' minds, Giap said, was a "nodal, decisive question" for the Party.[321] Giap admitted that, without a unifying message, it never would have been possible to mobilize the population against the French colonials. "In the political field, " he said, "we had, at home, to increase the education and mobilization of the people … and endeavor to smash all the enemy's schemes to divide and deceive our people, while in its foreign policy, efforts had to be made to win over support of the progressive people throughout the word … against this dirty war."[322]

Resourcing a people's war, Giap continued, required a re-tooling of the economy. The slogan for Vietnam, he pointed out, was "the whole nation in arms," in which "each person was a soldier, each village a fortress, each Party branch and Resistance committee

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[317] Giap, *People's War, People's Army*, 89.

[318] Ibid., 91.

[319] Ibid., 92.

[320] Ibid., 93.

[321] Ibid.

[322] Ibid., 97.

a staff."[323] Accordingly, self-sufficiency was critical to prosecuting a people's war, as most domestic production in a people's war would be destined for soldiers fighting against the enemy. Such an economy would leave little to no production available for export or trade, and Giap acknowledged that a people's war economy would require the population to endure long periods of hardship and deprivation. However, the working class peasant farmer comprised vast swaths of Vietnam's countryside, and the personal sacrifices required by the Marxist-Leninist philosophy of the people's war might have seemed no less oppressive than the policies of the colonials. The rural peasantry of the working class formed the backbone of the resistance and was critical to the strategy of guerrilla war that Giap's army ultimately assumed. "In waging the Resistance War," he said, "we relied on the countryside to build our bases to launch guerilla warfare in order to encircle the enemy in the towns and eventually arrive at liberating the towns. Therefore, it was of particularly [sic] importance to pay due attention to the peasant question ... to step up the long Resistance War to victory."[324]

Once the people were united in cause and effort, the Party had to settle on the proper mode of warfare. The "appropriate fighting principle" of the people's army, Giap assessed, was one of "guerrilla warfare … advancing to mobile warfare."[325] This strategy was, however, very much a product of scarcity and necessity. As Giap noted, the enemy "…possessed a seasoned professional army equipped with up-to-date arms … and experienced in aggressive wars."[326] The Vietnamese resistance fighters, on the other hand, were initially untrained, disorganized, and insufficiently resourced. The key difference between the two sides, Giap argued, was that the colonial forces fought under an unjust cause, whereas the resistance fighters knew their own cause was just and had popular support. A people's war of resistance would ultimately be victorious because time was in its favor. As Giap put it, "the enemy's strong points were his weak ones and our strong points were his weak ones, but the enemy's strong points were temporary

[323] Giap, *People's War, People's Army*, 97.

[324] Ibid., 94.

[325] Ibid., 98.

[326] Ibid.

ones, while ours were basic ones."[327] Giap concluded that the enemy's only viable strategy that stood a chance of success "*was to attack swiftly and win swiftly*. The more the war was protracted the lesser would be his strong points, and their weak points would grow weaker."[328]

Giap saw it as axiomatic that the type of war he was fighting went through a defensive stage, and equilibrium stage, and, finally, an offensive stage. Much in the same way as Mao had outlined the flow of revolutionary war, Giap envisioned a gradual shift from guerrilla war to regular war as his forces gained strength and were subsequently able to shift from "partial entrenched camp warfare" to "mobile warfare."[329] Initially, Giap's forces were too weak to engage large formations enemy head-on without risking their own annihilation. Yet, Giap also said that "the main goal of the fighting must be the destruction of enemy manpower, and ours should not be exhausted from trying to keep or occupy land."[330] Hence, Giap faced a dilemma between two competing imperatives: one was to conserve his own forces, while the other was to kill the enemy. The delicate balance between these two imperatives was to be found in his application of guerrilla warfare, in which autonomous companies of fighters would hide amongst sympathetic populations and strike at the enemy's exposed supply lines, or when the opportunity presented itself to pick off relatively weak concentrations of enemy troops.

However, Giap's use of guerrilla warfare was not the end of his overall campaign strategy. Rather, it was a means to transition into mobile warfare. As Giap noted:

> To keep itself in life and develop, guerilla warfare has necessarily to develop into mobile warfare. This is a general law. In the concrete conditions of our Resistance War, there could not be mobile warfare without guerilla warfare. But if guerilla warfare did not move to mobile warfare, not only the strategic task of annihilating the enemy manpower could not be carried out but even guerilla activities could not be maintained and extended.[331]

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[327] Giap, *People's War, People's Army*, 99.

[328] Ibid.

[329] Ibid., 104.

[330] Ibid.

[331] Ibid., 108.

The decision to shift to mobile warfare as the primary mode of fighting was, nevertheless, an art. As Giap explained, mobile warfare maintained a guerilla character, but required a higher degree of centralization for execution. "Mobile warfare," he said, "is the fighting way of concentrated troops, of the regular army in which relatively big forces are regrouped and operating on a relatively vast battlefield, attacking the enemy where he is relatively exposed, … advancing very deeply then withdrawing very swiftly ."[332] Giap emphasized that guerilla warfare should never disappear completely from the battlefield, even as the resistance war shifts to mobile warfare. As the ratio of regular troops to guerrillas increased, more coordination between the two was required. Even at the point in which mobile warfare became a more decisive effort than guerrilla war, the latter remained critical in keeping the enemy off balance in his rear echelons. The crux of his strategy that led to his culminating victory at Dien Bien Phu was simple:

> Throughout the Resistance War, while the enemy's forces were more and more scattered, our strategic line was to extend the guerrilla warfare everywhere. … And parallel with the enemy's dispersal of forces, our people's revolutionary armed forces unceasingly intensified and extended guerilla activities, while without cease carrying on the work of concentration and building up regular units. In the fighting, in the course of the formation of our forces, we went gradually from independent companies operating separately to mobile battalions, then from battalions to regiments and divisions.[333]

Giap argued that, by the time the French were working on the Navarre Plan in 1953, his own forces had the strength and mobility to rapidly concentrate forces on the enemy's strategic points and defeat them.[334] Ultimately, any victory over the Resistance army would have come at a cost far beyond what the French were, in Giap's estimation, willing to bear.

