

CLASSICAL THEORIES OF THE WILL TO FIGHT

A thesis presented to the Faculty of the U.S. Army
Command and General Staff College in partial
Fulfillment of the requirements for the
degree

MASTER OF MILITARY ART AND SCIENCE
Strategy

by

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B.S., Illinois State University, Normal, Illinois, 1986

Fort Leavenworth, Kansas
2001

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MASTER OF MILITARY ART AND SCIENCE

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ABSTRACT

CLASSICAL THEORIES AND THE WILL TO FIGHT, by MAJ Kurt P. VanderSteen, 92 pages.

Napoleon once said, “The moral is to the material as three is to one.” What did he have in mind when he stated this famous aphorism? Material factors are easy to calculate. This is the science of warfare. Organization, equipment, doctrine, training, and other material factors are quantifiable. But the conduct of war is not just science. The study of warfare necessarily entails analysis of the human will if the conduct of war is to be understood at all. Thus, the central research question is: according to the classical military theorists, what is the best way to target an enemy’s will to fight? It requires analysis of the theorists views of the will to fight by determining their levels of analysis, what they thought an enemy’s centers of gravity were, how to attack the centers of gravity, and what defeat mechanisms the theorists proposed. There are several principles shared by all of the theorists at the strategic level and operational levels of war. These include using deception, surprise, avoiding strengths and attacking weaknesses, concentration of effort, and avoiding protracted war using conventional means. All of their principles are based on the psychological responses of the enemy.

ACKNOWLEDGEMENTS

Writing a paper of this length may seem like a singular duty for the writer, but it does not accurately reflect all of the help that goes into such an effort. My first thanks go to my committee members, Dr. Bruce Menning and Bob Walz who helped me to complete the race to the finish. In particular, Dr. Menning provided me additional encouragement during my darkest hours when I didn't think that the thesis could be completed. Special thanks go to Major John Nagle, a fellow student who helped me to limit the scope of the thesis into a more manageable format. Section 2C of CGSC class of 2001 also provided me with encouragement and lots of laughs throughout the school year, especially Major Tim McKenzie (Spuds), USMC. And finally, this thesis would not be written at all without the special help and encouragement of my wife, Jane VanderSteen. She provided me time to research and write the thesis, while at the same time completely managing the household and supervising our young daughter, Sarah Jane.

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CHAPTER 1

INTRODUCTION

The topic of this research thesis is an analysis of what classical theorists had to say about the will to fight. Napoleon once said, “The moral is to the material as three is to one.”¹ What did he have in mind when he stated this famous aphorism? Material factors are easy to calculate. This is the science of warfare. Organization, equipment, doctrine, training, and other material factors are quantifiable. Measures of effectiveness can be assessed and targeted by commanders. But the conduct of war is not just science. It is also considered an art because war requires creative solutions that can only be crafted by humans with an understanding of human nature. Human nature is the springboard for all conflicts between peoples. Humans have warred throughout history out of greed, jealousy, pride, fear, anger, and other psychological factors outside of basic needs and desires. Once war is declared or initiated, it takes on a life of its own. The clash of human wills produces effects not easily understood at the start of a conflict.

Liddell Hart once noted that “In war the chief incalculable is the human will.”² The study of warfare necessarily entails analysis of the human will if the conduct of war is to be understood at all. Strategic estimates include analysis of an opponent’s strategic centers of gravity. If a center of gravity is determined to be the opponent’s military, what analysis, if any, is conducted to determine the essential components that are at the center of an enemy’s will to fight? What are the factors that comprise a framework for analysis? How important is cohesiveness and leadership when assessing an enemy’s will to fight?

According the classical theorists, what is the best way to target an enemy’s will to fight? This thesis will analyze the theorists views of the will to fight by determining their

levels of analysis, what they thought an enemy's centers of gravity were, how to attack the centers of gravity, and what defeat mechanism the theorists proposed.

Prior to inaugurating the ground offensive against Iraq, Coalition Forces expected to sustain upwards of 10,000 casualties on day one of the ground attack. Total casualties for the "Mother of All Battles" were one-tenth of the figure cited above. Why did Coalition Forces anticipate so many casualties? Were casualty assessments based only on historical data, or was an assessment conducted following the initial air campaign to determine bombing effects on Iraqi troop morale and cohesion? During the 24th Infantry Division's attack toward Al Basrah, Iraqi soldiers surrendered in droves, largely without making a fight to begin with. VII Corps also indicated that most of the Iraqi troop's will to fight collapsed upon first contact with VII Corps ground elements. The Republican Guard was considered to be an Iraqi center of gravity due to their perceived elite capabilities relative to other Iraqi forces; yet, they collapsed with only isolated instances of resistance. This was the same army that supposedly withstood massed bayonet charges during the Iraq-Iran War only a few years earlier. Why did their will to fight collapse across the entire theater of operations?

The first assumption to consider in the development of this thesis is that the classical theorists have been able to capture the essence of an enemy's will to fight, and that it is constructive to derive valid insights into what causes an army or a nation to lose their will to fight. Human behavior is an intangible and resists attempts to quantify, particularly in the chaotic environment of war. However, quantification of human behavior in war is not an imperative. It is more important to understand that moral factors are critical to the understanding of how to defeat an enemy's will to fight.

The second assumption is that by understanding human nature in war, a strategist would be better able to target an enemy's will to fight. Determining enemy centers of gravity has typically been based on material factors. Moral factors have been secondary, probably because they are so difficult to quantify.

A third assumption is related to determinations of enemy centers of gravity. By surveying the classical theorists and what they considered the primary enemy centers of gravity to be, it is expected that the essence of breaking the enemy's will to fight can be uncovered, and conclusions can be derived from their analysis.

The first term that requires definition is an "enemy's will to fight." As an intangible it precludes a simple definition; however, for purposes of this thesis, an enemy's will to fight is the ability, or lack thereof, to either initiate or sustain combat operations. This thesis is primarily concerned with an enemy's will to fight and is not an assessment of friendly capabilities. An enemy's will to fight is more than assessment of morale, doctrine, and leadership. Other factors may include soldier perceptions of national will, relative cohesiveness, and the impact of shock and surprise during the initial phase of combat operations or through exhaustion of will during sustained operations. The will to fight may be influenced by other intangibles to include religious beliefs, superstitions, cultural factors and ideological indoctrination. Considerations for assessing an enemy's will to fight may well rest on an accurate assessment of these intangibles rather than on combat operations alone. An example of how important intangibles are to considering the will to fight was how the Japanese Army during World War II appeared to be willing to fight Allied Forces to complete destruction until the Emperor declared surrender to be in the best interests of the Japanese People. A

military's will to fight is concerned with the military as a whole, and not the component pieces of it. Isolated elements of a military may be capable of further aggressiveness, but will not be able to influence the military as a whole. National will is more difficult to assess and analyze because political, religious, and cultural considerations interact at various times throughout a conflict that may produce unexpected outcomes. Also, Clausewitz's "paradoxical trinity" composed of the government, the army, and the people, interact as well.³ A fielded army may desire to continue to fight, even if the government lacks the will. The German Army and the German people were shocked to discover that their government was willing to capitulate at the end of World War I.

The second term that requires definition is "assessment." Assessments of an enemy's will to fight determines the significance and value of the will to fight. It is significant in that it has an impact on how to determine centers of gravity, decisive points, and culmination, and the value of making the assessment in the first place.

The third term to define is center of gravity. Clausewitz was the first theorist to coin this term. He defined it as the "hub of all power and movement upon which everything depends."⁴ FM 101-5-1 and Joint Pub 1-02 define it as "those characteristics, capabilities, or localities from which a military force derives its freedom of action, physical strength, or will to fight."⁵ Although the theorists prior to Clausewitz did not use this term, it was implicit in their theories for how to defeat an enemy. Understanding an enemy's centers of gravity are critical for the use of military force to obtain a desired end state. Centers of gravity are found primarily at the strategic and operational levels of warfare.

At the strategic level, centers of gravity may include an enemy's army, their capital city, their political will, their population centers, and their national will. It is their source of strength. For example, the North Vietnamese determined that the United States' strategic center of gravity was popular support for the war. Despite losing all of the battles during the Vietnam War, the North Vietnamese triumphed in the end because the United States lacked the support of the American people to continue the war effort.

At the operational level, centers of gravity are typically related to the enemy's fielded forces, but may also include targets that lead to the strategic centers of gravity. For example, during Desert Storm, the centers of gravity included command and control nodes that controlled the Iraqi Army in Kuwait, to include the leadership in Baghdad, and the elite Republican Guard located in Kuwait. It was determined that defeat of the Republican Guard would remove Saddam Hussein's primary source of strength, and he would have to withdraw from the Kuwaiti theater.

At the tactical level, centers of gravity are targeted in accordance with the operational centers of gravity. These may include targeting specific military organizations or gaining control of geographical locations. For example, a tactical center of gravity for the 24th Infantry Division during Desert Storm was to control Highway 8 in order to prevent the Republican Guard from escaping out of the VII Corp's turning movement.

The fourth term to define is defeat mechanism. This term has only been in use during the latter part of the twentieth century. FM 101-5-1 defines it as "that singular action, not necessarily the type of force or unit, that ensures the success of a course of action. It includes locating objectives and identifying specific targets."⁶ The defeat

mechanism is closely related to centers of gravity. Once a center of gravity is determined, a defeat mechanism provides the means to achieve a desired end state. For example, the defeat mechanism during Desert Storm was the VII Corps turning movement into the flank of the Republican Guard.

The classical theorists will be analyzed at the strategic, operational, and tactical levels of war. Prior to the twentieth century, practitioners of warfare had not used the term “operational warfare.” The underlying notion of operational warfare is found in discussions of campaigning. The strategic level of war is defined by Joint Pub 3-0 as “that level of war at which a nation . . . determines national or multinational strategic security objectives and guidance and develops and uses national resources to accomplish these objectives. Strategy is the art and science of developing and employing armed forces and other instruments of national power . . . to secure national or multinational objectives.”⁷ Some of the classical theorists used the term grand strategy to delineate the highest levels of strategy as different from strategy--typically military strategy--used at theater or regional levels.

Joint Pub 3-0 defines the operational level of war as linking “the tactical employment of forces to strategic objectives.”⁸ In particular, it is at the operational level where the art of war is employed. It further defines operational art as “the use of military forces to achieve strategic goals through the design, organization, integration, and conduct of strategies, campaigns, major operations and battles.”⁹ Operational art requires the synchronization of the instruments of military power to achieve strategic goals. At the operational level, a commander must consider means, ways, risks, and the end state

that it wants to achieve. It is at this level that the employment of military force directly attacks an enemy's material and moral resources.

At the tactical level, Joint Pub 3-0 defines tactics as “the employment of units in combat. It includes the ordered arrangement and maneuver of units in relation to each other and/or to the enemy in order to use their full potential.”¹⁰ Fighting at the tactical level consists of engagements, which are combats of short duration between small forces; and battles, which consists of several related engagements that may last longer in duration. Engagements and battles directly affect the course of warfare at the operational level, and indirectly at the strategic level.¹¹

A primary limitation to the thesis is that the literature of theory related to a military's will to fight is not descriptive of the exact nature of the “will to fight.” Psychological warfare may be inferred from a study of Sun Tzu and Clausewitz, but it is not obvious from a surface reading. It is necessary to carefully consider the underlying dynamics of many of the strategic theorists before the twentieth century. One of the shortfalls in analyzing theorists from other epochs is that it is necessary to understand them in the context of their times. The verities of war may be timeless, but proscriptions for the conduct of war are not. The quality of analysis will have to consider the embedded truths that the theorists did not always logically explained. Many of the theorists that will be cited in the thesis wrote in language other than English; the quality of translation may be an issue for some of the works. Translations of Sun Tzu, for example, are a subject of controversy among scholars.

Delimiting the scope of the thesis involves considerations of what strategic theorists to include. This thesis is concerned with what the classical theorists had to say

about an enemy's will to fight. It is outside of the scope of this thesis to include what other authors had to say about this topic. The classical theorists included in the thesis are accepted as having strategic relevance in the strategist community, and courseware at the U.S. Army's Command and General Staff College and the Air Force's Air Command College include these theorists. The sea power theorists were not analyzed because sea power alone cannot provide the defeat mechanisms for land forces. They compliment national strategy, but sea power alone cannot defeat fielded forces across the entire spectrum of conflict. Sea power during World War II may have contributed to the Japanese defeat, but it was a combination of the atomic bomb and the threatened land invasion that led to their unconditional surrender.

Research in strategic theories concerning an enemy's will to fight has uncovered the fact that most of the classic strategists throughout history have had something to say about this topic. In addition to the classic strategists, there are several writers motivated by ideology that place an ideological "spin" on the classics. These include Marx, Lenin, and others who used the works of the classic strategists to support their ideological conclusions. For the most part, this thesis will ignore these works and focus on classic texts in the context in which they were written. Since a determination of the will to fight entails discussion of the psychology of war and studies of human behavior, the thesis will analyze its importance to the subject; however, it will be necessary to delimit its scope. Individual factors are important when constructing a theory of human behavior in war, but the thesis will be primarily concerned with group behavior as it applies to the will to fight. In particular, the studies related to men in battle will be the primary references for determinations of psychological implications in theories of why armies lose their will to

fight; thus, discussions of Freudian or Jungian theories will be avoided. The most important psychological considerations are those observed in combat conditions.

The significance for conducting a study of a military's will to fight is important for several reasons.

First, initial research indicates that there is a knowledge gap about this subject; in fact, Trevor Dupuy believes that the military only gives "lip-service" concerning the study of the effects of human behavior in combat and its relation to military strategy. Strategists and human behavior theorists are often looking at the problem from different perspectives. Human behavior theorists are interested in the impact of war on human behavior, and strategists are interested on how human behavior impacts the conduct of war. There appears to be little interdisciplinary discussion about feedback loops that can affect both human behavior and strategy; in other words, how the two concepts are interrelated. Human behavior literature and its relationship to warfare are often couched in the language of "Peace Studies." It seeks to determine how a study of human behavior in warfare applies to abolishing combat as a national strategy. Although it is outside of the scope of the thesis to address this issue, it is important to recognize the impact peace studies have on the ability to determine relationships between human behavior and military strategy.

The topic of this thesis will assist in expanding the theoretical base for analyzing human behavior in the conduct of strategic planning. Much of current strategic planning appears to center on estimates of an enemy's systems. Typically, those systems involve C2 and logistics nodes, weapons capabilities, correlation of forces, and other data that can be quantifiable and analyzed for determining courses of action. Is a military's will to

fight a system in itself? That it is self-organizing and constantly revised based on inputs from internal and external forces? If so, can you target such a system, and revise your estimates based on the changing situation in combat? By discussing the nature of what is generally regarded as an intangible factor, strategists can create a framework of analysis to address this problem.

