

DYNAMICS OF COMMAND: DO THEY HAVE A FUTURE?

**A MONOGRAPH
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SECOND TERM AY 96-97

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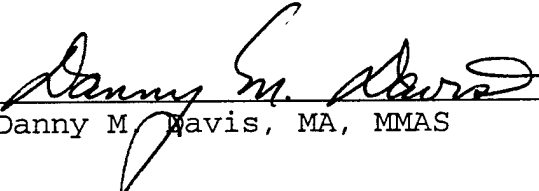
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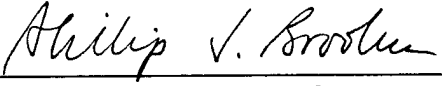
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Accepted this 22d Day of May 1997

ABSTRACT

DYNAMICS OF BATTLE COMMAND: DO THEY HAVE A FUTURE?
By Major Karen L. Sinclair, 45 pages.

The purpose of this monograph is to examine the six dynamics of command; leadership, decision making, information assimilation, visualization, conceptualization, and communication. The primary research question is: Are the dynamics of command relevant for future Army operations? This monograph concludes that the dynamics of command are still relevant for future warfare.

This monograph examines the theoretical underpinnings of command and determines that there is evidence of the six dynamics discussed in theory. This monograph studies the doctrine of the U. S. Army from 1941 to the present to determine if the dynamics were present in our doctrine. This monograph studies the command of two known great captains, General Ulysses S. Grant and General Matthew B. Ridway, to ascertain whether any of the dynamics can be applied to their command.

The nature of future warfare is studied and the dynamics of command applied to the future commander. With increased lethality, dispersion, volume of fire, precision of weapons and increased information available, a commander of the future will need to demonstrate all the dynamics of command to be successful. The nature of warfare may change but the human element of soldiers and commanders does not.

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Introduction

Military historians and students of warfare have studied extensively not only battles and campaigns, but the commanders as well. Just as there are no hard and fast rules to ensure victory in battle, there are no hard and fast characteristics of a successful commander. The nature of warfare is too complex and uncertain for such rules to apply. However, there are certain enduring elements of "commandership" or "generalship". What makes a great commander great?

The 1993 version of Field Manual 100-5, Operations, introduces the term battle command as one of the combat functions a commander can use to build combat power.¹ Field Manual 100-5 defines battle command as:

The art of battle decision making, leading, and motivating soldiers and their organizations into action to accomplish missions. Includes visualizing current state and future state, then formulating concepts of operations to get from one to the other at least cost. Also includes assigning missions; prioritizing and allocating resources; selecting the critical time and place to act; and knowing how and when to make adjustments during the fight.²

The term battle command is used to "distinguish the essence of command from its implementing functions."³ Is there a necessity to distinguish battle command from command? Joint Publication 1-02, Department of Defense Dictionary of Military and Associated Terms defines command as:

the authority and responsibility for effectively using available resources and for planning the employment of, organizing, directing, coordinating, and controlling military forces for the accomplishment of assigned missions. The will of the commander expressed for the purpose of bringing about a particular action.⁴

Upon examination, the two definitions are essentially the same. The mission of the military is to fight its nations wars; to command in battle is implied. However, the Army's definition does stress decision making, leading and motivating soldiers.

The Battle Command Battle Laboratory at Fort Leavenworth, Kansas has identified six primary elements or dynamics of command to determine the effectiveness of a commander's actions. These dynamics are leadership, decision making, information assimilation, visualization, conceptualization and communication.⁵ A detailed explanation of each of these dynamics is provided in the next section. Are these dynamics of command enduring and valuable to use as a framework for evaluating operational level command? Or will they change as the Army moves into the 21st century?

This monograph will look at the theoretical underpinnings of command as well as U.S. Army doctrine to determine the validity of these dynamics of command. The monograph will study two successful operational level commanders and the nature of warfare during their times,

Ulysses S. Grant during the Civil War and Matthew B. Ridgway during the Korean War. The monograph will look to the nature of future warfare and determine if the dynamics of command are appropriate in the new environment.

Dynamics of Battle Command

Leadership, decision making, information assimilation, visualization, conceptualization and communication are inherently interrelated. Depending on the situation, a commander balances these elements and applies them as needed. It is the application of these dynamics which determines a commander's effectiveness.