In time and space, the PAV victory was characterized by the gradual expansion of interlocking "free zones" and "guerrilla areas" towards the North.[335] This was, quite

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[332] Giap, *People's War, People's Army*, 106.

[333] Ibid., 159.

[334] Ibid., 160.

[335] Ibid., 110.

simply, the physical manifestation of Giap's strategy. As he evaluated the outcome of the war against the French colonials:

> The strategy of long-term war and the guiding principle of fighting from guerrilla war gradually moving to regular war with the forms of guerrilla warfare, mobile warfare including entrenched camp warfare, were very successful experiences of our national liberation war. These were the strategy and tactics of the people's war, the art of military conduct of the people's war, of the revolutionary war in a small and backward agricultural country under the leadership of our Party.[336]

However, Giap remarked that the People's Army of Vietnam following Dien Bien Phu resembled more of a modern army, and he predicted that any new war would be similarly modern. Yet, he also re-affirmed the commitment of the Vietnamese to conduct any future war as people's war. As such, national defense would henceforth be a collective task of the people, with a formal militia playing a much greater role than it had prior to 1954.[337] Furthermore, Giap explained, the future armed forces in Vietnam would continue to involve local and paramilitary forces fighting alongside regular units. Perhaps foreshadowing the troubled U.S. foreign policy toward Vietnam in the 1960s and 1970s, Giap offered a simple observation: "The militia will always be a strategic force, and the guerilla war a strategic problem."[338]

[336] Giap, *People's War, People's Army*, 110.

[337] Ibid., 142.

[338] Ibid, 143.

## *DAVID GALULA*

David Galula was born in 1919, in French-occupied Tunisia. He obtained his baccalaureat at the Lycée in Casablanca, and later graduated from the Saint Cyr special military academy in 1939. During WWII, Galula saw combat action and was wounded at the invasion of Elba in June of 1944.[339] Following WWII, Galula served as a military attaché to China and observed the rise of the Chinese Communist Party. Later, Galula studied the Indochina War, though he was not involved in the fighting. From 1956 to 1958, Galula served as an infantry company commander in the French colonial forces during the Algerian War, where he effectively applied counterinsurgency tactics in his sector to eliminate the resistance. His outstanding performance in Algeria resulted in his accelerated promotion, and he was subsequently transferred to the National Defence Headquarters in Paris. Following several staff assignments, Galula resigned at the rank of lieutenant colonel, after which he took on a fellowship at Harvard University's Center for International Affairs in 1962, and published *Counterinsurgency Warfare: Theory and Practice* two years later. David Galula died from complications due to lung cancer in 1967.[340]

Although Galula used the term "insurgency" and "counterinsurgency" extensively, he viewed these as "two different aspects of the same conflict."[341] Like Mao and Giap, Galula was concerned with the nature of revolutionary conflict and how opposing interests clash in this type of warfare. However, Galula emphasized that only the insurgent can initiate a revolutionary war. Counterinsurgency, on the other hand, is simply an effect of the insurgency and can only be defined in relation to the cause.[342] This, he said, differentiated counterinsurgency, or revolutionary, warfare from conventional warfare, in that either side could initiate hostilities in a conventional conflict. Furthermore, Galula argued, revolutionary conflict is, by definition, an internal

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339 *Wikipedia*, "David Galula," accessed October 13, 2012, http://en.*Wikipedia*.org/wiki/David_Galula.

340 Ibid.

341 David Galula, *Counterinsurgency Warfare: Theory and Practice* (Westport, CT: Praeger Security International, 1964), xiv.

342 Galula, *Counterinsurgency Warfare*, 1.

conflict. Although external powers almost invariably tend to involve themselves in the internal affairs of other countries, the key characteristic of revolutionary warfare is the existence of insurgent groups "challenging a *local* ruling power controlling the existing administration, police, and armed forces. In this respect, colonial revolutionary wars have not differed from purely indigenous ones, such as those in Cuba and South Vietnam."[343]

Galula also differentiated between revolutionary warfare and revolution, in which the former represented a political condition, whereas the latter represented a comparatively discrete act. A revolution, he explained, is typically of short duration and spontaneous. "It is an accident, which can be explained afterward, but not predicted other than to note the existence of a revolutionary situation," he said.[344] On the other hand, revolutionary warfare, like insurgency, is marked by "protracted struggle conducted methodically, step by step, in order to attain specific intermediate objectives leading finally to the overthrow of the existing order."[345] Therefore, revolutionary war is a political war, in which the population is the objective.[346]

The insurgent must gain the tacit support of the population if he is to be successful. Because the insurgent begins the war in a weaker military state than the counterinsurgent, "logic forces him instead to carry the fight to a different ground where he has a better chance to balance the physical odds against him."[347] Unlike conventional war in which politics assumes a secondary role to military operations, revolutionary war uses politics as the primary instrument of operations. Consequently, the counterinsurgent cannot afford to approach revolutionary war as he would a conventional war, in which military and political considerations are more "tidily separated."[348] Rather, "every military move has to be weighed with regard to its political effects, and vice versa."[349]

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[343] Galula, *Counterinsurgency Warfare*, 1.