Solutions to the problem of identifying the importance of the will to fight in an enemy's military have many strategic implications. The U.S. National Security Strategy currently calls for the ability of the military to be able to conduct combat operations in two Theaters. If one Theater's center of gravity is the nation's military, and the other Theater is national will, how does the military prioritize the uses of the instruments of national power for each Theater? Will one course of action be strategic attrition, or decisive maneuver to defeat the military forces? If the National Command Authority determines that strategic bombing alone can break the will of the enemy's military, how does this affect operational strategy in the other theater? Because all operations must consider economy of force in certain areas, how does the determination of an enemy's will to fight impact on where to mass, and where to provide for force economies? Failure to adequately assess an enemy's military will to fight may drastically impact on courses of action and desired end states for United States National Military Strategy.

¹B. H. Liddell Hart, *Strategy* (London: Penguin Books Ltd., 1954), 323.

²Hart, 5.

³Carl von Clausewitz, *On War*, edited and translated by Peter Paret and Michael Howard (Princeton, NJ: Princeton University Press, 1976), 89.

⁴Clausewitz, 595.

⁵U.S. Department of the Army, *Operational Terms and Graphics* (Washington, D.C.: GPO, 1997), 24.

⁶U.S. Department of the Army, 47.

⁷U.S. Joint Chiefs of Staff, *Doctrine for Joint Operations* (Fort Monroe: Joint Warfighting Center, 1995), 2.

⁸*Ibid.*, 2.

⁹*Ibid.*

¹⁰*Ibid.*, 3

¹¹*Ibid.*

CHAPTER 2

LITERATURE REVIEW

This thesis is an analysis of an enemy's will to fight using the concepts of the classical theorists to gain an understanding of the factors involved in targeting their will to fight. The primary sources for analysis are the writings of the classical theorists and not interpretations of their writings by other authors. For example, several writers have analyzed the writings of Clausewitz. Rather than use their interpretations, this thesis is based on the actual writings of the classical theorists. The theorists range from Sun Tzu through John Warden. They cover the majority of classical military thought through history. Many of the concepts developed by these theorists are similar, despite many not having access to each other's theories.

Sun Tzu

Sun Tzu is the first recorded military theorist. He wrote the *Art of War* about the fourth century, B.C. during the Warring States period in Chinese history. Although there is some doubt as to whether Sun Tzu actually existed, the consensus shared by most of Sun Tzu scholars suggests that he was a general who fought for different Chinese states during that period. Several scholars have translated the *Art of Warfare* into English versions. Translation is an important factor when analyzing the text of Sun Tzu because most of his writing is abstract and conceptual. Failure to provide accurate translations can cause a misunderstanding of Sun Tzu's sublime thinking. Popular translators include Lionel Giles, who was one of the first to translate Sun Tzu's text early in the twentieth century; Samuel B. Griffith's version published in 1963; and more recently Chinese

classical scholar Roger Ames published his version to include additional writings attributed to Sun Tzu that were found at an archeological site. Roger Ames provides an accurate explanation of the concepts found in *The Art of War*, and is the primary source used for this thesis.

Sun Tzu has had an enormous impact on the thinking of subsequent Chinese and Japanese theorists, and more recently he has also been included in Western military canon because of his timeless theory of warfare. Mao Tse-Tung quotes from him directly, and many of Mao's concepts were borrowed from Sun Tzu.

Frederick the Great

Frederick the Great was the King of Prussia and leader of his armies during the eighteenth century. His primary contribution to military and strategic thinking is outlined in a manuscript that he created to ensure a kind of doctrinal dissemination for his generals to use after he died. *The Instruction of Frederick the Great for his Generals* was written in 1747 when Frederick was only 35 years old. His desire was to keep the manuscript solely for the use of his successor and his principal ministers, but a copy was discovered upon the capture of a Prussian general following a battle with the Austrians. Frederick had fought and won many battles and campaigns over the course of his rule of Prussia. Prussia at the time was a small state that was surrounded by large and powerful states to include Russia, Austria, and France. He managed to not only preserve his state, but also to expand it at the expense of his enemies.

Frederick's generalship earned him the praise of Napoleon, Clausewitz, Jomini, and other military strategists that followed him. He reintroduced the concept of oblique

order for battle that was similar to an ancient Theban system for weighting one of the flanks against a weaker enemy flank. His methods were subsequently copied by most of the armies of Europe during his lifetime, and his successes on the battlefield became fewer as a result.

Clausewitz

Carl von Clausewitz was a high-ranking Prussian staff officer who developed a comprehensive, yet uncompleted theory of warfare in the early nineteenth century. *On War* was published following his death, and many of his ideas were only partially developed. Clausewitz wrote several other treatises about warfare and he is famous for developing a set of principles that are still used by modern militaries. He developed his theory of warfare following his observations of battles and campaigns fought during the Napoleonic period. *On War* is both a philosophical and practical guide. Many of its concepts are abstract and he attempted to use Hegelian logic to explain them. New ideas are found in *On War* to include the concepts of friction, the fog of war, limited war, and the subordination of military means to political goals.

Clausewitz was a contemporary of Jomini, a French theorist who also based his writings following the Napoleonic wars. Despite Jomini being more popular for the following century of warfare, Clausewitz has gained a greater following in the twentieth century among strategic theorists due to the timelessness of his theories. Concepts that he developed in *On War* are still in use in the doctrine of most of the world's militaries, and his thinking also influenced Mao by way of Lenin's analysis.

Ardant Du Picq

Ardant Du Picq was a French officer during the nineteenth century who wrote about warfare from the standpoint about how men actually fight in battle as opposed to how they should fight. He died during a battle against the Prussians in the Prussian-Franco war of 1870. His writings were subsequently edited and published following his death. Du Picq developed his theories of war by analyzing historical literature and his own personal observations on the battlefield. His primary contributions to military thinking revolve around the fact that fear and terror are the primary components to consider in war. Du Picq observed that defeat on the battlefield occurs when soldiers lack the moral impulse to further resist. When soldiers are overcome by fear or terror, they will flee the battlefield or surrender. Doctrine and weapons should be developed based on this phenomenon.

Du Picq had an enormous impact on the further development of French army doctrine. The French general Foch incorporated his ideas into French army doctrine prior to World War I, but the doctrine lacked many critical insights that Du Picq would have incorporated had he survived. Massed infantry attacks did not take into account newly developed weapon systems to include the machine gun and improved artillery. The French mistook his theory as a doctrinal imperative. Yet, his theory is still applicable today because human nature does not change.

J. F. C. Fuller

J. F. C. Fuller was a British soldier and an historian during the early half of the twentieth century. He wrote several historical books to include a comprehensive history

of Western warfare. His primary contributions to military theory were his lectures on the *Foundations of the Science of War* following World War I. This was a transitional time for most of the militaries of the developed world because mechanization dramatically changed the nature of how wars would be fought in the future. Mechanization was fully introduced during World War I to include the use of aircraft, tanks, and mobile artillery, yet doctrine had not caught up with these changes. His Lectures on *Field Service Regulations*, Volume III, outlined his concepts on how future wars should be fought with mechanized forces. Although he developed his theories aimed at the operational level of war, he placed it in the context of how mechanization would also affect strategy.

Many, but not all, of Fuller's theories were subsequently validated in World War II. Combined warfare using mechanized ground and air forces were the primary means used by both the Allies and Axis powers. His methods were studied by the Germans during the interwar period and used by their Generals in the development of their *Blitzkrieg* strategy.

Giulio Douhet

Giulio Douhet was an Italian Air Force officer who wrote about the use of airpower during the interwar period. Douhet was a contemporary of Fuller and B. H. Liddell Hart, and his proscriptions for the use of airpower complimented their mechanization ideas. Douhet believed that airpower alone would provide the means to effect strategy. An ardent proponent of air power, Douhet outlined his proposals in several writings, the most notable being *The Probable Aspects of the War of the Future*.

His primary contribution to strategy was that airpower should seek command of the air as the first imperative, and use concentrated offensive air attacks to defeat an enemy.

Douhet's theories were not fully realized in World War II. Although airpower was a critical component in the strategies of the warring powers, it could not provide the strategic decisiveness that Douhet argued for. The primary weakness in his theory of airpower was that the means were not available at the time to affect strategic outcomes. However, he greatly influenced future proponents of airpower to include Billy Mitchell, Bernard Brodie, John Warden and other modern-day airpower theorists.

B. H. Liddell Hart

Liddell Hart was an officer in the British army and a contemporary of Fuller. He was also a noted historian and wrote several historical books from ancient through modern times. Like Fuller, Hart was greatly influenced by the destructiveness of World War I, and he sought to provide an analysis about how wars should be fought in the future. Many of his ideas paralleled Fuller's thinking; in fact, they collaborated often in their attempts to influence British military development during the interwar period.

His primary contribution to strategic thinking was his publication of the book *Strategy*. This book was both an historical analysis and an introduction to his development of an indirect approach to military strategy. The indirect approach is similar to the ideas of Sun Tzu, whereby force is applied where the enemy least expects it. Liddell Hart also published some of thinking about future war prior to World War II, in an article published in the Yale Review titled *Armament and Its Future Use*. He is also credited by some of the German generals as the herald for their *Blitzkrieg* strategy.

Mao Tse-Tung

Mao Tse-Tung became the Chairman of the Communist Party and the leader of the Peoples Republic of China following a long struggle to oust both the National Chinese and the Japanese from China. Mao wrote several treatises on politics and military strategy during this time period. He was both a general and political leader starting in the 1920's. Most of his military writings were published into one book, the *Selected Military Writings of Mao Tse-Tung* in 1963. The essence of his thinking was that a weaker nation must have a strategy of protracted war. His writings were meant to counter strategies of decisive campaigns that would inevitably lead to the Red Army's defeat. Mao was also greatly influenced by Sun Tzu, and many of his aphorisms reflect Sun Tzu's thinking. Clausewitz also indirectly influenced him through the writings of Lenin.

Mao has had an enormous impact on the thinking of many of the subsequent communist leaders in their development of military strategy. In particular, North Vietnam employed a protracted war strategy to oust France and the United States to eventually defeat the South Vietnamese.

Bernard Brodie

Bernard Brodie was both an historian and strategic thinker who published most of his writings following World War II. His primary contribution to strategic thinking is contained in his seminal book about the use of nuclear weapons in *Strategy in the Missile Age*. Brodie wrote the book during his tenure at the Rand Corporation, a think tank that conducted studies of strategic importance, primarily for the United States government.

At the time Brodie wrote the book, the United States was still trying to understand how nuclear weapons affected national strategy. Brodie first developed a comprehensive theory based on the writings of Clausewitz and Douhet, and then provided proscriptions for how to use nuclear weapons. In particular, Brodie outlined the nature of deterrence in strategy. The point of having nuclear weapons was to create uncertainty in the minds of a hostile nuclear power so that nuclear weapons are never used. This also necessitated a return to limited war strategies.

Brodie influenced the development of strategic deterrence as United States policy during the Cold War period. Strategic nuclear forces were organized to deter nuclear attack. This led to the condition of mutually assured destruction for the Soviets and the United States, a condition that continues to be in effect to this day.

John A. Warden III

John A. Warden is an Air Force officer who wrote about the significance of airpower in U.S. military strategy. His first book was *The Air Campaign* that was published prior to Desert Storm and became a model for how airpower should be used in an operational setting. Following Desert Storm, Warden developed a five-ring model to describe how airpower should target power centers of hostile nations. *The Air Campaign* also borrowed heavily from the writings of Douhet, but he was solely concerned with the operational use of airpower. The five-ring model developed by Warden was published in *The Airpower Journal* in an essay titled *The Enemy as a System*. His essay was largely strategic in its scope.

Warden has a large following in the Air Force today. His writings not only influenced the conduct of the air campaign during Desert Storm, but they are also influencing new generations of airpower enthusiasts.

CHAPTER 3

METHODOLOGY

The research design used in this thesis is a meta-analysis of selected strategic theorists in order to determine the strategic significance of theories of the will to fight. Because theories of the will to fight are implicit in most of the writings surveyed, it becomes necessary to ask these theorists certain questions in order to tease out the essential components and factors concerning the will to fight.

The first question to ask the theorists is, What was their level of analysis? Was it strategic, operational, or tactical? Most of the theorists wrote their analysis at all levels of warfare. The levels of warfare interact with each other and create a dynamic that constantly changes each level based on events that interact. Some of the analysis includes how these interactions produce different outcomes in the will to fight at each level. The strategic level is primarily analyzed based on national will and the will of political and military leadership. The operational level is a largely a function of military strategy. Understanding the will to fight of the military as organizations and systems is the critical piece in operational warfare. At the tactical level, the will to fight is analyzed from the standpoint of soldiers and systems that are the components of the tactical level of war.

The second question to ask the theorists is, What did they determine to be the centers of gravity for each level of warfare? Understanding what they considered to be critical centers of gravity is necessary to determine whether material or moral considerations were made by the theorists.

The third question is, Once a center of gravity is determined, how should the military attack it? What are the ways, means and ends used by military force to break the will of an enemy? Understanding how to attack an enemy's center of gravity can provide us a framework of analysis for using military force in order to achieve decisive defeat.

The final question to ask the theorists is, What would they consider the defeat mechanism to be? Understanding centers of gravity and how to attack them, the defeat mechanism answers what the theorists would consider to be the best way to target an enemy's will to fight.