The Battle Command Battle Laboratory designates competent and confident leadership as the most essential dynamic of combat power.⁶

Leaders inspire soldiers with the will to win. They provide purpose, direction, and motivation in combat. Leadership is taking responsibility for decisions; being loyal to subordinates; inspiring and directing assigned forces and resources toward a purposeful end; establishing a team work climate that engenders success; demonstrating moral and physical courage in the face of adversity; providing the vision that both focuses and anticipates future courses of actions.⁷

A commander must provide the vision for his unit both in peacetime and during conflict. Part of the commander's responsibility is to ensure that his forces are trained and ready, mentally and physically, to perform their wartime

missions. During operations, a commander develops his intent and concept of operations for the mission. He must have the "strength of will to direct and motivate the force to execute his decisions to a purposeful end."⁸ Strength of will is truly tested under stressful combat conditions.

Decision making is knowing when a decision needs to be made, what to decide, and then executing the decision. Regardless of level of command, a commander must understand the intent of commanders two levels up. He must understand how his forces fit into the higher commander's concept. He must also understand the effects of his decisions on subordinate as well as adjacent commanders. The focus of the operational commander "is on committing the available force into the battle space. He must decide on the size and commitment of his reserves, determine when to exploit success, and maintain the security of the force to ensure the ability to fight the subsequent battles and successfully complete the campaign."⁹ During periods of uncertainty and without "a clear picture of friendly and enemy force dispositions and capabilities,"¹⁰ successful commanders know when a decision needs to be made and have the strength of will to make the decision.

Another dynamic of command is information assimilation. With the advent of digital technology, commanders are flooded with more and more information. A commander must be

able to determine which information is useful to his understanding of the situation. A commander assimilates or absorbs information which aids him in his mental model of the situation or his visualization of the battlefield. Staffs are organized to aid the commander in information management and analysis.

The dynamics of visualization and conceptualization are closely related. "Visualization is the act of forming a mental picture of the current and future state based on higher commanders' intent, available information, and intuition."¹¹ Conceptualization is the verbalization of that vision. It eventually becomes the concept of operations for the order. "It is a concise portrayal of how the commander visualizes the elements of his command operating together to accomplish their responsibilities and missions."¹² A commander must be able to take the factors of mission, enemy, terrain, troops, and time available (METT-T) and visualize how he wants his forces arrayed from the start of the operation until the desired end state is achieved. There should be continuity between phases of an operation. The commander's intent and the commander's concept should enable subordinate commanders to operate in the absence of specific orders during times of uncertainty.

The last dynamic of command is communications. A commander must be able to convey his intent and concept for

the operations to his subordinate commanders. A dialogue must be established between commanders to ensure clear understanding of the higher commander's intent and concept so that when the situation changes, subordinate commanders can decide and act. Communications can also include command presence on the battlefield. Commanders need to talk to soldiers to get an understanding of their morale and concerns.

The Theorists and Command

Throughout history, military theorists have studied the art and science of warfare including the art of command. A study of Sun Tzu, Jomini, Clausewitz and J. F. C. Fuller reveals that several of the dynamics of command were espoused by these classical theorists. Even though the terms used by the theorists are not the same terms used in the above dynamics (leadership, decision making, information assimilation, visualization, conceptualization, and communication), the concepts are similar and a correlation can be made. It is interesting to note that none of the theorists included all of the dynamics in their theories on command.

Sun Tzu in his work Art of War, estimated to have been written sometime between 400-320 B.C., focused on five

factors that effect military success. He included leadership, or the general, as one of these factors. "The general encompasses wisdom, credibility, benevolence, courage, and strictness."¹³ Throughout Art of War, Sun Tzu discussed the qualifications required for the general as well as characteristics which he considered as weaknesses. Below is a compilation of those strengths and weaknesses mentioned by Sun Tzu.

STRENGTHS

wisdom
 knowledge
 credibility

 strictness
 benevolent
 courage
 skillful analyst

 unconcerned by fame

 unconcerned by punishment
 places army first
 tranquil
 obscure
 upright
 self-disciplined
 strong commander
 clever/inventive
 all-encompassing talents

WEAKNESSES¹⁴

unenlightened

 brutalizes and fears the
 masses
 not strict
 loves the people
 committed to life
 unable to fathom the
 enemy
 obsessed with achieving
 fame for purity

 easily angered
 hasty to act
 arrogant
 weak
 poor commander

Although the above appears to be a laundry list of characteristics, when taken in context of Sun Tzu's writing, a vivid picture of generalship materializes. Comparisons can be made with Sun Tzu's characteristics of a general and the six dynamics of command. Most of the traits listed

above under strengths generally fall under the dynamic of leadership. Throughout his text, Sun Tzu stresses that the general must know the enemy and know himself.¹⁵ The general who understands the terrain and uses the terrain to his advantage will be successful. The general must know when to use large numbers of forces and when to use small numbers. These are analogous to the dynamics of visualization and conceptualization.