[344] Ibid., 2.

[345] Ibid.

[346] Ibid., 4.

[347] Ibid.

[348] Ibid., 5.

[349] Ibid.

Additionally, as Giap had also argued, revolutionary warfare never becomes a fully conventional fight, even if the insurgent has succeeded in amassing a significant regular force. For one, the existence of a regular army does not preclude the need for guerrilla activities. In fact, such activities are needed to facilitate or enhance conventional operations.[350] Secondly, and perhaps more importantly, the insurgent has been embedded in the population since the beginning of the conflict and owes his success to its support of him. If the insurgent has "acquired the decisive advantage of a population organized and mobilized on his side…" and thus enjoys a freedom of movement that his enemy cannot, it makes little sense for the insurgent to abandon such an advantage.[351] Key to the insurgent's continued survival, Galula noted, is that "as long as the population remains under his control, the insurgent retains his liberty to refuse battle except on his own terms."[352]

At once, the insurgency has an inherent advantage. Success in conventional warfare is measured by the destruction of the enemy's forces and the capture of his territories. Yet, the insurgent "holds no territory and refuses to fight for it."[353] Although Galula acknowledged that the counterinsurgent may occasionally isolate and destroy pockets of insurgent forces, such successes would be too rare to be of strategic significance. The insurgent advantage lies in his mobility and ability to hide amongst the populace, making his detection and capture difficult at best. Furthermore, even if counterinsurgent forces successfully captured or killed some guerrillas, the insurgent ranks would be quickly filled with new recruits. Ultimately, the counterinsurgent's only hope for success using conventional operations would be to saturate the entire country for a sustained period of time. However, Galula argued, operations of this size and duration are extremely costly for the counterinsurgent, such that any victory would not be worth the price.[354]

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[350] Galula, *Counterinsurgency Warfare*, 9.

[351] Ibid.

[352] Ibid.

[353] Ibid., 50.

[354] Ibid., 51.

The counterinsurgent is equally precluded from employing insurgency warfare as its main strategy, Galula argued. For the counterinsurgent to adopt guerrilla tactics as the key strategy for destroying the insurgents would, in effect, represent a mismatch of capabilities and strengths. As Galula explained:

> For [the counterinsurgent] to adopt the insurgent's warfare would be the same as for a giant to try to fit into a dwarf's clothing. How, against whom, for instance, could he use his enemy's tactics? He alone offers targets for guerrilla operations. Were he to operate as a guerrilla, he would have to have the effective support of the population guaranteed by his own political organization among the masses; if so, then the insurgent would not have it and consequently could not exist; there would be no need for the counterinsurgent's guerrilla operations.[355]

The counterinsurgent could try increasing his clandestine capabilities as a countermeasure, though this, too, would eventually fail as a governing strategy. As Galula argued, clandestine forces have limited utility for the counterinsurgent, other than as a supporting asset, because the counterinsurgent's "strength derives precisely from his physical open assets."[356] Furthermore, he noted, "experience shows that no rival—not to speak of hostile—clandestine movements can coexist for long; one is always absorbed by the other."[357] Despite the disadvantages, Galula did not intend to imply that insurgent tactics should never be used or attempted by the counterinsurgent. In fact, he argued, the use of "small commando-type operations" could support the larger effort, but "they cannot … represent the main form of the counterinsurgent's warfare."[358]

Ultimately, then, the counterinsurgent always faces a theoretical dilemma, because he cannot win using a purely conventional or insurgent strategy. Rather, some mix of the two approaches is necessary to defeat an insurgency. The correct blending of the two strategies is derived from "the inescapable conclusion … that the counterinsurgent must apply a warfare of his own that takes into account not only the nature and characteristics of the revolutionary war, but also the laws that are peculiar to

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[355] Galula, *Counterinsurgency Warfare*, 51.

[356] Ibid.

[357] Ibid.

[358] Ibid.

counterinsurgency and the principles deriving from them."[359] Galula four laws of counterinsurgency are as follows:

- *The First Law: The Support of the Population Is as Necessary for the Counterinsurgent as for the Insurgent.* [360]
- *The Second Law: Support Is Gained Through an Active Minority.* [361]
- *The Third Law: Support from the Population Is Conditional.*[362]
- *The Fourth Law: Intensity of Efforts and Vastness of Means Are Essential.*[363]

The first law addresses the issue of keeping any given area that was previously under insurgent control clear of any recidivism. The only way to accomplish this goal, Galula argued, is to gain the support of the population. A population that is supportive of the counterinsurgent's goals will be more likely to resist the insurgent's attempts to re-establish a foothold in a cleared area. Though the counterinsurgent will always be able to concentrate enough forces to destroy insurgents in any given area, the risk in doing so is that the insurgents can reappear in another less-contested spot. Thus, the counterinsurgent must have as his primary objective the population. Without the population's support and cooperation, the counterinsurgent will never be able to prevent the insurgent from re-taking lost ground.[364]

Galula's second law addresses the strategy used to defeat the political aims of the insurgent. In other words, it describes how to get the active, as well as passive, support of the population. The governing dynamic of politics, Galula argued, is that "*in any situation, whatever the cause, there will be an active minority for the cause, a neutral majority, and an active minority against the cause*. The technique of power consists in relying on the favorable minority in order to rally the neutral majority and to neutralize or

[359] Galula, *Counterinsurgency Warfare*, 52.