CHAPTER 4

ANALYSIS

Sun Tzu

The ancient Chinese strategist and warrior Sun Tzu was the first recorded theorist that sought to provide a coherent theory and methodology for the conduct of war with his manuscript on *The Art of War*. The essence of his thinking was in the realm of conceptual possibilities and their interplay between opposing belligerents. At its core, *The Art of War* is an instructional manual for Kings on how to preserve one's state against other states, similar in concept to Machiavelli's theory of preservation of political power that he outlined in *The Prince*. The Chinese worldview during Sun Tzu's era greatly influenced his conceptual ideas. The Tao (pathway) and harmony of order were concepts that Sun Tzu used to describe how to fight and win wars. Implicit in these concepts was the notion that order and disorder are elements of strategy that can be manipulated by deception to produce a desired outcome. It contained elements of nonlinear thinking in an essentially chaotic environment where order could be created out of disorder and vice versa.¹

Sun Tzu outlined his concepts of warfare at all levels strategic, operational and tactical. At the strategic level, Sun Tzu stated in his first chapter: "War is a vital matter of state. It is the field on which life or death is determined and the road that leads to either survival or ruin, and must be examined with the greatest care."²

Sun Tzu used five criteria when conducting strategic assessments: tao, climate, terrain, command, and regulation.³ Tao (the way, or pathway) referred to the unity of command, between leader and led. Climate was an assessment of the effects of weather,

to include light data and seasonal rotations. Terrain is the topography of the land to include distances, restrictive terrain, and its effects on deployed troops. Command referred to leadership traits: wisdom, integrity, humanity, courage, and discipline. Regulation was an assessment of command and organizational structures, and logistics.⁴ Sun Tzu used these five criteria to compare relative assessments of strengths for both sides prior to committing the state to war: “Know the other, know yourself, And the victory will not be at risk; Know the ground, know the natural conditions, And the victory can be total.”⁵ Based on these assessments, Sun Tzu determined a course of action that would create a “strategic advantage” by shaping events to favor victory. Shaping events meant deception: “warfare is the art of deceit.”⁶

At the operational level, Sun Tzu employed spies to discern the countryside that he would fight in and determine the “Tao” of the people, the military, and the rulers: “Intelligence is the essence in warfare--it is what the armies depend upon in their every move.”⁷ By employing spies to “see the enemy” and creating a strategic advantage, Sun Tzu would then hide his army’s “shape” from the enemy, and at the same time discern the enemy’s shape. His next operational concept was the art of “strategic positioning,” whereby a general would determine the best ground to fight from and the proper disposition to employ troops either offensively or defensively. He recognized that the defense was the strongest form of war in preservation of one’s force, but that victory required the attack: “Being invincible lies with defense; the vulnerability of the enemy comes with the attack.”⁸ The true test that Sun Tzu sought to determine at the operational level was with the psychology of the army facing his. By observing a general’s initial dispositions and the opposing army’s discipline in reacting to orders, Sun Tzu thought

that weak and strong points could be discerned. An attack against weak points using maximum energy was requisite for success. It was the psychological impact of impending defeat that would cause armies to fail on the battlefield: “An entire enemy army can be demoralized and its commander can be made to lose heart.”⁹ Using the concepts of surprise or extraordinary operations and straightforward or ordinary operations, Sun Tzu would create a strategic advantage that would always change based on the circumstances of the battle. Once strong and weak points were identified, combinations of surprise and straightforward operations would mystify the opposing general as to the actual decisive point.¹⁰

At the tactical level, Sun Tzu employed every psychological advantage gained from operational shaping to defeat the enemy’s will to fight on the battlefield. His most important concepts were timing, discipline, and morale for the “art of employing troops.”¹¹ Timing depended upon an enemy’s disposition and morale: “Now, in the morning of the war, the enemy’s morale is high; by noon, it begins to flag; by evening, it has drained away.”¹² Discipline within Sun Tzu’s army was critical for ensuring deception. If he desired to present a “shape” of disorder to the enemy general, his troops must appear to be in disorder--in a disciplined fashion, of course. The courage of the individual warrior was his primary consideration for the timing of the attack, and the methods he would use to employ them.¹³

Sun Tzu determined that the enemy’s center of gravity were his stratagems. At the strategic level, assessments of the enemy would determine if the ruler, the general, and the army had the will to win in battle and if they had the resources to do so. If an assessment of comparative strengths and weaknesses determined that an enemy would

lose, for Sun Tzu, victory was already assured. If a ruler desired to attack another country despite an unfavorable assessment, Sun Tzu declared that a general should not be required to lead the army into battle: “and I will leave.”¹⁴ Victory was thus assured from a strategic standpoint provided assessments were accurate. This was Sun Tzu’s “strategic advantage” and it underscored the role that psychology plays in determinations of whether or not to seek war in the pursuit of policy objectives. If an opposing ruler also identified his failure to secure victory by battle, he should not seek it because he already recognized that he was defeated. This is a rational decision making process that would limit a ruler’s options for his conduct of policy. Sun Tzu stated that:

It is best to keep one’s own state intact; to crush the enemy’s state is only a second best. It is best to keep one’s own army, battalion, company, or five-man squad intact; to crush the enemy’s army, battalion, company, or five-man squad is only a second best. So to win a hundred victories in a hundred battles is not the highest excellence; the highest excellence is to subdue the enemy’s army without fighting at all. Therefore, the best military policy is to attack strategies; the next to attack alliances; the next to attack soldiers; and the worst to assault walled cities.¹⁵

Attacking the enemy’s strategy ensured that the enemy knew that they could not win a war, and must therefore submit to a negotiated settlement. Attacking alliances also had this effect. If the enemy ruler could not secure favorable alliances, he must also submit or be defeated.

Attacking soldiers referred to the operational means required to achieve the strategic goals. The center of gravity shifted to strategic advantage and strategic positioning of deployed troops. Sun Tzu saw the relationship between mass and economy of force when determining relative dispositions between armies. Although the moral factors dominated his discussions of operational art, he nonetheless used rules of

thumb to guide him in determining numbers of troops needed for decision making. If Sun Tzu's strength were ten times greater than the enemy's strength, he would surround him. With forces of equal strength, he would determine a weak point and divide the enemy's army in order to defeat him in detail. He would go on the defensive if he was weaker than the enemy forces, and withdraw to preserve his army if the enemy held overwhelming strength. Preserving one's strength in order to achieve results at the decisive point was central to his dispositions.

At the tactical level, Sun Tzu thought that the enemy's center of gravity was the morale of the general and his soldiers. Deceptive measures that hid his "shape" would provide him with the advantage to crush the enemy's will when the true shape surprised them. The methodology was to employ straightforward and surprise thrusts that would dislocate the enemy's morale. Since the enemy could never perceive the method, timing, and place of attack, they would be psychologically defeated when engaged.

The defeat mechanism at all levels of operations: strategic, operational, and tactical, was the specter of losing that which the enemy held dear: preserving the state, losing in battle, and losing one's life in battle. Through assessments, Sun Tzu already knew the outcome at each level of operations by identifying the psychological nature of war. By using deception, strategic advantage, strategic positioning, and surprise and straightforward operations, Sun Tzu used his initial assessments to complete the predetermined outcome in accordance with the enemy's actions: "As water varies its flow according to the fall of the land, so any army varies its method of gaining victory according to the enemy."¹⁶

For Sun Tzu, defeating an enemy's will to fight was primarily a psychological phenomena. If they are defeated in their hearts and minds, then victory was certain.

Frederick the Great

Perhaps Frederick the Great lived at a time that would have produced a prescient leader similar to Frederick. Perhaps it was his youthful love of the arts that prepared him for his role as the leader of the premier military power in Europe. Whatever the causes of Frederick's greatness, his record presaged Napoleon's future victories using lightning mobility and audacious attacks at an enemy's weaknesses. The instructions Frederick left for his generals in 1747 are more than pithy "how to fight" homilies. His instructions clearly demonstrate that Frederick was the philosophical equal of Sun Tzu and Clausewitz in his mastery of the elemental nature of soldiers and states at war.

At the strategic and operational level, Frederick was a master planner. Long before the United States Army adopted the adage of "See yourself, See the enemy, See the terrain," Frederick's instructions were emphatic about these simple, yet easily ignored imperatives: "One should know one's enemies, their alliances, their resources, and the nature of their country."¹⁷ His plans for campaigning included assessments of weather, logistics, terrain, and enemy morale. He understood that the enemy had a "vote" that may cause a general to rapidly assess the situation and change plans to suit the particular circumstances of terrain and troop dispositions; a general with *coup d'oeil* would place himself in the shoes of the enemy.¹⁸ He understood the relationship between fire and maneuver, and the principles of mass and economy of force.¹⁹ Frederick may have started the first after action reports to assess detachments that failed in their missions, and

to include those lessons learned in future operations.²⁰ Frederick was also a master of deception, and every campaign included ruses and displays to mislead the enemy.²¹

Frederick's army heralded the changes from small feudal armies to great armies of mass conscription. The role of the common soldier is of particular importance to Frederick. Although he knew the Prussian soldier's weaknesses, and he advised his generals to be alert for desertions and battlefield cowardice, he nonetheless considered the well-disciplined Prussian soldier to be his greatest asset. Discipline enabled the battles he won to be fought with agility, speed, and shock effect. Frederick's reliance on offensive action may be partly attributed to his understanding that soldier's morale is greater with the initiative of action that is implied in offensive maneuver rather than stationary defense. The morale of soldiers was one of his top priorities, and he demanded leadership involvement and a logistics structure to support the well being of his soldiers.²²

During a transitional age from campaigns of position to strategies based on mobility, Frederick employed a logistics strategy. He thought "The greatest secret of war and the masterpiece of a skillful general is to starve his enemy. Hunger exhausts men more surely than courage, and you will succeed with less risk than by fighting."²³ In the arena of logistics planning and execution, Frederick was peerless. He believed that logistics was "the primary duty of a general."²⁴ His strategic estimates always considered the role that logistics would play in any type of campaign. The acquisition and protection of supplies were among the first considerations for campaign planning. Key terrain for Frederick were sites that facilitated the rapid flow of supplies to his armies. In particular, Frederick implicitly understood that culmination was the result of supply exhaustion.

It might also be said that Frederick was one of the first Western generals to identify the role that information operations has in strategy. His instructions included the uses of religious beliefs to gain favor in neutral states.²⁴

The center of gravity at the strategic level was primarily an enemy's logistics, but it could also include the enemy army or the nation's capitol city. The ability to sustain soldiers during campaigns was the first consideration that generals had to consider prior to development of an operational plan. Frederick knew that by attacking or threatening an enemy's logistical centers while at the same time preserve his own, he could gain the initiative. Frederick carefully planned his operations to match his ability to sustain his army in the field.²⁵ Operations aimed at strategically significant logistics sites that the enemy deemed of vital importance to his operation would be the lynchpins for victory. The enemy would have to withdraw his forces, or attempt to defend the site(s) at a far greater cost than they would be willing to sustain for the long term. Frederick's understanding of positional warfare employed by his enemies caused him to use strategies that would force his enemies into making decisions that would further weaken their strategic position. If they anticipated their failure to achieve their policy aims, they would not seek to fight, and if they did, Frederick would nonetheless defeat them. This is similar to Sun Tzu's strategic assessments that determined the enemy's capability to achieve victory.

At the operational level, Frederick employed speed and mobility, and thus was a forerunner of Napoleonic tactics.²⁶ His operational centers of gravity continued to include logistics sites, but when an opportunity presented itself, Frederick would seek battle with an enemy army because he knew that with an enemy army in the field, the

outcome would still be unsure.²⁷ But at all levels of operations, Frederick insisted that the general with *coup d'oeil* would always look for the weak spot and employ his energy at that spot--whether it was a supply line, a supply base, or a weak flank of the enemy army itself.²⁸

It was at the tactical level that Frederick was most famous. Frederick employed the oblique order to develop mass at an enemy's weak flank. This was not new to warfare--the first known use of the oblique order was used by Epaminondas with his Theban army at Luctra in 371 B.C.²⁹ Other armies subsequently copied his oblique order; they saw that this tactical maneuver was the genius behind Frederick's success. But it was not a simple maneuver that enabled Frederick to consistently defeat the armies of the greater powers in Europe. It was his understanding of the effects of a disciplined body marching resolutely forward, knowing that fresh reserves were behind them that dislocated the enemy and caused them to flee the battlefield.³⁰

At the strategic and operational levels, Frederick would attack an enemy's center of gravity by threat of force, or deploying his armies to attack weak spots that prevented offensive action on the part of an enemy. When Frederick decided to conduct an operational campaign, he would consider the operation from the standpoint of defensive and offensive actions necessary to achieve strategic success. Defensive actions were primarily taken to secure his base of logistics.³¹ Offensive actions would employ thrusts into enemy territory that avoided the enemy's strengths. Frederick opposed penetration of a frontier that was heavily defended because it would sap his strength and lengthen his lines of communication and supply.³² The defeat mechanism was the reassembled army located to strike at the enemy's center of gravity because "There is an ancient rule of war

that cannot be repeated often enough: hold your forces together, make no detachments, and, when you want to fight the enemy, reassemble all your forces and seize every advantage to make sure of your success.”³³

At the tactical level, Frederick would determine a weak point and using the oblique order, he would mass his forces at the flank or rear of an enemy. Frederick was greatly impressed by the uses of deception to gain a favorable advantage in battle. Frederick used two methods to mask his intentions. If he desired offensive battle over an enemy that was confident of success, he would feign fear of seeking battle and “his self-confidence becomes your accomplice; security lulls him and your cunning triumphs.”³⁴ When Frederick determined that he was not strong enough to win battles offensively, he would conduct offensive operations to make the enemy think that he was stronger than he actually was. Like Sun Tzu, Frederick understood that his true “shape” must be hidden from the minds of the enemy commanders: “(the) object is to hide your veritable design and to catch the enemy in the trap you have prepared for him.”³⁵ Frederick spoke of an “attitude” that must be placed in the minds of the enemy to make him think that you have strength where you actually have none: “It is your attitude that imposes on your enemy and the suspicion that you give him that you are forming the boldest projects against him . . . and often the appearance that you are waiting for him will make him lose all desire to attack you.”³⁶ The defeat mechanism was the imposition of Frederick’s will on that of the enemy commander. He would break their will to fight by creating a “shape” of invincibility.

Napoleon placed Frederick on his great captains of war list. Although Napoleon would eventually eclipse Frederick as a more popularly known warrior, Frederick

nonetheless turned a provincial lesser state into the undefeated powerhouse of Europe during his lifetime.

Carl von Clausewitz

Carl von Clausewitz wrote *On War* in order to determine the abstract nature of warfare and, through direct observation and historical study, establish a theoretical framework of analysis that examines how war is actually fought. Clausewitz eschewed formulaic or geometrical methods as being a basis for understanding victory in war; rather, he sought to understand the comprehensive and complex interactions of material and moral variables, and establish their importance in the conduct of war. Clausewitz developed an abstract thesis of war and then compared the abstract with concrete examples and arguments. He defined war as “an act of force to compel our enemy to do our will” and that “war is an instrument of policy.”³⁷ Genius is “a harmonious combination of elements”³⁸ that produces the desired policy outcome, and friction is the concept that negates the simplicity of war’s aims, and the greatest challenge for a commander to overcome.³⁹ These abstract themes, richly developed in the first book dominate further discussions throughout the entire course of his treatise.