Sun Tzu indicated that the general was a decision maker. Sun Tzu listed as one of the factors of victory, "the general who is capable and not interfered with by the ruler will be victorious."¹⁶ The general must know when he can fight and when he cannot. Sun Tzu wrote that if a general knows that his army has the advantage and victory would benefit the people and the state, even though the civilian authority instructed that combat should be avoided, it would be permissible for the general to engage in battle. Sun Tzu wrote that the converse was permissible as well. If the general knows that his army is at a disadvantage and the civilian authority instructed the general to engage in battle, it was permissible to not fight.

Antoine Henri Jomini, the Swiss military theorist who served under Napoleon Bonaparte and later as a general in the Imperial Army of the Russian Czar, wrote extensively in the early 1800's. In his work Summary of the Art of War,

Jomini elaborated on fundamental principles of war as well as the qualities required of a general. Jomini believed a combination of leadership and intellect constitute a great captain with leadership being the most important.

The most essential qualities for a general will always be: first, a high moral courage, capable of great resolution; second, a physical courage which takes not account of danger. His scientific or military acquirements are secondary to these.¹⁷

According to Jomini, a general should possess other qualities that fall into the category of leadership. A good general will be "gallant, just, firm, upright, capable of esteeming merit in others instead of being jealous of it, and skillful in making this merit add to his own glory."¹⁸ A general should do everything to motivate his own soldiers and "impart to them the same enthusiasm which he endeavors to repress in his adversaries."¹⁹ Jomini stressed that the general does not need to be a man of deep and extensive learning but he should be thoroughly grounded in the principles of war.

Jomini advocated that the dynamics of decision making, information assimilation, visualization and conceptualization were important. A general must have liberty of action. His hands can not be tied by civilian authorities far from the battlefield. He must be able to plan his strategy and make autonomous decisions. Jomini stated that perhaps one of the greatest talents of a general

was to know when to use the offense and the defense and especially when to decide to seize the initiative while on the defense.²⁰ Jomini wrote of the necessity to obtain information about the enemy's movements by using reconnaissance, spies, and interrogating prisoners of war and deserters. A general should be able to take all the information gathered no matter how imperfect and contradictory and draw some conclusions regarding the enemy's actions. The general must then use visualization and conceptualization to create several courses of action for friendly forces based on the probable enemy courses of action. In order to succeed on the battlefield, Jomini stressed that the general was to "study carefully the theater of operations so that he may see clearly the relative advantages and disadvantages it presents for himself and his enemies."²¹

Lastly, Jomini advocated the dynamic of communication between the commander and his subordinates. He believed that the commander should give subordinate commanders "special orders relative to their own corps, and to add a few lines in cipher informing them briefly as to the whole plan of the operations and the part they are to take individually in executing it."²² Perhaps Jomini did not emphasize this as much as we do today with commander's intent and nested concepts but Jomini thoroughly advocated

that subordinate commanders be aware of the big picture strategy and their part in it.

The Prussian military theorist, Carl von Clausewitz dedicated an entire chapter, "Military Genius", in book one of On War to the qualities of the military commander. After close study of this chapter, one can say that Clausewitz espoused the dynamics of leadership, decision making, information assimilation, visualization, and conceptualization. Clausewitz defined genius as "a very highly developed mental aptitude for a particular occupation."²³ Not only does genius refer to mental intellect but the harmonious combination of the gifts of the mind as well as the temperament. Courage, both physical and moral, are included in the realm of temperament. Clausewitz stressed the importance of a commander's strength of will and the reliance soldiers have on the commander.