[360] Ibid.

[361] Ibid., 53.

[362] Ibid., 54.

[363] Ibid., 55.

[364] Ibid., 52.

eliminate the hostile minority."[365] The challenge for the counterinsurgent, therefore, is to correctly identify the favorable minority and mobilize it against the insurgent minority.

The third law simply states that counterinsurgent must actively strive to maintain the trust and confidence of the populace once he has eliminated the insurgent. Key to maintaining this trust is sufficiently reducing the physical threat which insurgents or guerrilla forces can revisit upon the population. Thus, effective military and police actions must be executed by the counterinsurgent and observed by the population. Without security, the populace will be unreceptive to the political efforts of the counterinsurgent. Galula further observed that "the counterinsurgent needs a convincing success as early as possible in order to demonstrate that he has the will, the means, and the ability to win. The counterinsurgent cannot safely enter into negotiations except from a position of strength, or his potential supporters will flock to the insurgent side."[366]

The fourth law warns the counterinsurgent that the amount of effort he exerts will need to exceed that of his opponent every step of the way. Galula noted that the counterinsurgent, due to the nature of the war in which he fights, has the responsibility to maintain order in the face of his enemy, who is trying to cause disorder and de-legitimize him in kind. However, the ratio of counterinsurgent-to-insurgent expenditures is comparatively high, particularly at the outset of the conflict

> …when the insurgent reaches the initial stages of violence and resorts to terrorism and guerrilla warfare. The British calculated the cost of every rebel in Malaya at more than $200,000. In Algeria, the FLN budget at its peak amounted to $30 or $40 million a year, less than the French forces had to spend in two weeks. … Because of the disparity in cost and effort, the insurgent can thus accept a protracted war; the counterinsurgent should not.[367]

By its nature, however, insurgency warfare is protracted. As Galula observed, "The operations needed to relieve the population from the insurgent's threat and to convince it

[365] Galula, *Counterinsurgency Warfare*, 53.

[366] Ibid., 55.

[367] Ibid., 7.

that the counterinsurgent will ultimately win are necessarily of an intensive nature and of long duration. They require a large concentration of efforts, resources, and personnel."[368]

The intent of Galula's four laws of counterinsurgency warfare was to describe the nature of the conflict in which the counterinsurgent operates. From a prescriptive standpoint, Galula derived a set of principles from those laws that suggested a "step-by-step" strategy for the counterinsurgent to follow in a given area of operations:

1. Concentrate enough armed forces to destroy or to expel the main body of armed insurgents.
2. Detach for the area sufficient troops to oppose an insurgent's comeback in strength, install these troops in the hamlets, villages, and towns where the population lives.
3. Establish contact with the population, control its movements in order to cut off its links with the guerrillas.
4. Destroy the local insurgent political organizations.
5. Set up, by means of elections, new provisional local authorities.
6. Test these authorities by assigning them various concrete tasks. Replace the softs and the incompetents, give full support to the active leaders. Organize self-defense units.
7. Group and educate the leaders in a national political movement.
8. Win over or suppress the last insurgent remnants.[369]

Galula acknowledged that this strategy might appear too rigid in certain cases, yet its logic is difficult to dispute, "because the laws … on which it is based can easily be recognized in everyday political life and in every recent revolutionary war."[370]

Taken in their entirety, the principles were designed to address the counterinsurgent's worst-case scenario, which, as Galula described, meant operating in an area "where the insurgent is already in full control of the population."[371] In less severe circumstances, some of the steps may be skipped, while in relatively tame environments, most of the steps could be bypassed. However, Galula warned, these steps should not be

[368] Galula, *Counterinsurgency Warfare*, 55.

[369] Ibid., 55–56.

[370] Ibid., 56.

[371] Ibid.

applied out of sequence, for doing so would " [violate] the principles of counterinsurgency warfare and of plain common sense."[372]

At the time of his writing *Counterinsurgency Warfare*, Galula assessed that two major forces were driving insurgencies around the world. The first was neocolonialism, and the second was Communist pressure. The old colonial model, he said, was dead. Yet, the nationalist promise of economic development and progress was slow to materialize for the population in these former colonies, resulting in mass resentment and disillusionment.[373] In the former colonies of Africa, Asia, and South America, the message of neocolonialist economic exploitation by Western powers would be the rallying cry of the Communists, who sought to check their opponent's expansion. Sometimes, the anger at neocolonialism would be intense enough to foment an insurgency, largely without Communist assistance. In other times, the Communists would actively fan the flames of unrest. Regardless of degree, however, Communism would always play some part in driving insurgencies.[374]

At its most fundamental level, Galula concluded, the strategy for counterinsurgency warfare could be expressed as: "Build (or rebuild) a political machine from the population upward."[375] Despite the simplicity of counterinsurgency strategy, however, not all counterinsurgencies are winnable. In Galula's estimation, the contest between China's Mao and Chiang Kai-Shek, Cuba's Batista and Castro, and Algeria's French colonials and the FLN, were winnable by either side, while the French counterinsurgency in Indochina was "doomed from the start."[376] Galula's pessimism on the French chances of success in Indochina was likely due to an initial political environment that was so unfavorable for the French colonials, as to be insurmountable. As Galula noted, "When the insurgent's cause is an all-or-nothing proposition, as in most anticolonial or Communist-led insurgencies, the margin for political maneuver is

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[372] Galula, *Counterinsurgency Warfare*, 56.