Clausewitz examined the nature of war at the three levels of analysis, but he is better known as a strategic thinker. Much of what he had to say about theater operations and tactics dealt with concrete observations that were relevant during the time he wrote *On War*, but are generally no longer applicable.

At the strategic level, Clausewitz tied military engagements to policy. The purpose of engagements--meaning campaigns and battles--was to achieve the purposes of

strategic policy set forth by the state.⁴⁰ Although Clausewitz understood the importance of understanding “geometrical” analysis in the theory of war, he was concerned that the moral elements were downplayed as a result. Clausewitz criticized Jominian type thinkers who “exclude all moral qualities from strategic theory.”⁴¹

Like Sun Tzu, Clausewitz was interested in the role that psychology plays in strategy. He was the first military theorist to write about moral effects and to define the centrality of human will to warfare. He outlined the moral qualities needed of the commander to overcome friction through his strength of will, and the psychological burdens that are placed on the army during time of war.⁴² Clausewitz placed a heavy emphasis on understanding why a general needed great strength of character to overcome friction. “Everything in war is simple, but the simplest thing is difficult...the proud spirit’s firm will dominates the art of war as an obelisk dominates the town square on which all roads converge.”⁴³ The psychological factor is unmistakable. It requires enormous willpower to overcome mounting obstacles. Eventually it “wears down the machine as well.”⁴⁴ Also like Sun Tzu, Clausewitz would conduct an assessment of enemy and friendly relative strengths to determine the means necessary to achieve victory. There are two “inseparable” factors that composed relative strengths, “the total means at his disposal and the strength of his will.”⁴⁵ Clausewitz thought that an opponent’s strengths and weaknesses can be measurable. He was less sure of a measure for the strength of the opponent’s will. Throughout his writings, Clausewitz struggled with this abstraction because it defied attempts at definition. He thought that one could only approximate the strength of will by knowing the “motive animating it.”⁴⁶

His strategic thinking also included the concept that there are three dynamic components that interact and are adaptable to differing circumstances in war, what Clausewitz called the “paradoxical trinity”: “the people composed of primordial violence, hatred, and enmity, which are to be regarded as a blind natural force; the second the commander and his army . . . of the play of chance and probability within which the creative spirit is free to roam; the third the government . . . subject to reason alone.”⁴⁷ Each aspect of the trinity is composed of human will. Theory must take into account the effects of will in decision making for each leg of the trinity because through their interaction, outcomes will differ for each circumstance.

In Book VIII of *On War*, Clausewitz discusses the reality of war measured against his abstract concepts and develops the relationship of the concept of defeat to identification of centers of gravity--“the hub of all power and movement on which everything depends.”⁴⁸ Thus, all offensive power must be concentrated toward the destruction of the enemy center of gravity. The means must be at hand, or limited war must be sought. Clausewitz observed three objectives to consider when determining the strength of an opposing force: the army, the country that one would fight in, and the enemy’s will.⁴⁹ The primary purpose of destroying a nation’s army is to break their will to fight. Deprived of their army, a government would have to submit. Although Clausewitz had difficulty defining the difference between destruction and defeat, he proposed that an army must “be put in such a condition that they can no longer carry on the fight.”⁵⁰ Similarly, he called this “disarming the enemy”⁵¹ whereby a nation would be forced to conclude that victory was not achievable. He did not conclude that stronger

nations would always achieve victory over weaker nations. A calculation of the costs would compel a nation to consider war to be unacceptable as a means of policy.⁵²

Clausewitz identified three centers of gravity at the strategic level that should be attacked to defeat the purposes of an enemy: 1) the destruction of an enemy's army, 2) seizing the capital city--especially if it is also its social and political center, and 3) defeating an enemy's principal ally.⁵³ All three of these centers of gravity contain elements of psychological importance. The destruction of an enemy's army would remove the sole means of resistance that a government would have at its disposal. This is why Clausewitz thought that an enemy's army was the primary objective in order to defeat an enemy.⁵⁴ Even threatening an army's destruction would cause a government to consider alternatives to their policy aims. They may sue for peace on terms favorable to the opposing side, or they may withdraw their army and not seek decisive combat in order to preserve it as a tool for negotiations.

Clausewitz knew that without complete destruction of an enemy army, a nation still had a capability to continue offensive operations at a later time when conditions were more favorable.⁵⁵ In particular, Clausewitz wants us to understand that physical destruction of an enemy's army is not the primary criterion for the defeat of an enemy. The moral factor--meaning the will to fight--is the dynamic element. He saw that a great victory by an enemy would have a corrosive effect on the "trinity" in that it would weaken their persistence in continuing to fight. The interactions between physical and moral destruction identifies a linkage of the will to fight with the effects of destruction and systemic collapse.⁵⁶ There is no better historical example than the German blitzkrieg of France in 1940. Both sides held relative parities in strengths. Within a month,

German forces enveloped the Allied armies and won a victory that point to the moral collapse of the army, the people, and the government simultaneously. It wasn't just the physical destruction of the Allied armies that caused this collapse because they still had significant military forces available when they surrendered. The surprise German envelopment prevented the French Army from adapting to surprising circumstances, and they were not flexible enough to adjust to the lightning quick tempo of the German assault.

Clausewitz identifies two principals that govern the ways to attack an enemy's center of gravity, to "act with the utmost concentration" and "act with the utmost speed."⁵⁷ Although both principals may be viewed from a "geometrical" standpoint, the combined effects of concentration and speed produce psychological effects on the enemy's will to fight. Clausewitz thought that concentration of effort must be aimed at the heart of the enemy's center of gravity. All other operations would dissipate concentrated effort, and the central aim would not be achievable. The main attack against an enemy's center of gravity should not be dependant upon minor operations. Rather, minor operations should only support the main attack to "drive like an arrow at the heart of the enemy's state."⁵⁸ Speed was an essential component to dislocate the enemy's will to fight. Surprise is the necessary subcomponent of speed. It removed the ability of an enemy to adapt to the rapidly changing circumstances and provided the attacking army a psychological edge over an adversary that becomes continuously surprised by the tempo of an attack.⁵⁹

The defeat mechanism that Clausewitz implies in his theory is that a speedily concentrated army, aimed at the enemy's center of gravity, would cause a collapse of an

enemy's will to fight. He further suggests that public opinion is critical in its moral effects on the government and army, especially if an enemy's capital is seized.⁶⁰ But there are necessary subcomponents of his theory that are essential to providing the means of victory. The first is a cohesive, disciplined army; the second is a commander with the genius to instill a victorious military spirit in his army, which Clausewitz identifies as the most important of moral elements, and the third is a policy that adheres to the nature of war and does not try to accomplish objectives that are not in keeping with its nature. Any strategy proposed by a Clausewitzian thinker to defeat an enemy would consider the importance of breaking the cohesiveness of an enemy army, dislocating the enemy commander's ability to counteract a given course of action, and ensuring that an objective is attainable and consonant with a nation's political goals.

Ardent Du Picq

Ardent Du Picq was not a classical strategist in the same way that Clausewitz or Sun Tzu were considered to be. They were largely concerned with war between states. Du Picq's *Battle Studies*, a collection of manuscripts that were assembled following his death in 1870, is a treatise about the nature of men in combat and their role in the conduct of war. Unlike other theorists previous to Du Picq, his study of war does not begin with abstractions of nations at war. He places the heart of man at the center of war and not at the periphery. His central thesis is that war should not be analyzed from the standpoint of material, organizational, and geometrical relationships, but from the basis of how men actually conduct themselves on the field of battle. This may appear to be a tactical analysis, but strategy must consider how tactical considerations have an effect on chosen

strategies in order to achieve its purposes. His realm is operational and tactical. Because combat is central to warfare, Du Picq's analysis is striking in that previous theorists did not attempt to determine in detail the relationship between the moral effects of fear, and victory or defeat. The starting point for Du Picq is the primitive nature of man that is a constant throughout history: "But one thing does not change, the heart of man. In the last analysis, success in battle is a matter of morale . . . the human heart in the supreme moment of battle is the basic factor. It is rarely taken into account; and often strange errors are the result."⁶¹ Throughout the history of warfare, weapons are "manned." With Du Picq, it is the weapon that must be fitted to the man. He saw that generals tend to create regulations that are based on weapons effects without considering the human factor. The human factor would include how a soldier actually uses his weapon in combat. He provided an example where Frederick the Great increased the number of rounds issued for each soldier to enable them to fire additional rounds to offset fear--it tended to reduce anxiety rather than increase their lethality, but it provided needed psychological release.

Ardent Du Picq does not identify a material or geographical center of gravity. Throughout his study, Du Picq considers the mindset of the soldier to be the operational and tactical centers of gravity, perhaps an early form of neocortical warfare analysis.⁶² He emphasized that it is the quality of the soldiers that count in battle; their morale, discipline, how they handle fear, their cohesion in the heat of battle that is the critical factor that wins or loses a war. Other factors that have impacts on the spirit of the army are leadership and chance.⁶³ With the morale of the soldier being the object of the military center of gravity, Du Picq further analyzed the essential components of morale.

The first was fear and its effects on morale, the second was discipline and how discipline affected morale, and the third was the organizational and regulatory requirements to maintain morale.

Based on historical and personal observations in combat, Du Picq identified fear, followed by terror as the primary cause of defeat on the battlefield. “This trembling must be taken into account in all organization, discipline, arrangements, movements, maneuvers, mode of action.”⁶⁴ Human fears should be taken into account, Du Picq thought, or armies would lose battles every time. Du Picq observed that man could withstand a given amount of fear. Beyond that, he would not be able to function any further. Modern weapons have not necessarily increased casualties during battle because fear induced by the lethality of modern weapons causes a soldier to avoid the source of the fear by either hiding or fleeing from the battlefield.⁶⁵

Fear can be controlled to a certain point by discipline and unit cohesion, but beyond that it is uncontrollable. This is where terror sets in. It is not enough to instill fear in the enemy because fear is a natural condition. Inducing terror causes complete disintegration of the individual soldier and units as well. Du Picq recalls the ancient battle of Cannae fought between the well-disciplined and superior numbers of the Roman army versus Hannibal of Carthage to depict how terror can cause a complete collapse of a materially superior force. The Romans pressed into the center of Hannibal’s army, sure of victory when the flanks and cavalry of the Carthaginians surrounded the Roman army. Terror seized the Romans and they were incapable of defending themselves, massacred to the last man. “The weapons fell from their hands, says Polybius.”⁶⁶

Discipline is the primary instrument militaries use to control fear on the battlefield, but its effects are limited by circumstance. No amount of discipline can contain terror once it sets in. But on modern battlefields, ruled by dispersion because of the lethality of modern weapons, discipline becomes even more necessary to control a descent into terror. On ancient battlefields, observant leaders could control discipline by personal observation and direction. Under modern conditions, leaders are often unaware of the locations of their soldiers due to dispersion, smoke, and confusion. Self-discipline becomes even more important in these circumstances and is largely governed by a soldier's desire to be well thought of by his comrades rather than any regulatory imperatives.⁶⁷ "Self-esteem is unquestionably one of the most powerful motives which moves our men. They do not wish to pass for cowards in the eyes of their comrades."⁶⁸

The crux of morale for individual soldiers rests with unit cohesion. This is also the primary challenge for leaders. Du Picq observed that even the bravest of individuals would falter when they are surprised on the battlefield. But soldiers with trust in their leaders, their comrades, and their purpose will be able to forestall terror and continue to fight, even against incredible odds. "Courage, that is the temporary domination of will over instinct, brings about victory. Unity alone then produces fighters."⁶⁹ It is not enough for leaders to demand that soldiers fight. Du Picq thought that leaders should create the conditions that would enable a soldier to fight by organizing forces that will resist fear in battle. Moral cohesion creates a more "elastic" framework than any regulations or drill could achieve.⁷⁰

The way to attack the moral cohesion of an enemy is implicit in its strengths. First, the enemy soldier must believe that he is isolated on the battlefield, and will not

receive mutual support from his comrades. Second, isolate units on the battlefield to achieve the same effects, but on a larger scale. At the strategic level, isolate the enemy from her allies and make them think that will not receive outside support.⁷¹ Isolation enhances fear, and fear can lead to terror. There are many instances throughout history that support Du Picq's assertion. As recently as Desert Storm, the aim of the air campaign prior to the ground attack was to disrupt the Iraqi command and control, thereby isolating units from higher headquarters. One of the psychological methods used by the ground attack pilots was called "plinking" where one Iraqi tank was targeted each day in a unit position. The surviving Iraqi tankers were terrified that they would be next. Coalition forces prior to the ground attack had already achieved moral ascendancy, and Iraqis surrendered or ran away across the entire theater once the ground attack commenced.

Because Du Picq identified the mind of the soldier as the means to break the will of the enemy, he determined how the combined arms could best be utilized on the battlefield to achieve the best effects. Infantry provides the best means for closing with and destroying enemy infantry in terrain that is unsuitable for cavalry, but he did not think that it was the physical shock of infantry on infantry that caused defeat. It was the "moral impulse" of resolute and determined infantry willing to close with the enemy that often caused defenders to break and retreat.⁷² He rarely observed or heard of fixed bayonets being used in an assault. It was the threat of being bayoneted that caused irresolute soldiers to flee.⁷³ Because infantry is exposed to destructive fires with little physical protection, the need for leadership, discipline, and cohesiveness is greater. To convince soldiers that they must continue an advance under murderous fire requires

leadership that understands the limits of morale and the necessity of creating cohesive units that will continue to fight, despite their fears. Soldiers feel stronger when they can see their comrades on their left and right. Modern battlefield dispersion requires even greater cohesion to negate the effects of individual isolation.