It is the impact of the ebbing of moral and physical strength, of the heart-rending spectacle of the dead and wounded, that the commander has to withstand - first in himself, and then in all those who, directly or indirectly, have entrusted him with their thoughts and feelings, hopes and fears. As each man's strength gives out, as it no longer responds to his will, the inertia of the whole gradually comes to rest on the commander's will alone. The ardor of his spirit must rekindle the flame of purpose in all others; his inward fire must revive their hope.²⁴

The commander must also have strength of mind or character. Clausewitz defined this as "the ability to keep one's head at times of exceptional stress and violent emotion."²⁵ The

commander must have self control and not allow passion to overrun his intellect. He must stand firm in his decisions and not keep changing his mind.

Clausewitz discussed the necessity of the commander to gather information and make decisions in the absence of accurate information. "Since all information and assumptions are open to doubt, and with chance at work everywhere, the commander continually finds that things are not as he expected. This is bound to influence his plans, or at least the assumptions underlying them."²⁶ A commander must make decisions instantly in an atmosphere of uncertainty. Clausewitz wrote that a commander must possess determination. He described determination as the working together of the intellect and courage of the commander in order to make a decision. "The mind tells man that boldness is required, and thus gives direction to his will."²⁷

Along with determination, the commander must possess coup d'oeil. Clausewitz described the concept of coup d'oeil as "the quick recognition of a truth that the mind would ordinarily miss or would perceive only after long study and reflection."²⁸ This "inward eye"²⁹ is applicable to all levels of war and allows the commander to visualize the situation given the uncertainty and available information on enemy and friendly forces, the terrain, and

the objective. He uses this visualization to take action and make decisions as necessary.

Clausewitz espoused that a commander must be able to conceptualize the relationship between the terrain and warfare for it "determines the peculiar character of military action."³⁰ The commander must be able to conceptualize the army operating in a definite space. The commander must be able to determine where the decisive terrain is and how it affects the operations of all forces. Lastly, the commander must understand the effects of the smallest to largest features on the ground.³¹ The commander must be able to take what he perceives with his eyes and mind and fill in with his imagination the remainder of the picture.

J. F. C. Fuller thoroughly examined generalship in his work, Generalship, Its Diseases and Their Cure. He discussed "the three pillars of generalship - courage, creative intelligence and physical fitness."³² Even though the theme of Fuller's book concerns the problems of generalship, he does address its essential components. Fuller advocated the dynamics of leadership, decision making, visualization and conceptualization.

Fuller continually stressed that the general should lead from the front. Even though technology and communications equipment allow a general to command from the

rear, the general needs to experience the dangers that his soldiers face. "The true general is not a mere prompter in the wings of the stage of war, but a participant in its mighty drama, the value of whose art cannot be tested 'unless there is a clear possibility of the struggle ending in death'."³³ Soldiers need to feel the presence of their leader. Fuller contended that if the commander in chief remained in the rear, his subordinate commanders would also lead from the rear. Other leadership qualities that a general should possess are courage, both moral and physical, audacity, determination and will.

Fuller advocated that the general alone is the decision maker. Since he is responsible, he must make and expound on his own decisions and not merely accept the staff's decision. A general must not seek a decision from the staff. Fuller emphasized that the staff's purpose is to provide the general with facts and information to aid in his decision making process. In order to make better decisions, the general needs to be near the front. "The further he is in the rear the further he will be away from moral actualities, and unless he can sense them he will seldom be able fully to reason things out correctly."³⁴

Fuller's concepts of creative intelligence and originality loosely correspond with the dynamics of

visualization and conceptualization. Fuller fully espoused originality, not conventionality.

To do something that the enemy does not expect, is not prepared for, something which will surprise him and disarm him morally. To be always thinking ahead and to be always peeping round corners. To spy out the soul of one's adversary, and to act in a manner which will astonish and bewilder him, this is generalship.³⁵

The general must study history and successful generals not to learn what he did on a particular date but why he did it and its importance.³⁶ The general must learn how to think. The general must be able to visualize or conceptualize the nature of the army; its equipment, soldiers, morale, and training, and determine what it can or cannot do.

Have the theorists influenced U.S. Army doctrine on command? How does past and current doctrine reflect command? Are the dynamics of command espoused in Army doctrine?

Doctrine and Command

Doctrine provides the fundamental principles which guide the actions of military forces in operations.³⁷ Throughout the years, leadership and command have been included in Field Manual 100-5, Operations, the U.S. Army's warfighting doctrine. A study of various versions of Field Manual 100-5 will reveal how the Army's view of command and

leadership has changed over the years. It will also determine the basis in our early doctrine for the current dynamics of command.