[373] Ibid., 96.

[374] Ibid.

[375] Ibid., 95.

[376] Ibid., 96.

extremely limited."[377] For the counterinsurgent to be decisively victorious, he must not only physically destroy the insurgent, but he must also maintain the permanent isolation of the insurgent by, and with, the active support of the population. Without the active support of the people, insurgents will simply reappear, either from external sources or by internal recruitment.[378]

[377] Galula, *Counterinsurgency Warfare*, 72.

[378] Ibid., 54.

## Analysis

By failing to isolate the insurgent from the population, the counterinsurgent must either give up the fight or continue to pour lives and money indefinitely into a protracted conflict. Both Giap and Galula arrived at this conclusion, and both understood that the material and monetary costs borne by the counterinsurgent are higher than insurgent's. Additionally, each saw insurgency warfare, or revolutionary warfare, as political warfare. That is to say, the population itself is the primary objective of insurgency warfare. The debate between Galula and Giap would hardly seem to be a debate, as both viewed the French defeat in Indochina as inevitable. It may be said, however, that each man wrote for different purposes. Giap's intent was to show why and how he had been successful in his own particular circumstances. Galula, on the other hand, wanted to develop a theory of counterinsurgency warfare in general. Put another way, Giap showed how to run an insurgency, while Galula showed how to defeat one.

While Giap's victory at Dien Bien Phu made him somewhat of a folk hero to other would-be revolutionaries in the post-colonial period, it was not his goal to spread Communism around the world. Giap did not hide the fact that the organizational principles of Communism played a major role in revolutionary warfare, as he frequently referred to the "Party" during discussions concerning political strategy. However, his primary motivation was to expel an illegitimate occupation. As Giap acknowledged, the revolutionary army in Vietnam began as the militarily weaker side, and so was forced to use guerrilla warfare as its primary method of attacking the enemy at first. The ultimate victory over the French colonials was only possible because the PAV was able to build a conventional force large enough to attack the enemy head-on and win. Had the PAV been unable to grow its ranks of regular troops, it is questionable whether Giap would have succeeded in permanently driving out the French, at least in the near term. Without a decisive military victory, the struggle between the colonials and the revolutionary army would have turned into a protracted insurgency. If, as Giap asserted, the PAV was prepared to carry on a guerrilla war indefinitely, then it is unlikely that conventional forces could have ever defeated the insurgency.

Galula clearly believed that insurgencies could, in theory, be defeated, so long as the counterinsurgent, whether of conventional or unconventional background, focused its efforts on winning the population. While he acknowledged that the French defeat in Indochian was inevitable, Galula pointed to his experience in Algeria against the FLN as an example of successful counterinsurgency. However, Galula, like Giap, theorized about the viability counterinsurgency warfare in the historical and political contexts of Communism and post-colonialism. One might question, for instance, whether Galula's fifth principle of holding elections is necessary for executing a successful counterinsurgency. One could easily argue that exerting fear and intimidation, or even brain-washing, is just as effective as instituting democratic mechanisms for achieving control over the populace.

Yet, Galula was not wholly wedded to his principles of counterinsurgency so much as he was concerned about his four laws. Indeed, he argued that it would be difficult to refute his principles in light of recent experience, but he left open the possibility nonetheless. Much in the same way Clausewitz had once theorized about the general nature of war, with violence as the necessary component, so Galula theorized about the general nature of counterinsurgencies and the role of the population as the necessary component.

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# VII. CONCLUSION

Since the Napoleonic era, the study of strategy has been profoundly influenced by an uncharacteristically rapid pace of technological and social change. This is not to say that history before the eighteenth century lacks valuable lessons concerning politics and war. However, it is difficult to identify a time prior to that of Napoleon Bonaparte that can boast an equally explosive mix of nationalism, manpower, and firepower. When Clausewitz's began writing *On War*, his deeply theoretical and esoteric inquiry into the nature of war was more than just the philosophical musings of an aging general. Rather, he recognized that changes in the social order of Europe and, hence, the way in which nations could mobilize their respective populations against one another were changing. It was under this pretense that this thesis affirmed the debate between Clausewitz and Jomini as a useful starting point from which to trace the evolution of strategic thought to modern times.

The scope of this thesis was limited to illuminating the strategic debates between various pairs of contemporaries, rather than assessing values of rightness or wrongness to each; such judgments would be appropriate for future research and analysis. In some cases, the level of disagreement was pronounced, while in others, such as the debate between Douhet and Mitchell, the differences are quite subtle. More often than not, the debaters were far from polarized on any given issue, though this was expected, given that the complexity of the subject matter being debated does not lend itself to simplistic or binary solutions.