Cavalry serves to provide mobility and surprise for an army. The moral effects produced by cavalry rests with the protection provided by their speed and their ability to rapidly move away from danger, and their effects on an enemy when they are surprised on their flank and rear. The armored corps of today's armies provides the same combination of protection and shock effects. As Du Picq observed, it is not the actual shock that produces the desired effects, it is the threat of shock that causes the enemy to withdraw or flee the battlefield.⁷⁴

The defeat mechanism for breaking the will of the enemy is a combination of resolute, determined, and cohesive infantry, and a mobile cavalry that can provide surprise where an enemy least expects them. Du Picq did not believe that the destructive capabilities of musketry and artillery were sufficient for breaking an enemy's will. It required the inducement of fear and terror that led to defeat on the battlefield. An army shorn of discipline and morale were ripe for defeat by cohesive and determined soldiers. The organization of an army must provide for the ability to instill the morale and cohesiveness required to withstand the fear and terror of battle.⁷⁵

J. F. C. Fuller

J. F. C. Fuller developed his future war concepts in his Lectures on Field Service Regulations, Volume III. F.S.R. III was an attempt by Fuller to develop “emerging doctrine” for mechanized forces. Because of his World War I experience and study of military history, Fuller was convinced that the interwar period was a transitional age.⁷⁶ British army doctrine continued to be infantry centric and little thought had been given to the revolutionary means to fight wars--tanks and aircraft--that were first introduced in the First World War. He believed that radical changes to military organizations and doctrine were needed to bridge the gap between armies of the Nineteenth and Twentieth Centuries: “Adherence to dogmas has destroyed more armies and lost more battles and lives than any other cause.”⁷⁷

Fuller conducted an analysis of future warfare primarily from an operational and tactical level, but he also saw that radical changes in weaponry and doctrine would produce strategic effects as well. The strategic implications that were implicit in his thesis were that wars would no longer be protracted and costly in terms of material and manpower because the issue would be decided quickly by the rapidness of mechanized forces. His argument was economic in nature. By spending money up front to equip the nation with mechanized forces, warfare would be less costly in the long run.

At the strategic level, Fuller determined that armies of the future would be smaller and more professional because mechanized forces were costly and soldiers would have to be highly skilled--industrial age armies, not agricultural armies. His analysis of World War I led him to conclude that professional mechanized forces that would be highly trained and ready to fight in order to “seize the initiative on the outbreak of war” would

replace mass conscription armies⁷⁸ The organizational strategy would include motorized guerillas that would take the place of ground reconnaissance and skirmishers; a mechanized main body consisting of tanks, artillery, and mechanized infantry; motorized and dismounted infantry to occupy territory and facilitate the movement of the mechanized forces; and a fourth category consisting of the air forces.⁷⁹

The air forces were the true strategic organization according to Fuller because they could not only strike at military formations, but also attack directly at the heart of the enemy's political and national will.⁸⁰ As Clausewitz, and later Douhet and Warden observed, striking at a nation's will to fight was the goal for the instrument of military power. Fuller likened future warfare to operations at sea, with competing mechanized forces using their mobility attempting to outflank each other.⁸¹

At the operational and tactical levels of war, Fuller would use combinations of airpower and mechanized mobility to strike deep into enemy territory to achieve operational goals in support of national strategy. Dislocation of an enemy's army from the political and national wills to fight would create paralysis. This was a distinct departure from the World War I strategy of destruction of the enemy's army. Command of the air was essential to maintain surprise and to facilitate mobility. He foresaw close air support as essential to facilitate maneuver units. Fuller was among the first to promulgate initiative-oriented maneuver warfare that was force oriented, using "recon-pull" to bring mobile forces to bear against enemy formations.⁸² Commanders would develop a "general idea" (now known as intent), and subordinates would develop the situation without centralized control. He was also the first to write about decision point tactics--tactics that considered a primary friendly course of action with multiple branch

plans to defeat enemy courses of action.⁸³ The goal was surprise, simplicity and speed. The initiative would be maintained by the speed with which to develop the situation before the enemy could react. Fuller thought that decisive and timely information was the *sine qua non* for mechanized warfare, thus heralding information warfare concepts of the Twenty first century.⁸⁴

The strategic center of gravity that Fuller suggests is the will of the enemy population by using mechanized means. Fuller is interested in the moral effects that mechanize warfare can achieve. His goal was to show that mechanization can rapidly achieve decisions without the destructiveness that he witnessed in World War I.⁸⁵ He incorporates operational and tactical centers of gravity to achieve policy objectives, and neatly sums up his theory of breaking an enemy will to fight by identifying the respective roles of each of the military arms:

The power of aircraft to strike at the civil will, the power of mechanized forces to strike at the military will, and the power of motorized guerillas to broadcast dismay and confusion, we may predict that the power to effect physical destruction, which reached its zenith during the World War, will gradually and increasingly be replaced by attempts to demoralize the will of the enemy in its several forms, and so not only disorganize his armies but unnerve his people.⁸⁶

Because Fuller thought that the moral element was superior to destruction, he also determined that “generalship” was the critical factor for a highly mobile force. Fuller was disgusted by the thoughtless destruction wrought during World War I by generals who emphasized firepower over maneuver. He saw the future of warfare as a struggle between generals on an intellectual level, and their goal was to attack the nerves of the enemy.⁸⁷

The primary means to attack an enemy's center of gravity--his national will--was through operational means. At the time Fuller wrote his thesis, airpower was still in its infancy, and he was unable to appreciate its future role in warfare as a strategic instrument. He saw mechanized forces working in concert with the air forces striking at the enemy's main forces as the means to attack the enemy's center of gravity. Fuller identified the implication of using mechanized forces against armies that were fully mechanized as well as armies that lacked mechanization. Forces that lacked mechanization would be easily overwhelmed. Mechanized forces fighting each other would require the element of surprise to be much more important in future wars because once the initiative was lost, Fuller thought that battles would grind down into linear defensive operations similar to the First World War which would affect the civil will to continue the fight.⁸⁸

The operational goal for mechanized armies was to "sever an army from its base."⁸⁹ This was similar to Frederick's concept of mobile warfare in that it sought to avoid the enemy concentrations and strike at its means of subsistence. Fuller saw the bases as the pivots of maneuver that mechanized armies would use to enable their mobility.⁹⁰ Destroy the base and you have destroyed an army's mobility, thus making them easy prey to a more mobile force. Perhaps this was the emergence of thought in future Soviet operational doctrine of attacking in into an enemy's rear areas?

The defeat mechanism would not be the destruction of the enemy's army. Fuller observed that during World War I, the doctrine of destruction actually caused a loss of morale and purpose for the British and French national will. Had the Americans not intervened, it was possible that the loss of national will would have led to negotiations

more favorable to the Germans.⁹¹ The defeat mechanism was a mobile, self-protected mechanized force that is not tied down to lines of communication, that can flexibly exploit the weaknesses of the enemy. By using surprise with their ability to attack from any direction, the enemy would be demoralized and defeated.⁹²

Fuller insisted that a mechanized force was largely superior to unprotected infantry because armor protection strengthened a soldier's courage during battle. Like DuPicq, he considered the moral effect of battle. He argued that armor was ideally suited for enhancing mobile warfare, while at the same time lowering the morale of nonmechanized forces. Thus, although he recognized the value of dismounted infantry for protecting mechanized formations and fighting in restrictive terrain, he nonetheless sought to delink armored battle from infantry battle. Tanks would also protect its crews from airpower.⁹³ The main effect of the mechanized forces was their moral effect. Fuller concluded that their destructiveness may be negligible, particularly at night, but because they provide their own protection they would cause fear and terror to dismounted soldiers.⁹⁴

Fuller had a vision of future warfare that heralded the dawn of machine age weapons that would break the will of the enemy, not by destroying their forces, but by defeating their purposes. The means were mobile, mechanized forces capable of operating independent of fixed supply lines to outflank enemy forces and prevent them from using their means of support. The aim of mechanized forces was to dispirit the enemy's military, thereby demoralizing the political and national will to continue fighting as a result.

Giulio Douhet

Giulio Douhet was one of the first airpower advocates whose theory of war was based on his thinking of futuristic employment of aircraft. He developed his theory during the interwar period, a time when theorists sought to learn lessons derived from the trench warfare stalemate, created by generals who could not understand how warfare had dramatically changed with the introduction of mechanization, aircraft, and mass-produced machine guns. Douhet's theory for the use of airpower in war rested on the assumption that the essential character of war had changed. Airpower radically changed how future wars would be fought, and Douhet believed that prior patterns of war could not be a guide for his radical concepts.

Douhet's level of analysis was strategic in nature. He spends little time discussing the operational and tactical aspects of how airpower would fit into his strategic mold. His experience in World War I led him to conclude that all future wars would be clashes between the entire resources of opposing nations. He rejected the Clausewitzian principal of limited wars with the corollary principal of limited aims to achieve strategic goals. His analysis of the First World War led him to conclude that military strategy and its inherent logic of seeking ground battle for its own sake superseded national decision making. Douhet observed that national will could not be fully mobilized with the military making war policy decisions. Despite an offensive spirit that dominated both sides at the outbreak of the war, improvements in firearms led to the defensive stalemate. Douhet thought that strategy could not be accomplished because tactical considerations that were defensive in nature were the only means available when all of the material resources were already committed. He implicitly rejects the offensive spirit that animated

doctrine as promulgated by Du Picq: “They claim that to fire human grapeshot at the enemy, without preparation, gives us a moral ascendancy. But the thousands of dead Frenchmen lying in front of the German trenches are instead those who are giving moral ascendancy to our enemy.”⁹⁵ Weaponry had radically changed from the “spirit of the bayonet” to a defensive war of exhaustion.

Douhet believed that the only way to break the mold of a protracted defensive stalemate was through the use of airpower, specifically, an independent air force. His proscription for victory was that the ends should be consonant with the cost of the means. If the material resources of a nation are thrown into the struggle without achieving victory, then the means are inadequate to accomplish strategy’s purpose. For Douhet, the result was an enormous waste of blood and treasure.

Although Douhet did not proscribe a specific center of gravity, he nonetheless thought that the aim of airpower should be targeted at the national will. Targets would be chosen at the strategic level to achieve national policy aims. Targets could include the capital, industrial centers, population centers, naval ports, or the communication and supply lines of the army in the field.⁹⁶ Douhet considered aircraft to be a strategic weapon, and did not think that it was practicable to waste limited air resources for tactical targets. He rejects J. F. C. Fuller’s concept of air/land integration. Douhet thought that armies in the field should support the strategic goals of airpower to break the resistance of the enemy. According to Douhet, armies and navies can wear down the resistance of the enemy’s will to fight indirectly through attrition. Airpower has a direct affect on the enemy’s will to fight by targeting the source of their military resources: “Once one had to

be content with destroying a battery with shells; today it is possible to destroy the factory where the guns for the batteries are being built.”⁹⁷

Douhet was one of the first theorists to propose targeting population centers as military targets. Previously, military tradition and national policy influenced by Western Christian thought precluded civilians from being legitimate military targets. Because custom and tradition dictated the means to achieve national war aims, it was logical that Clausewitz would consider the enemy’s army in the field as the strategic center of gravity. Douhet makes a definitive break with past theories by legitimizing civilians as military targets. His aim was also psychological in the sense that he recognized that civilian populations would be less able to resist the onslaught of destructive weapons as the more disciplined and organized armies and navies could. He believed that wars would come to a rapid conclusion because civilians would not be able to cope with the horrors of war: “The air arm, on the contrary, will strike against entities less well organized and disciplined, less able to resist, and helpless to act or counteract. It is fated, therefore that the moral and material collapse will come about more quickly and easily.”⁹⁸

His assumption was that airpower alone could achieve rapid national collapse of their will to fight. His other important assumption was that populations would be subject to chemical warfare that made its introduction in the First World War. This was a logical conclusion shared by other theorists at the time Douhet wrote his thesis. He also assumed that failure to use these “inhuman” weapons would hand the initiative to the enemy.⁹⁹ In many respects, his argument is similar to current and past debates regarding weapons of mass destruction. However, he did not consider Clausewitz’s concept of using limited

means to avoid escalation into total war. National policies excluded the use of chemical and biological agents in the next World War for that reason. They did not want to use chemicals for fear that they could in turn be used against them.

Attacking the enemy's national will was through offensive measures alone. Douhet believed that aircraft were not suitable for any defensive action because aircraft that served in a protective role would require more resources to defend than to be used offensively.¹⁰⁰ This was also essentially an economic argument. Limited national resources would be diverted to protracted defense when the best use of airpower was in the offensive to quickly end wars. He also thought that other defensive measures, such as anti-aircraft guns, would be too expensive to build and man. He thereby limited their role to protection of vital centers only.¹⁰¹

Airpower would achieve the necessary defense of a nation through command of the air. What Douhet meant by command of the air was similar to the theory set forth by Mahan and control of the seas. The purpose was to deny the enemy the use of the air from either defending themselves or using it for offensive action, while at the same time providing freedom in the air for oneself.¹⁰² This was the essential first step for attacking the enemy centers of gravity. Opening campaigns that sought to defeat an enemy would first seek to command the air. This would not only provide initial defensive protection, but it would also set the conditions for the offensive strike at the national will. Once an enemy's air forces were destroyed in the air and on the ground, their sources of aircraft manufacture would then be targeted to complete the air conquest. Once the enemy aircraft industry was destroyed, they would no longer have the capability to regenerate their source of airpower, thus leaving themselves completely vulnerable to aerial

offensive actions. Douhet saw this to be the decisive point for the air campaign.¹⁰³ It would also leave an enemy's ground and naval forces largely shorn of protection and they would not be able to easily accomplish their military purposes. The enemy's military would be helpless in the face of aerial offensive actions.

Douhet also identified a moral element involved in the conquest of the air. With the enemy's military largely impotent to respond to offensive air operations, it would destroy their morale because they would be unable to prevent their nation – and by extension their families and communities – from being mercilessly attacked. Douhet envisioned an enemy nation starved and demoralized by the terror of incessant bombing.¹⁰⁴

In theory, Douhet's prescriptions are a reasoned use of airpower. But in practice, they presuppose that attacking the sources of the enemy's airpower would achieve the purpose of complete command of the air, and that airpower could rapidly conclude a war. World War II did not provide Douhet and his disciples a perfect example of command of the air. The Germans could not break the national will of the British during the Battle of Britain in 1940. The German Air Force was subsequently depleted of air resources that they would badly need later on the Eastern Front. The Allied air campaign against German industry and civilian population centers almost broke their own capability to mass air resources for the expected invasion of Europe. Because the allies did not develop adequate fighter escort capability until late in the war, their bomber commands were demoralized to the point of near incapacity.¹⁰⁵

Douhet's theory of demoralization and defeat of the enemy's will to fight was probably best expressed in a weapon that had not been developed during his lifetime –

the atomic bomb. It was delivered during World War II against the Japanese and it in fact brought the war against Japan to a rapid conclusion. It defeated the Japanese leadership's will to resist further. Without the atomic bomb, command of the air did not alone provide the means to defeat an enemy.

The defeat mechanism against an enemy's center of gravity was through the use of offensive airpower. Douhet did not envision ground or naval forces providing the means of defeat. The air offensive would be targeted at the enemy population centers, with the purpose of crushing the moral resistance of the civilians so that they would demand peace.

B.H. Liddell Hart

Liddell Hart analyzed strategy, operations, and tactics throughout his long and prolific career. He is popularly known as an historian, but he also delved into the theoretical aspects of warfare. His primary contribution to theory was at the strategic level with his publication of *Strategy* that summed up his thinking on the role that strategy plays throughout history. Hart was greatly impressed with the thinking of Sun Tzu. In the Foreword to Samuel B. Griffith's translation of *The Art of War*, Hart related that his concept of the indirect approach was similar to Sun Tzu's methods for achieving a surprise advantage against an enemy.¹⁰⁶ Much of his operational and tactical prescriptions were similar to J. F. C. Fuller, in fact, they often collaborated to argue for mechanized reform during the interwar years.

The essence of Liddell Hart's strategic thinking was his development of the concept of the indirect approach. "The history of strategy is, fundamentally, a record of

the application and evolution of the indirect approach.”¹⁰⁷ History provided Hart with operational examples that proved to him that generals who used direct methods that were easily discerned by their enemies would in most cases fail. Indirect methods that employed deception and surprise were largely successful. Hart reflected that the indirect approach is philosophical in nature because it applied to all aspects of human endeavor where there are opposing wills that seek to advance their interests.¹⁰⁸ The strategy of indirectness is to use physical means to achieve psychological effects that would dislocate the enemy’s patterns for conducting war. According to Hart, the moral factors in war only change by degree throughout history. Physical means differ from battle to battle, but effective military decisions are based on the moral factor.¹⁰⁹ Hart observed that throughout the history of warfare, “the dislocation of the enemy’s psychological and physical balance has been the vital prelude to a successful attempt at his overthrow.”¹¹⁰

Similar to the thinking of Douhet and Fuller, Hart’s strategic center of gravity was the national will of the enemy. Hart considered grand strategy the province of national policies for the conduct war, and military strategy was only a subcomponent of national strategy. The instruments of national power included diplomacy, military, economic, financial, and ethical pressures. Combined, these instruments of national power should be coordinated policies to weaken an enemy’s resistance.¹¹¹ Hart echoed Clausewitz with the subordination of military strategy to national policy making and the necessity of ensuring that the means are consonant with the ends desired by policy.¹¹²

Hart emphasized the need for strategy to target the will of the enemy. He also believed that this was the most difficult calculation to make “because no man can exactly calculate the capacity of human genius and stupidity, nor the incapacity of will.”¹¹³

At the operational and tactical levels, Hart identified several possible centers of gravity. The primary center of gravity for an enemy's military would be their command and control system. Similar to Fuller, he rejected destruction of the enemy's military forces as being a worthwhile center of gravity.¹¹⁴ His analysis for determining centers of gravity were the psychological effects that could be achieved. He thought that the psychological basis for determining centers of gravity were rarely considered, but they have usually been the most effective.¹¹⁵

Attacking centers of gravity required the elements of movement and surprise. Movement was primarily a physical manifestation for control of forces. Surprise is the psychological tool that is more difficult to calculate than movement, but it is the element that has the greatest effect on the enemy's will to fight. Movement and surprise are interrelated in that movement can provide surprise, and surprise can generate additional movement to exploit surprise.¹¹⁶

Like Sun Tzu, Hart thought that the best strategy would be where the enemy's purpose could be defeated without having to use military force. He further mirrors Sun Tzu's thinking that strategic advantage provides victory before the fighting begins: "His true aim is not so much to seek battle as to seek a strategic situation so advantageous that if it does not of itself produce the decision, its continuation by a battle is sure to achieve this."¹¹⁷

The aim of strategy is therefore to produce strategic dislocation. The effects that Hart described as achieving dislocation included separating enemy forces, endangering their lines of communication, supply, and retreat, and disrupting the disposition and organization of their forces.¹¹⁸ The physical effects of dislocation were targeted at the

mind of the enemy commander. Hart believed that the surprise of the effects would produce psychological dislocation in the mind of the enemy commander that “fundamentally springs from this sense of being trapped.”¹¹⁹ The physical movements that can produce this effect include turning movements on an unprotected flank, or the appearance of troops in the rear of the enemy. Hart thought that attacking an opponent directly would provide the opposite effect in that the enemy’s resistance would stiffen rather than collapse. The psychological effect would be achieved by attacking along the “line of least resistance.”¹²⁰

Hart criticized the disciples of Clausewitz who argued for concentrating the entire might of the military at the decisive point. He was interested in the principle of economy of force as it relates to the principle of mass. Maximum concentration was not necessary if shaping operations morally weakened the enemy. He identified the paradox of having to disperse one’s forces in order to create the conditions for mass and concentration to be effective. The enemy must be prepared to guard everywhere so that they in turn cannot mass effectively when a weakness is exploited. Threatening multiple objectives in time and space so that he is not prepared for the main effort thrust also serves to distract the enemy.¹²¹

At the operational level of war, Hart also maintained that the indirect approach was the preferred method for attacking centers of gravity. If the strategic situation required battles fought to achieve strategic goals, the combination of air and land actions would seek to paralyze the enemy’s military rather than seek its destruction.¹²² Mechanized units and air forces would have the necessary mobility and speed combined with surprise to dislocate the enemy’s military. Although Hart was enthusiastic about the

role of airpower, he also recognized its limitations based on their performance during World War II. Against a conventional peer competitor, airpower alone would not be able to achieve a strategic decision as postulated by Douhet and his airpower disciples. Airpower was more effective as an operational weapon combined with the effects produced by a highly mobile mechanized force to dislocate an enemy's military and reduce their capacity to further resist. Hart saw this dynamic as increasing the role of operational strategy over tactics; a reverse of what occurred in the First World War.¹²³

The defeat mechanism that Hart envisioned was the combined effects of air and mechanized forces with a strategic advantage that sought to either achieve strategic aims without fighting; or, if necessary, strike at the enemy nation's command and control system to produce paralysis using indirect methods. Battles were only necessary to achieve operational objectives, and should not be the focus for any campaign. Previous doctrinal theories based on a misreading of Clausewitz saw battle as the goal for military strategy. Hart reverses this line of thinking and places tactics in the context of achieving operational objectives.¹²⁴

Hart identified two categories for producing psychological defeat of the enemy. The first was a strategy that began as a defensive operation followed by tactical offense. The defensive operation used the indirect approach of luring or baiting an enemy force to expend effort and culminate, followed by a tactical offense that surprised the enemy and cause their defeat. The second strategy was to conduct a strategic offensive that was followed by a tactical defense in a strong position. The net effect was to unbalance the enemy through surprise.¹²⁵ This is similar to Sun Tzu's *chen* and *ch'i* concept--

employing combinations of straightforward and surprise operations to unbalance an enemy.

Mao Tse-Tung

Mao Tse-Tung wrote extensively about military operations related to his political thinking. His theoretical analysis ranges from tactics through strategy. Well steeped in Chinese military history, Mao often quotes directly from Sun Tzu and many of his aphorisms reflected the thinking of Sun Tzu in their applications. Clausewitz and Jomini also influenced him by way of Lenin's writings and he combined historical Chinese military conceptualization with accepted Western concepts such as interior/exterior lines of communication. Mao developed his theory of war based on his observation that revolutionary China was weak whereas the enemy--both the Japanese and the National Army were conventionally strong.¹²⁶

The essence of Mao's strategic thinking was based on his theoretical concept of protracted struggle. Both Sun Tzu and Clausewitz noted that protracted warfare could not be a beneficial strategy when peer competitors used military means to accomplish strategic objectives. Protracted war weakens nations by drawing on their economic vitality and national spirit. But Mao's theory for developing a protracted strategy was based on the Red Army's conventional war fighting weakness. Mao knew that his forces could not compete directly with the enemy's conventional strength. His strategy rested on conducting a protracted strategic defensive with operational and tactical offensives when opportunity arose. Many of his opponents within the Red Army argued for an opposite strategy--a strategic offensive across all fronts with campaigns quickly

decided.¹²⁷ Mao's strategy harkens back to the Fabian strategy used against Hannibal. The Romans also avoided seeking decisive battle until they could consolidate allied support and take the fight to Carthage.

An essential element of his strategy was to develop operational bases that were used to lure enemy forces deep into areas largely controlled by his revolutionary forces. Supply was not the primary consideration for the development of these bases. Their primary purpose was to be a source of manpower and a physical manifestation of the willingness of the Red Army to continue to fight.¹²⁸ Bases also served as a pivot for maneuver along interior lines to attack invading enemy forces.

Mao saw three stages for a protracted struggle. The first phase is a strategic defensive pitted against an enemy's strategic offense. The second phase is a strategic stalemate that operationally begins to tip the scales toward a strategic offensive. The final phase is the defeat of the enemy by a strategic offensive.¹²⁹

Mao's center of gravity for protracted war is the enemy's military. Mao believed that a protracted war would lead the enemy to conclude that occupation of China was too costly in terms of economics and manpower. It also had the additional benefit of disintegrating the morale of the enemy troops and would lead to antiwar sentiment back home. He also identified a linkage between protracted war and international opinion in that China would receive international support at the expense of the invaders. The military as the center of gravity was chosen by Mao because China lacked the conventional capability to take the fight to the enemy's national borders. Instead, the enemy's conventional strength would become their weakness.

According to Mao, attacking the enemy's center of gravity was not based on material resources alone. "Weapons are an important factor in war, but not the decisive factor; it is people, not things, that are decisive. The contest of strength is not only a contest of military and economic power, but also a contest of human power and morale."¹³⁰ At the center of Mao's strategy was an attack against the enemy's will to continue to occupy China. Mao was weak in material resources, but strong in human resources. Revolutionary fervor and a sense of nationalistic injustice would provide the esprit for his army that could overcome material weakness. Sun Tzu and Du Picq also placed the human factor at the heart of strategy.

Because Mao's protracted war theory was based on three distinct phases, attacking the enemy's will to fight required different organizational designs and methods. The first phase, which was a strategic defensive with limited offensive operations, required small guerrilla forces operating independently from small base areas. Their purpose was to begin wearing down the enemy's military and cause the enemy's leadership to be frustrated in their purposes.¹³¹ Inability to crush the Red Army by conventional means would cause the enemy's leadership to begin doubting their strategy. Methods proposed by Mao included creating lures for enemy forces to draw them into the Red Army's base areas. As the enemy attacked along interior lines, guerrilla forces would annihilate the enemy columns along external lines by envelopment, usually through the use of ambushes.

The second phase Mao regarded as a "strategic stalemate."¹³² Based on the enemy's inability to achieve operational objectives, they would be forced to protect what they had already gained. Mao saw the second phase as the most ruthless because both

sides would be contending for territory and operational advantages. He also noted that it was the stage for the greatest opportunity because the enemy would be forced to protect his gains simultaneous with the need to contest Red Army base areas.¹³³ The second stage of protracted war would still be largely fought by guerrilla forces, but increasingly by larger mobile formations that could threaten enemy base and rear areas. The strategy is still a strategic defense, but an increase in operational and tactical offensives. The second stage would not be completed until the balance of power shifted from Red Army weakness into one of strength.¹³⁴

The third phase was a shift from strategic defense to offense. The primary criterion is the amount of strength that was built up in the second stage. Guerrilla forces would still be used in conjunction with conventional forces, but their importance would diminish as the power of the mobile forces grew.¹³⁵

Protracted warfare is thus a strategy for wearing down the will of the enemy. The necessary ingredients are popular support of the people, international support, and a willingness to persevere until the enemy is defeated. A protracted strategy does not require that the enemy forces be destroyed. The end state for such a strategy is the enemy's complete withdrawal from Chinese territory. The enemy's military provides the means at hand to defeat an invading nation's will to fight. If they perceive that war would continue indefinitely, the enemy would reconsider using military force as an option. Failure to do so would eventually lead to "imperialist collapse."¹³⁶

The defeat mechanism was the use of mobile conventional forces combined with continued guerrilla activity during the third stage of protracted war. It could not be accomplished during the first two phases because time was required to build the

necessary strength. Mao saw that “there is no basis for trying to fight strategically decisive battles and shorten the road to liberation.”¹³⁷ Attempts to do so may lead to an early defeat and eventual submission to the enemy. Although Mao does not identify economy of force as a principle, he nonetheless implies that the first two phases are manifestations of the application of economy of force. The final phase is a manifestation of the principle of mass used to defeat the enemy in the strategic offensive. Mao considered guerrilla forces combined with conventional were inseparable components of one army. His strategy could not be accomplished without using both in concert.

North Vietnam employed Mao’s strategy beginning with French and U.S. involvement and ending in the defeat of South Vietnamese forces in 1975. Guerrilla warfare supplemented by conventional forces wore down the resistance of France, South Vietnam and the United States. When France and the United States lost the will to continue fighting and withdrew from Vietnam, the North Vietnamese leadership bided their time until they had the conventional strength to eventually defeat the South Vietnamese. Despite the fact that the United States had an overwhelming conventional capability that enabled victories every battle, the war was lost due to a failure of will.

Bernard Brodie

When Bernard Brodie published *Strategy in the Missile Age* in 1959, the Soviet Union was the only peer competitor for the United States. This was not the case ten years previously when the U.S. was the sole nuclear power in the world. The atomic bombs dropped on Hiroshima and Nagasaki ushered in a new age of warfare and created a markedly different strategic equation. For the first time in history, true victory was no

longer assured for the “winning” side. Brodie sought to understand the new strategic dynamic brought about by technological innovation. His analysis was largely strategic in nature, although he was also concerned that tactical nuclear usage would inevitably escalate to total nuclear war.¹³⁸

The methodology he chose was to determine the origins of air strategy, particularly those ideas expounded upon by Giulio Douhet and how his theory of strategic bombardment played out in World War II. Armed with an historical framework, Brodie sought to understand the strategic implications of nuclear attack and deterrence. Although Brodie leaned heavily on Douhet to analyze the implications of nuclear use with strategic bombardment, he is closer to Clausewitz in his understanding of warfare. Not surprisingly, Brodie quotes often from Clausewitz throughout the book, and he considered him to be the most profound of the military thinkers.¹³⁹

Brodie understood the impact that theory has on real-world strategy. Although he provided practical solutions for U.S. nuclear policy, he nonetheless knew the difference between doctrine and dogma: “Military theories, which tend always to assume that the opponent’s strength is brittle, collapsed in the face of the enemy’s refusal to collapse.”¹⁴⁰ Brodie criticized adherence to theory over reality. He observed that the French continued with the dogma of the spirit of the bayonet during World War I despite the introduction of machineguns.¹⁴¹ Breaking the will of the enemy was no longer in the province of the infantry soldier. With the introduction of the machinegun, massed infantry formations could no longer achieve their purpose through *élan* alone. World War II also provided him the example of the Allied strategic bombing campaign that failed to realize Douhet’s theory.¹⁴² Brodie parallels Clausewitz in that he first considered the abstract nature of

warfare in the nuclear age in order to establish a theoretical framework of analysis for its practical use. Brodie also closely approximates Clausewitz's dictum that "war is an instrument of policy by other means." His analysis of World War I mirrors Clausewitz's notion that war takes on a different character as the war progresses, and that original war aims are largely forgotten over time.