While the choice of subject material for this thesis was heuristically driven, it may be said that its design reflects a longitudinal study of strategic thought over the past two centuries. The selection of debates for this study was based on mental models concerning the modality or dominant characteristic of the conduct of war at various periods in history, such as the "Age of Total War," the "Industrial Age," the "Age of Aviation," the "Age of Steam," the "Nuclear Age," the "post-Colonial era," etc. Accordingly, the author has examined how strategic thought evolved over time, using the debates themselves as data points. That said, when traced from the Napoleonic era to the present, the debates

suggest a deliberate process of tying strategic ends to means that are appropriate within a given historical context. When viewed in its entirety, the timeline from the Napoleonic era to the present generally shows a gradual escalation in the level of violence required to achieve the political objects of war, though the extremes to which governments were willing to go in order to achieve their aims arguably peaked with the development of thermonuclear weapons. As Clausewitz observed, the violence of war tends toward the maximum if left unchecked, yet history shows that humanity has thus far refrained from annihilating itself completely. The wars of national liberation, or revolutionary wars, of the post-colonial period exhibited the growing tendency of the major powers toward limited warfare, despite the inherent political complexity involved in prosecuting it, yet this trend confirmed a broad desire to limit the damage to life and property caused by war.

What follows is a brief summary of the debates. This thesis will close by suggesting a way ahead, especially as it concerns further study or continuation of this research:

- *Clausewitz vs. Jomini*

The analytic focus on Clausewitz and Jomini often treats them as dueling interpreters of Napoleon. While there is some merit to this characterization of their rivalry, their key difference was over the role of theory, rather than the correctness or error in Napoleon's actions. Essentially, Jomini used military history to derive principles of war, while Clausewitz first developed a theory of war and then used the experiences of Napoleon to validate his theory. For example, Clausewitz stated that one could legitimately argue that Napoleon's decision to invade Russia in 1812 was wrong based on the campaign's disastrous outcome. Yet, "his campaign failed, not because he advanced too quickly and too far as is usually believed, but because the only way to achieve success failed."[379] Clausewitz was suggesting that Napoleon's actions should be judged by their theoretical underpinnings, and not their outcome. As Clausewitz concluded, "We maintain that the 1812 campaign failed because the Russian government kept its nerve

[379] Clausewitz, *On War*, 627.

and the people remained loyal and steadfast. … Bonaparte may have been wrong to engage in it at all; at least the outcome certainly shows that he miscalculated; but we argue that if he was to aim at that objective, there was, broadly speaking, no other way of gaining it."[380]

History, Clausewitz asserted, does not provide a formula that is capable of eliminating the uncertainties of war. Rather, history provides an "exercise for judgment."[381] Clausewitz's critique of Jomini's principle of operating on interior lines perhaps best illustrates his differences with Jomini concerning the proper use of history to draw lessons:

> Now, we come to another question: whether a set of all-encompassing principles, rules, and methods may be formulated for these various endeavors. Our reply must be that history has certainly not guided us to any recurrent forms; nevertheless, for a subject of such constantly changing nature one can hardly formulate a theoretical law that is not based on experience. … Two main principles for the conduct of major wars have evolved in our own time: Bülow's "breath of base" and Jomini's "interior lines." Even these when actually applied to the defense of an operational theatre, have never proved to be absolute and effective. Yet this is where, as purely formal principles, they should be at their most effective … . Nevertheless, they turn out to be merely special aspects of the subject, and certainly anything but decisive advantages.[382]

A few years after Clausewitz's death, Jomini issued his retort in *The Art of War*:

> Shall I be understood as saying that there are no such things as tactical rules, and that no theory of tactics can be useful? What military man of intelligence would be guilty of such an absurdity? … When the application of a rule and the consequent maneuver have procured victory a hundred times for skillful generals, and always have in their favor the great probability of leading to success, shall their occasional failure be a sufficient reason for entirely denying their value and for distrusting the effect of the study of the art?[383]

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[380] Clausewitz, *On War*, 628.

[381] Ibid., 517.

[382] Ibid., 516.

[383] Jomini, *Art of War*, 259.

Ultimately, the fundamental difference between Clausewitz and Jomini lay in their methods of inquiry. Clausewitz used a mostly deductive approach, starting with a hypothesis and then using historical events as data points with which to test it. Jomini, on the other hand, used a mostly inductive approach, identifying commonalities and patterns from historical examples and deriving principles. The tension between these two approaches is arguably common to all fields of study, and lends the debate between Clausewitz and Jomini a certain timelessness that might otherwise not be possible when restricted to a Napoleonic context.

- *Mahan vs. Mackinder*

The important consideration regarding the debate between Mahan and Mackinder is that neither categorically denied the importance of land or sea power to the national interest. The main difference between the two, however, is that Mahan derived his theory of sea power from a comparatively short historical period of approximately one hundred and fifty years, whereas Mackinder took a more holistic view of the previous 1800 years. Although Mackinder acknowledged that naval power had played a key role in Europe's expansion into a world presence, beginning in the middle of the second millennium A.D., he questioned Mahan's assertion that command of the sea was a necessary and sufficient condition for achieving national aims. Mahan, he argued, had placed too much emphasis on the Battle of Trafalgar. Moreover, Mackinder continued, Mahan had drawn the wrong lessons from the British naval victory. In particular, Mackinder questioned Mahan's conclusion that the Franco-Spanish fleet's defeat at Trafalgar directly led to Napoleon Bonaparte's ultimate demise on land.

Mackinder's pivot theory, which was the basis for his later Heartland Theory, proposed that the interior of the Eurasian land mass provided a base from which the owners could sustainably project power around the world. In this regard, land power was more consequential than sea power. Furthermore, Mahan's sea power argument had failed to account for historical land-dominated empires that had little to no dealings with, or need for, naval forces. Mackinder also argued that, ultimately, even powerful naval forces derive their sustenance from land bases that receive supplies from the interior. Yet,

Mackinder's intent was never to de-bunk the theory of sea power, especially regarding the role of the navy in securing sea lines of communication. Rather, he only wanted to keep the theory of sea power in its proper perspective. Ultimately Mackinder was less concerned with how to fight a war, rather than in predicting where, and under what circumstances, the next one would occur.

- *Bernhardi vs. Bloch*

The irony of the debate between Bernahrdi and Bloch is that they were largely in agreement with each other concerning the technical aspects of modern warfare in the Industrial Age. Advances in both the destructive power of weapons and the means to mobilize millions of soldiers meant that the wars of the future would be characterized by unprecedented levels of death and destruction. On a strategic level, they agreed that industrialization had created an equal playing field among the great powers of Europe, on both a qualitative and quantitative level. Perhaps most importantly, both identified the advent of magazine rifle as having the most far-reaching effects on the tactics and strategy of modern war. As World War I demonstrated, both Bernhardi and Bloch were correct.

Their crux of their debate concerned whether or not a stalemate between the great powers could be broken, and, if so, at what cost. Bernhardi argued that effective maneuver, combined with intangible qualities, such as leadership and moral worth, could result in swift victories and tip the balance in one side's favor. Bernhardi thus believed that Germany, despite its numerical inferiority to the Allies at the time, could achieve a decisive victory. Bloch, on the other hand, remained less optimistic about the possibility of swift victory in a future war. Instead, Bloch predicted a long, protracted conflict, characterized by trench warfare and a slow, grinding attrition. During World War I, not all operations or campaigns involved suicidal infantry charges across open fields, and Bernhardi would seem to have been correct in his assertion that boldness and strong leadership were still important factors, even in the era of mass industrial warfare. However, Bloch was likely arguing that trench warfare would be the dominant, not the sole, method of fighting in the modern era. What was critical to Bloch's thesis concerning

the impossibility of war was the ability of nations to rapidly mobilize and deploy troops into a theatre. The consequence of this capability was that any rapid gains made by one side as the result of maneuver or daring could be offset by the defending country's ability to tap into its military-age population and quickly replenish its losses.

Ultimately, World War I did break out, despite Bloch's admonitions. In fact, the massive destruction wrought upon Europe during the Great War did not discourage the same nations from embarking on another world war two decades later. Had he lived longer, Bloch might have foreseen the development of the tank, the airplane, the aircraft carrier, and, eventually, the atomic bomb, which could have conceivably altered his analysis on the feasibility of war. This is, however, unlikely, as Bloch was more concerned with the unacceptable costs of modern war, rather than the ability to wage it. If there was any mistake in Bloch's analysis, it was his underestimation of nations' willingness to accept those costs.

- *Douhet vs. Mitchell*

As fellow air power enthusiasts, Douhet and Mitchell predicted that the airplane would play a significant, if not dominant, role in the future of warfare. While Douhet and Mitchell were certainly not rivals in the debate over the role of air power, it may be said that Mitchell took a more holistic view than Douhet. In terms of national interest, Douhet seemed to prioritize the military application of the airplane, particularly its capability to conduct strategic bombing raids. Douhet believed that strategic bombing would break the trench warfare stalemate of the WWI era, and argued that command of the air was critical to executing those campaigns successfully. The ability to conduct strategic bombing while preventing an adversary from doing the same would, in his assessment, provide the nation with command of the air the necessary advantage to guarantee victory. Therefore, he argued, the government should focus its resources into building a large air force and creating an independent organization to manage it.

As a military officer, Mitchell shared Douhet's belief in aviation as a critical component of national security. Unlike Douhet, however, Mitchell did not view a strategic bombing capability as a necessary and sufficient condition for winning wars.

Rather, Mitchell was more enamored with what he called the "pursuit" branch of aviation, which he envisioned as the centerpiece of the great aerial battles in the future. Furthermore, Mitchell saw the airplane in more of a supporting role to the other military branches, rather than as its own decisive effort. Like Douhet, however, Mitchell believed in the need for a separate, independent aerial branch of the service in order to organize and deploy the air forces.

Perhaps the best way to distinguish between the two men is to note that Douhet's focus was on military strategy and how air power would affect the nature of future war, whereas Mitchell was more concerned with the role of aviation in military and commercial interests of the nation. While one could argue that Mitchell's analysis was more tactically oriented than Douhet's more theoretical treatment of air power, it may be more appropriate to conclude that their arguments were more complementary than opposed to each other.

- *Brodie vs. Wohlstet*ter

The debate between Brodie and Wohlstetter over nuclear deterrence strategy is unique in the sense that no war has ever been fought using nuclear weapons since the dropping of two atomic bombs on Japan during WWII. Even so, the use of the atomic bomb in 1945 did not involve a nuclear exchange, which is precisely the possibility that Brodie and Wohlstetter debated. Immediately following WWII, Brodie theorized that a few atomic bombs were sufficient enough to achieve a deterrent effect. Thirteen years later, Brodie modified his thesis to account for the development of long-range missiles that could deliver nuclear payloads from a distance. Nevertheless, Brodie's core assumption remained that mutual destruction was the inevitable outcome of a nuclear exchange. For that reason, no one side would be willing to risk a first strike, knowing that the retaliatory strike would be devastating. Hence, deterrence was automatic. Brodie concluded that a second-strike capability that could be delivered in spite of a nuclear attack was sufficient enough to deter an adversary.