Brodie admired the writings of Douhet, but he also understood the limitations of his theory. Douhet claimed that all future wars would be total wars. His analysis of World War I led him to this conclusion, but Brodie saw this to be one of the critical failures of Douhet's theory, despite World War II validating this concept. Clausewitz initially developed an analysis of total war and limited war. Although war in the abstract has no limits, in reality most wars are limited because political aims dictated the means used to achieve belligerent states' goals. This is where the key linkage lies in Brodie's theory of strategy in the missile age. He recognized that nuclear deterrence would likely dictate limited war strategies.

Douhet claimed that strategic use of aircraft heralded a new approach to warfare, and thus new strategies. Douhet thought that future wars would be decided by strategic bombardment and that civilian populations were now legitimate targets, but Brodie points out that this assumption was rendered false until the introduction of the nuclear bomb. "The effectiveness of strategic bombing as a way of war could no longer be questioned. It at once became, incontrovertibly, the dominant form of war."¹⁴³ This dovetails with Clausewitz's observations of the defense being the stronger form of war over the offense, despite the fact that for victory, the offensive must be used.

When contemplating the use of nuclear weapons, the strategic center of gravity was the rational calculation of victory determined by another nuclear power. Brodie saw that deterrence was the key for use of nuclear weapons. The point was not to use them, but to threaten their use, thus creating uncertainty in the minds of the Soviets. Although it appeared that Brodie was trying to justify unlimited nuclear buildup in the United States, nothing could be further from the truth. Like Clausewitz, Brodie pointed out uncomfortable truths about warfare. His first point was that the world has nuclear weapons, and it would be folly for the United States not to deter their use by having our own arsenal. His second point was that the United States must have a robust first strike capability to deter the Soviets from thinking that they could be “first with the most.” His third point was that the United States must also have massive retaliatory capability in case of surprise attack. Again, the idea of having first strike and retaliatory capabilities was to deter the Soviets from thinking that they could achieve victory with a first strike. He did recognize the dangers with first strike capabilities: this could cause the Soviets to fear a first strike before they could respond, thus causing them to develop hair-trigger mechanisms for their own first strike. But he also saw that in a bipolar world, the United States and the Soviet Union would be far less likely to go to war due to the unthinkable use of nuclear weapons. He rightly observed that tactical nuclear use would probably escalate to total war; thus, victory--in the right sense of the word--would be unachievable for either side.¹⁴⁴

Because a nuclear deterrence strategy limited the means available to conduct war, escalation to total nuclear war meant that a nuclear competitor must be convinced that they could never survive a first exchange. It is a psychological strategy meant to induce

fear and respect in their minds--a total war strategy is thereby limited before a nuclear war could begin.¹⁴⁵

If the center of gravity is to deter nuclear war in the minds of another nuclear power, what are the means to achieve this effect? The first criterion is to maintain a policy that rejects the theory that total war is inevitable.¹⁴⁶ A policy based on the inevitability of total war would lead potential enemies to conclude that once a conflict begins, they would need to “use or lose” their nuclear arsenal. A total war policy also affects the organizational aspects of the military. The nuclear arsenal and the means to deliver them would dominate military strategy, thus creating an inflexible mind-set for creative conflict resolution. The need to seize the initiative and launch a preemptive attack would be too tempting if there were no other solution. To compound the problem, there are no reliable estimates that could lead one to argue that total war was inevitable. It is merely an assumption that cannot be scientifically analyzed because the future can only be guessed at. Total warfare is still a possibility Brodie maintained, but with a low probability of occurrence.¹⁴⁷

The second criterion to maintain deterrence is removing the element of surprise from the equation. A hostile nuclear power must not be able to think that they can launch a surprise preemptive attack against the United States to destroy our retaliatory capabilities.¹⁴⁸ This requires a somewhat transparent strategic intelligence capability that could create doubt in the enemy’s minds that they could in fact achieve surprise.

A third criterion is to have a massive retaliatory capability. The purpose is again to create uncertainty in the minds of a hostile nuclear power. They must know that despite being able to achieve a successful first strike against targets in the United States,

retaliatory capabilities would still be able to destroy their nation. The United States should not only have the capacity to launch a massive retaliation, a potential enemy must understand that there is the will to do so. Again, this is a psychological attack against the mind-set of hostile nuclear powers. A policy that attempts to limit the means of massive retaliation could lead to an assumption that the United States would not have the will to follow through with retaliation, and would submit to nuclear threats.¹⁴⁹

Brodie indicates a nuclear strategy would be different for foreign powers without nuclear capabilities. By merely hinting that nuclear warheads could be used to resolve a conventional conflict, a hostile nation would limit their own conventional capabilities as well. The example he used was the Korean War, where Eisenhower indicated that if China refused to negotiate a settlement, the United States would be free to target their country with nuclear attack.¹⁵⁰

The defeat mechanism for deterrence is a combination of capability and a willingness to use that capability. Defeating the enemy's willingness to use their nuclear capability rests with the "guaranteeing through various forms of protection the survival of the retaliatory force under attack."¹⁵¹ By doing so, the United States has shaped the minds of a hostile nuclear power to accept that they could not achieve success in any nuclear exchange. Stability is the hallmark of Mutual Assured Destruction. It limits the means by which a military strategy is developed in a conflict between nuclear powers.

Brodie's theory of warfare in the missile age follows a strategic line of thinking originally from Clausewitz. Although Clausewitz identified limited war, Brodie took the concept a step further by pointing out that in the past, warfare was limited because the means were not available to achieve the desired ends without undue cost through massive

mobilization. In the nuclear age, warfare is self-limited, because the nuclear power is already mobilized for use. In the abstract, total nuclear war is a possibility, but the mediating influences of policy would dictate that wars would likely be limited in the nuclear age in order to keep the nuclear genie in the bottle.

John A. Warden

Colonel John A. Warden was an airpower theorist who sought to understand the complexities of airpower use in operational and strategic settings. At the strategic level, he analyzed the enemy as a system of systems that must be attacked systematically in order to achieve strategic paralysis.¹⁵² He used a five-ring model that he likened to a biological organism to describe the linkages between the strategic and operational sources of power. His central thesis at the strategic level was that the entire system should be targeted to produce strategic paralysis.¹⁵³ His argument was essentially a moral one. Physical means would accomplish the moral objective of paralyzing the enemy's leadership.

At the operational level, Warden outlined his thesis for the use of airpower in an operational setting. Although he referenced the linkage of operations with strategy and tactics, he specifically avoided making judgments outside the scope of operational theory. His primary thesis was that air superiority was essential for operational success. The uses of airpower in an offensive or defensive mode required air superiority--at least local superiority--as the *sine qua non* in order to achieve operational purposes. Central to his thesis was that numbers matter. It is not the psychology of numbers of aircraft in gaining and maintaining air superiority; it was the concentrated effect of being able to overwhelm the enemy on a one to one basis. He further outlines the effectiveness for maintaining a

sizable reserve that can be committed at a decisive time and place.¹⁵⁴ His operational thesis is primarily concerned with the physical, rather than the moral effects. Warden preferred to understand the ability to target an operational objective, not a moral one.

The concept of air superiority was not a new development. Douhet was the first to recognize its importance with his *Command of the Air*. Warden's analysis of air superiority was new in the sense that he placed it within the operational context. Failure to gain and maintain air superiority is the crucial linkage between strategy and tactics. Strategy may not be able to accomplish its purposes and, at the tactical level, ground forces and civilian populations would be subject to persistent attack.¹⁵⁵ Douhet was only concerned with the strategic benefits of air superiority. Operational considerations were irrelevant for Douhet because his theory presupposed that airpower was the critical weapon needed to achieve strategic aims.

The enemy is viewed as an entire system that creates a strategic center of gravity to target. Within the system are subcomponents that may also be viewed as centers of gravity within the overall system. At the center of the five ring model is a nation's leadership. The outer rings are, respectively, its organic essentials (i.e., electrical power, water, food, etc.); infrastructure; population; and their fielded military. Warden used Liddell Hart's concept of direct and indirect methods for targeting these centers of gravity. Targeting the outer ring (fielded forces) is the more direct method. The indirect approach would target the inner rings to achieve psychological effects to weaken the will of the leadership.¹⁵⁶ Within each ring are other centers of gravity that can lead to producing effects on the primary centers of gravity. Warden thought that strategists

should focus on the system as a whole; operational commanders would target the subcenters of gravity.¹⁵⁷

Warden saw leadership as the primary center of gravity to target because it is the “nerve center” that can affect the rest of the system. The enemy’s leadership are the decision makers who could decide whether to fight or submit. In the case where their intent is unclear, it would be necessary to incapacitate their ability to direct the course of the war.¹⁵⁸ If pressure cannot be applied directly towards the leadership, indirect methods could achieve the same effect. This could possibly be one of the outer rings or other centers of gravity that would influence the decisions of the leadership to negotiate or discontinue fighting. For example, an attack against an enemy’s organic essentials, e.g. their power system, may influence both the leadership and a nation’s infrastructure. It would also indirectly influence the morale of the population and the fielded forces because they would be impotent to protect their country.¹⁵⁹ The infrastructure is composed of the essentials to maintain economic services to a nation to include transportation systems and economic networks. As a center of gravity, they directly influence the population, and indirectly the fielded forces because their lines of supply are threatened.¹⁶⁰ As Liddell Hart earlier noted, the population is the most difficult to target as a center of gravity because effects against them are relatively difficult to estimate and because it provides a moral problem when targeting civilians.¹⁶¹ Warden placed the military at the outer ring because they may not be effective enough to prevent attacks against the inner rings. He observed that historically, fielded forces were the primary centers of gravity because the means were not available to attack the inner rings, except indirectly through the enemy’s military. They are still important to any strategy

because the leadership may conclude that they can no longer resist if their military lacks the means to protect their nation.¹⁶²

At the operational level, the five-ring model is still an effective tool for targeting the enemy's will to fight. The first ring is a military's command and control system; the second ring is the enemy's logistics; the third ring is the means to supply the logistics; the fourth ring consists of the military personnel system; and the last ring consists of the troops and their weapon systems.¹⁶³

Using the five-ring model as a conceptual guide, it is relatively easy to understand how to attack the centers of gravity. At the strategic level, Warden advocates the concept of parallel attack. Because the enemy is viewed as a system, paralysis can occur with simultaneous attacks against all five rings. Because of the interrelationships between the centers of gravity, paralysis will occur due to an inability by the enemy to adapt or respond to such a threat. Previously warfare was conducted sequentially, which enabled the enemy to either counter a thrust or provide time to recover. Using parallel attack, the enemy cannot respond or resist. They will reach their culminating point much quicker as a result.¹⁶⁴

At the operational level, the means to attack the enemy centers of gravity must rely on the principle of concentration combined with numbers of weapon systems.¹⁶⁵ This seems to contradict the strategic method of parallel attack. How can one achieve concentration while simultaneously attacking multiple centers of gravity? The answer may lie in the fact that one is achieving concentration through parallel attacks because concentration is achieved measured against one strategic or operational imperative: paralysis of the enemy. It would not require a dispersion of effort because concentration

would assume to have the one effect desired. By paralyzing the enemy's ability to adapt or respond, the effects of concentration are thereby achieved. As a concept, it has the laser-like quality of subordinating the means to the ends.

The defeat mechanism implicit in Warden's thesis is that airpower is the decisive arm of the military and the only branch that can simultaneously attack both strategic and operational targets. In fact, he proposes that ground forces should at times be subordinate to the goals of the air campaign.¹⁶⁶ The method to achieve defeat of the enemy is a concentrated air campaign with sufficient air reserves. Air superiority is the essential component because the enemy cannot be effectively targeted without command of the air. The reserve force is the true defeat mechanism. Its effectiveness is one of timing. Concentrated use of the reserve is "most valuable when their appearance shocks enemy troops and commanders. Actually, the mental shock to the enemy may be more important than the physical effect of the reserves."¹⁶⁷

It is interesting to note that Colonel Warden considered operational objectives to be mainly physical in their effects when he wrote *The Air Campaign* in 1988. His subsequent thinking with his concept of the five-ring model suggests that the moral effects are the most important considerations in war. He later argues that objectives must directly or indirectly lead to targeting the enemy's will to fight.

¹Roger T. Ames, *Sun Tzu, The Art of Warfare* (New York: Ballentine Books, 1993), 68.

²*Ibid.*, 103.

³*Ibid.*

⁴Ibid., 104.

⁵Ibid., 151.

⁶Ibid., 104.

⁷Ibid., 169-171.

⁸Ibid., 115.

⁹Ibid., 131.

¹⁰Ibid., 119.

¹¹Ibid., 132.

¹²Ibid., 131.

¹³Ibid.

¹⁴Ibid., 104.

¹⁵Ibid., 111.

¹⁶Ibid., 127.

¹⁷Frederick the Great, Brig. Gen. T. R. Phillips, ed., *Roots of Strategy*, Book 1, *The Instructions of Frederick the Great for His Generals*, 1747, (Harrisburg, PA, 1985), 348.

¹⁸Ibid., 341, 351.

¹⁹Ibid., 324.

²⁰Ibid., 346.

²¹Ibid., 351-352.

²²Ibid., 311-313.

²³Ibid., 324.

²⁴Ibid., 356.

²⁵Ibid., 323-338.

- ²⁶Ibid., 307-309.
- ²⁷Ibid., 321,391.
- ²⁸Ibid., 342.
- ²⁹Simon Goodenough, *Tactical Genius in Battle* (New York: E.P. Dutton, 1979), 10-11.
- ³⁰Frederick, 342-343.
- ³¹Ibid., 315.
- ³²Ibid., 314.
- ³³Ibid., 343-344.
- ³⁴Ibid., 352.
- ³⁵Ibid.
- ³⁶Ibid., 353.
- ³⁷Clausewitz, 75, 605.
- ³⁸Ibid., 100.
- ³⁹Ibid., 119-121.
- ⁴⁰Ibid., 177.
- ⁴¹Ibid., 105.
- ⁴²Ibid., 186-189.
- ⁴³Ibid., 119.
- ⁴⁴Ibid.
- ⁴⁵Ibid., 77.
- ⁴⁶Ibid., 89.
- ⁴⁷Ibid., 595.