Wohlstetter agreed with the necessity of a second-strike capability, but he rejected the idea of automatic deterrence. While a credible retaliatory capability was necessary, it

was no guarantee against an accidental launch or a miscalculation. In other words, deterrence could fail. Wohlstetter argued that it was possible to harden defenses against a nuclear attack, such that it would be possible to withstand a first strike and deliver a measured counter-strike. He also fundamentally disagreed with Brodie's assessment that hardened defenses were ineffective against a nuclear strike, though he readily admitted that any nuclear exchange would inevitably take a horrendous toll on both sides. Nevertheless, Wohlstetter argued that hardening defenses would save enough lives to make the effort worthwhile. Ultimately, Wohlstetter advanced the idea of a balance of terror as the best means of avoiding a nuclear war. With fear and uncertainty as its foundational deterrent principles, the balance of terror would work, Wohlstetter reasoned, because each side would be motivated to take more precautions to mitigate the possibility of an accidental launch or miscalculation.

Whether or not Brodie's concept of automatic deterrence was sufficient enough to avert nuclear Armageddon will never be proven. Similarly, Wohlstetter's argument that deterrence was not automatic will also be impossible to prove. One could argue that Wohlstetter's balance of terror model dominated international relations thought during the Cold War. Yet, with the end of the Cold War and the decreasing size of nuclear stockpiles amongst the major nuclear powers, one could also argue that Brodie's theory of automatic deterrence is regaining some favor as a viable model. Of course, it could also have been the case that both were wrong in their belief that the Soviets would have launched an attack had they not feared a retaliatory strike. Whether this was the case will, too, never be known for certain.

- *Giap vs. Galula*

The fundamental distinction between Giap and Galula lies in the purposes for which they wrote. Giap's writing was descriptive, in that it was intended to explain how he had started with disparate guerrilla units, and then gradually built a revolutionary army that could challenge a regular fighting force directly. Galula, on the other hand, wrote prescriptively, outlining a general theory of counterinsurgency and then deriving a strategy with which to prosecute one. Although Giap was an inspiration to many

revolutionaries at the time, his primary intent was to capture the particular political and military circumstances in Vietnam that had contributed to the French defeat by an internal revolution. There is little in Giap's writings to suggest that what worked in Vietnam would be equally successful in other parts of the world.

Galula's treatise on counterinsurgency, on the other hand, was meant for broad dissemination. Although he agreed with Giap that the French defeat in Indochina was inevitable, Galula nonetheless believed that conventional forces could defeat irregulars, so long as the counterinsurgents focused their efforts on winning the support of the population. Based on his own tactical success in Algeria, Galula argued that executing an effective counterinsurgency campaign was possible, though he warned that the cost in resources and time would disproportionately burden the counterinsurgent. As both Giap and Galula argued, the nature of insurgency warfare is primarily political and, therefore, protracted.

## *THE WAY AHEAD*

In 1996, Dr. John Arquilla and Dr. David Ronfeldt published a RAND Corporation report, titled *The Advent of Netwar*. In their report, the authors warned of an emerging mode of warfare in which mostly non-state actors would organize themselves as networks and leverage information technology in order to operate in a highly decentralized manner.[384] Aside from transnational crime, the new generation of networked actors might act as less visible agents of a state. More significant, however, is the idea that states might act as agents for a criminal network.[385] Since the Treaty of Westphalia, the power to make war has been viewed internationally as solely within the domain of the Sovereign. Generally, this still holds true. However, the Information Revolution has increasingly empowered small networks with the ability to challenge the monopoly of sovereign states over the enterprise of war and violence. If networks manage to co-opt the state, as Arquilla and Ronfeldt suggest, the potential for a breakdown of security increases dramatically.

The concept of netwar, Arquilla and Ronfeldt argued, is not a new one. However, the Information Revolution has fueled the rate at which netwar is becoming more and more viable as a mode of conflict with which to challenge or bypass the nation-state.[386] Key to combatting networked threats is recognizing that many societies are becoming networked. As Arquilla and Ronfeldt explained, societies can be organized into tribal, market, institutional, or networked forms.[387] Generally speaking, societies progress toward the networked form over time, often by experimenting with and combining the other forms. Because of the rapid growth of information technology, it is the networked societies that are at once best organized to respond to networked threats, yet vulnerable to them as well.

The debate for the way ahead concerning the rise of netwar is multi-faceted, though a key point of contention will be whether it is state or non-state actors that benefit

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[384] John Arquilla and David Ronfeldt, *The Advent of Netwar* (Santa Monica, CA: RAND, 1996), 1–2.

[385] Ibid., 6.

[386] Ibid., 8.

[387] Ibid., 18.

most from a networked environment. Regardless, governments will have to rethink doctrine and strategy to deal with these new threats.[388] In particular, governments and societies will need to examine the role and utility of force in combatting networks. This will be a difficult mental model to effect, since superior firepower has traditionally been viewed as the deciding factor in so many previous conflicts. As Arquilla and Ronfeldt pointed out, the use of force in the future is likely to be focused on disrupting networks, rather than on destroying them.[389] In any event, an age of "fighting networks" will surely spark a new strategic debate, likely to be as intense as any of the others that have come before.

[388] Arquilla and Ronfeldt, *Netwar*, 18.

[389] Ibid., 44.

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