⁴⁸Ibid., 90.

⁴⁹Ibid.

⁵⁰Ibid.

⁵¹Ibid., 91.

⁵²Ibid.

⁵³Ibid., 596.

⁵⁴Ibid., 97.

⁵⁵Ibid.

⁵⁶Ibid.

⁵⁷Ibid., 617.

⁵⁸Ibid., 622.

⁵⁹Ibid., 624.

⁶⁰See Carl von Clausewitz, *Principles of War: Roots of Strategy*, Book 2 (Harrisburg, PA: Stackpole Books, 1985).

⁶¹Ardent Du Picq, *Battle Studies, Roots of Strategy*, Book 2 (Harrisburg, PA: Stackpole Books, 1985) 135

⁶²See Timothy L. Thomas, "The Mind Has No Firewall," *Parameters* 36 no.1 (spring 1998).

⁶³Du Picq, 136.

⁶⁴Ibid., 72.

⁶⁵Ibid., 139.

⁶⁶Ibid., 92.

⁶⁷Ibid., 141.

⁶⁸Ibid., 180.

⁶⁹Ibid., 123.

⁷⁰Ibid., 128.

⁷¹Ibid., 147.

⁷²Ibid., 174.

⁷³Ibid., 175.

⁷⁴Ibid., 176.

⁷⁵Ibid., 252.

⁷⁶J. F. C. Fuller, *Lectures of F. S. R. III* (London: Sifton Pread & Co., Ltd., 1932), Preface, vii.

⁷⁷Ibid., Preface x.

⁷⁸Ibid., 5-6.

⁷⁹Ibid., 6-7.

⁸⁰Ibid., 7.

⁸¹Ibid., 29.

⁸²Ibid., 10.

⁸³Ibid.

⁸⁴Ibid., 50.

⁸⁵Ibid., 38.

⁸⁶Ibid., 7.

⁸⁷Ibid.

⁸⁸Ibid., 113.

⁸⁹Ibid., 29.

⁹⁰Ibid., 30.

⁹¹Ibid., 34.

⁹²Ibid., 38.

⁹³Ibid., 60-61.

⁹⁴Ibid., 140.

⁹⁶Giulio Douhet, *The Command of the Air*, trans. Dino Ferrari (Washington, D.C.: Office of Air Force History, 1983), 71.

⁹⁷Ibid., 59-60.

⁹⁸Ibid., 60.

⁹⁹Ibid., 60.

¹⁰⁰Ibid., 61.

¹⁰¹Ibid., 62.

¹⁰²Ibid., 62.

¹⁰³Ibid., 63-64.

¹⁰⁴Ibid., 64.

¹⁰⁵Ibid., Preface, vii-x.

¹⁰⁶Sun Tzu, *The Art of Warfare*, trans. Samuel B. Griffith (New York: Oxford University Press, 1963), vii.

¹⁰⁷Hart, xix.

¹⁰⁸Ibid., xx.

¹⁰⁹Ibid., 4.

¹¹⁰Ibid., 6.

¹¹¹Ibid., 322.

¹¹²Ibid.

¹¹³Ibid., 323.

¹¹⁴Ibid., 350.

¹¹⁵Ibid., 325.

¹¹⁶Ibid., 323.

¹¹⁷Ibid., 325.

¹¹⁸Ibid., 326.

¹¹⁹Ibid., 327.

¹²⁰Ibid.

¹²¹Ibid., 329.

¹²²Ibid., 346.

¹²³Ibid., 346-347.

¹²⁴Ibid., 352.

¹²⁵Ibid., 146.

¹²⁶Mao Tse-Tung, *Selected Military Writings of Mao Tse-Tung* (Peking: Foreign Language Press, 1966), 94-95.

¹²⁷Ibid., 104.

¹²⁸Ibid., 172.

¹²⁹Ibid., 211-214.

¹³⁰Ibid., 216.

¹³¹Ibid., 212.

¹³²Ibid., 212.

¹³³Ibid., 213.

¹³⁴Ibid., 214.

¹³⁵Ibid., 214-216.

- ¹³⁶Ibid., 216.
- ¹³⁷Ibid., 218.
- ¹³⁸Bernard Brodie, *Strategy in the Missile Age* (Princeton, NJ: Princeton University Press, 1965), 349.
- ¹³⁹Ibid., 36-37.
- ¹⁴⁰Ibid., 6.
- ¹⁴¹Ibid., 47.
- ¹⁴²Ibid., 101.
- ¹⁴³Ibid., 152.
- ¹⁴⁴Ibid., 393-397.
- ¹⁴⁵Ibid., 397.
- ¹⁴⁶Ibid., 232.
- ¹⁴⁸Ibid., 243.
- ¹⁴⁹Ibid., 250.
- ¹⁵⁰Ibid., 256.
- ¹⁵¹Ibid., 394.
- ¹⁵²John A. Warden "The Enemy as a System," *Airpower Journal* 9, no. 1 (spring 1995): 43.
- ¹⁵³Ibid., 44-46.
- ¹⁵⁴John A. Warden, *The Air Campaign* (McLean, VA: Pergemon-Brassey's International Defense Publishing, 1989), 141-143.
- ¹⁵⁵Ibid., 5.
- ¹⁵⁶Ibid., 48.
- ¹⁵⁷Ibid., 49.
- ¹⁵⁸Ibid.

¹⁵⁹Ibid., 50.

¹⁶⁰Ibid.

¹⁶¹Ibid., 50-51.

¹⁶²Ibid., 51.

¹⁶³Ibid., 53-54.

¹⁶⁴Ibid., 54.

¹⁶⁵Warden, *The Air Campaign*, 135.

¹⁶⁶Ibid., 121.

¹⁶⁷Ibid., 100.

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

All of the military theorists considered in this thesis were strategists who thought about the human factor of will in warfare. Each offered different conceptual ideas in their analysis. Douhet and Brodie were mainly concerned with strategy. The majority of theorists analyzed operational and tactical levels of war and their importance in strategy. The most profound among the theorists were Sun Tzu and Clausewitz because they understood the chaotic and complex nature inherent in conflict between peoples and states. Their concepts are largely abstract and point to the fact that human nature is a constant throughout history. Methods for attacking the will to fight will change based on the means available and changing circumstances. Yet, human nature does not change. These two thinkers either influenced the other theorists, or their ideas were substantially similar. Ardent Du Picq was unique in that he developed his theory of war by observing how soldiers actually fought on the battlefield. His approach to strategy was from the soldier level up rather than from the state level down. Theories of war must take into account the effects of strategy on operations and tactics, as well as the effects of tactics on operations and strategy. The operational level of warfare is the lynchpin between strategy and tactics and is mostly in the realm of military strategy.

Understanding the relationship between an enemy's will to fight and the means required to defeat their will is central to strategy. Nations with strong militaries can often defeat a weaker nation's will to fight before engaging in battle. The threat of force alone may be enough to convince a belligerent that their best interests are served through negotiations rather than armed force. At best, belligerent nations will limit the means

they use when faced with total destruction. This was the case when Saddam Hussein did not employ chemical weapons in the Persian Gulf War. Nations with strong militaries that face peer competitors also considers limiting their means for waging war. The first imperative is preservation of the state and one's military capabilities that Sun Tzu first identified. This is perhaps why nuclear weapons have not been used since World War II.

All of the theorists discovered underlying principles at work for targeting the will to fight of an enemy at the three levels of warfare. The preconditions for attacking an enemy's will to fight include having a disciplined army with high morale and esprit de corps, leaders with *coup d'oeil*, and military capabilities that are consonant with national strategy.

There are several principles shared by all of the theorists at the strategic level. These include using deception, surprise, avoiding strengths and attacking weaknesses, concentration of effort, and avoiding protracted war using conventional means. All of their principles are based on the psychological responses of the enemy.

Deception and surprise go hand in hand. Surprise cannot be accomplished without deceiving the enemy. Sun Tzu shaped an enemy's perceptions by deceiving them so as to create the conditions necessary to surprise them. Frederick, Du Picq, J.F.C. Fuller, the airpower theorists, and Liddell Hart used maneuver to surprise and defeat an enemy's will to fight. Brodie's concept of deterrence was meant to limit the possibility of surprise. This meant a transparency of capabilities so that an enemy would not be deceived into thinking that their first strike capability could achieve victory. Deception and surprise were implicit in Warden's theory of parallel attack. He assumed that the shock of attacks against all five rings would overwhelm the enemy's ability to respond.

They would be constantly surprised by a tempo of operations that would induce paralysis on their decision making.

Avoiding an enemy's strengths and attacking their weaknesses were addressed by all of the theorists. Sun Tzu likened this concept to the flow of water that avoids high places and seeks out low ground. Hart called this the indirect method. The maneuverists would find a weak or unprotected flank. The airpower theorists would attack the enemy's airpower sources. Brodie identified the uncertainty of national leadership as an enemy's weakness that must be shaped. Mao used protracted war to avoid his enemy's conventional strengths.

In order to attack an enemy's center of gravity, concentration of effort was required. The airpower theorists in particular argued that airpower should not be dissipated in their strategic function. Armies might attack along separate lines of communication, but must concentrate at an objective. Clausewitz argued that the military strategy must aim directly at the heart of an enemy's center of gravity with all of their strength.

None of the theorists thought that protracted war using conventional means was a sound policy. Sun Tzu would not fight a war unless a strategic assessment led him to conclude that victory was probable. Frederick and Clausewitz knew the danger of protracted war in blood and treasure. Because preservation of the state was the first imperative when deciding to go to war, military strategy must use decisive means. Mao used protracted war to wear down the will of the enemy for precisely this reason. Fuller and Hart saw mechanization as the means to defeat the enemy's ability to wage conventional protracted war. Mechanization would lead to decisive combat that would

quickly decide a war. Either an enemy would be quickly defeated, or they would negotiate to end the war under unfavorable conditions.

Although Clausewitz was the first to conceptualize limited war strategies, his concept was implicit in the previous theorists. Sun Tzu would not consider a total war strategy if the means were unavailable to quickly decide a conflict. Frederick avoided battle if other sources of power were available to favorably advance his position in Europe. Douhet was the only theorist who thought that all future wars would be total wars. He thought that all of a nation's resources would be employed to fight an enemy. He failed to understand that defeating the will of an enemy did not necessarily require total war strategies. The threat of a nuclear war would impose limited war considerations as a rational decision by all participants in a conflict.

At the operational and tactical levels of war, the theorists further enumerated principles for attacking the will to fight. Deception and surprise were still necessary components, as well as avoiding strengths and attacking weaknesses. Additional principles included speed, mobility, timing, isolation, dislocation, and paralysis.

Speed and mobility are complimentary. In fact, all of the above principles are complimentary in that their interactions produce the effects of creating shock and fear in an enemy. Hart explained that speed plus movement equals defeat of an enemy. Speed, mobility, and timing enables an army to isolate, dislocate, and paralyze an opponent. Timing is essential, especially for the employment of the reserves. Warden noted that the timing of when to employ reserves rests on their ability to shock the enemy. Du Picq observed that fresh reserves on the battlefield could lead to terror in the minds of the enemy.

So how does one effectively target the will of an enemy? Clausewitz and Hart discovered that the will to fight was difficult to quantify. Although they considered that the moral effects were more effective than material effects alone, they could not explain how to specifically target the moral element. The five-ring model developed by Warden specifically targets the will of an enemy at all levels of war fighting, but he was also unsure of producing the desired effects of paralysis when conducting initial planning. His method was to determine effects of the will to fight by conducting damage assessments as the fight continued and shifting resources until the desired effects were achieved.

At the strategic level, targeting an enemy's will to fight must consider the mindset of the enemy to be attacked. Sun Tzu's strategic assessment considers the "tao" of the enemy. This is the spirit that animates the leadership and their armies. Do they have effective leadership, morale, esprit and discipline? Understanding the military's will to fight is only part of the equation. Do the national leadership and the people have the will to persevere as well? Mao saw this to be essential for protracted war, and was a strategy that the North Vietnamese used against France and the United States. Clausewitz identified this dynamic as the "paradoxical trinity" that interact with each other to produce the national spirit composed of the leadership, the army, and the people. Each nation has its own unique "tao" to consider. Culture, religion, and the political structure of a nation all have an impact on the national spirit. Germany continued to fight until Hitler committed suicide and its capital was overrun in World War II; Japan surrendered despite having the capability to continue to fight on its own soil. Defeating an enemy's will to fight does not necessarily require complete destruction of the their military.

Defeating the enemy's purposes is more important. Japan recognized that its military was incapable of defending Japan from attack. Because preservation of the state was more important than continuing to resist, Japan submitted to the Allied will.

At the operational and tactical levels of war, attacking an enemy's will to fight considers the strategic setting and uses military means to break their will. Warden's five-ring model best exemplifies a method to produce strategic paralysis using operational and tactical means. Attacking all five rings simultaneously destroys the ability of the enemy's leadership to adapt. Targeting their will to fight includes destroying the cohesiveness of the enemy's military by creating the effect of isolation in their minds. As Du Picq observed, isolating soldiers and units creates fear and terror, which would lead to a breakdown of unit cohesiveness. Mao also employed this method with surprise ambushes against an enemy that was overextended from its base areas.

Attacking an enemy's will to fight is essentially psychological. Physical means alone are not necessary to defeat an enemy's will to fight. The threat of losing what an enemy holds most dear is more important. At the strategic level, it means losing the ability to preserve the state. At the operational level, it means the defeat of the military; and at the tactical level it means losing one's life. These are the true centers of gravity that must be considered in any war.

The classical theorists presented in this thesis thus provide us with a roadmap for considering future war fighting strategies. The most important is that the human factor is the most important consideration. It is also the most dynamic, as well as the least predictable of all of the factors of war. Most military and national strategies are based on material rather than human considerations. This is putting the cart before the horse

because it is the human that ultimately decides how weapons are used to produce effects on other humans. It involves will, the will to fight or to submit. This has been an unchanging factor in all of man's conflicts through history. The human mind is the true battleground in all wars, past and future.

Recommendations for future study may include an analysis of complexity/nonlinearity theory and the will to fight. Because this new theory has many of the same aspects of Sun Tzu and Clausewitz, it would be interesting to see if it can shed new light on explaining the will to fight. Other recent theories to include asymmetrical warfare, information warfare, and neocortical warfare may also contain many of the same concepts described in this thesis. John Warden's five-ring model may also be studied in the light of the other theorists. It would be interesting to see a historical analysis of pivotal campaigns using his five-ring model as the framework for historical analysis.

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