The 1941 version of Field Manual 100-5 touches on all of the dynamics of command. This early version of Field Manual 100-5 states command and leadership to be inseparable.³⁸ This edition emphasized the importance of man as the "fundamental instrument of war; other instruments may change but he remains relatively constant."³⁹ It is incumbent upon the leader to train them and provide an example to them. "A leader must have superior knowledge, will power, self-confidence, initiative, and disregard of self."⁴⁰ A leader needs courage and should be willing to share danger. A leader should be bold and determined. A good leader stays aware of the mental, moral and physical state of his troops by personal visits and observation. The commander is the decision maker. He must decide on a course of action and be resolute and self-reliant in his decision.

The 1941 version of Field Manual 100-5 describes the necessity of a commander's estimate. The commander makes an estimate of the situation by evaluating all available information on the mission, forces available, enemy, area of operations to include terrain and weather and need for future operations. The commander must determine the best course of action to reach his objective and convey that

concept to his subordinate commanders via the operation order. The commander must constantly test his estimation against newly received information and alter his plan if need be.

An examination of the June 1944 and August 1949 versions of Field Manual 100-5 reveals that the sections on leadership and command are almost verbatim from the 1941 edition. The content of the leadership and command sections of the September 1954 version of Field Manual 100-5 are similar to the 1941 version with a couple of exceptions. This version identifies fear, self-interest and desire for recognition as characteristics of man which are important for the leader to understand and perhaps overcome.⁴¹ Another addition to this version of the doctrine is the commander must also consider the political, economic and sociological conditions when making his estimate of the situation and determining courses of action. According to this doctrine, military operations are no longer planned in a vacuum.

In the midst of the Vietnam War, the Army released an updated version of its warfighting doctrine. The September 1968 edition of Field Manual 100-5 decreased the verbiage on leadership and placed more emphasis on decision making and the process. The section dealing with leadership provides a laundry list of characteristics required for a commander.

It continues to emphasize that man is the most essential element on the battlefield. The decision making process now involves the staff making a recommendation to the commander in addition to the commander conducting an estimate of the situation.

The 1976 edition of Field Manual 100-5 approaches leadership and command in a different way. It divides the responsibilities on the battlefield into three levels. The generals concentrate the forces, the colonels control and direct the battle and the captains fight the battle.⁴² It focuses entirely on the tactical level of command and not on the operational level.

In the 1982 and 1986 versions of Field Manual 100-5, there is new emphasis on the commander's ability to integrate fires and maneuver and the use of terrain. The commander must generate the effects of combat power by his application of maneuver, firepower, and protection capabilities. They also discuss the commander's vision of the battlefield based on imperfect and incomplete information and the need to make timely decisions in an environment of uncertainty. The 1982 version espouses decentralization in decision making and mission type orders which allow subordinates the greatest possible freedom.⁴³ It also discusses commanders conveying their intent clearly to their subordinate commanders.

The current version of Field Manual 100-5 encompasses all six of the dynamics of command. It identifies two vital components of command; decision making and leadership. The explanation and description of these are very similar to those given in the first section. Current doctrine also discusses the need for the commander to gather information, to visualize the current and future states of friendly and enemy forces and then to develop a concept of the operation to accomplish the mission. It also articulates the need for the commander to convey his intent to his subordinate commanders as well as understand the intent of the commander two levels above.⁴⁴

A brief overview of the current Field Manual 22-103, Leadership and Command at Senior Levels will complete the study of doctrine. Field Manual 22-103 embraces all of the concepts of the dynamics of command. First and foremost, it states that "all action starts with a vision."⁴⁵ It is the responsibility of the senior leader to develop this concept of what the organization will be capable of doing in the future or how a battle or campaign should conclude. The commander must have conceptual skills in order to think and act in complex situations. The commander must be able to view the situation in terms of a total system with an understanding of constraints.⁴⁶ Senior leaders must be able to make decisions in the absence of information and in a

timely manner. Senior leaders should be forward looking, intuitive, creative, and competent. Senior leaders need communications skills in order to convey their intent to their subordinate leaders and to develop a climate of trust in their organization.

Nature of Warfare during the Civil War

Some historians claim that the Civil War was the first modern war and the beginning of operational art. The rifle employed at the outbreak of the Civil War changed the nature of tactical warfare. The rifling of the musket and development of the breech-loading rifle caused increased dispersion on the battlefield. The telegraph, railroad and steamboat changed the nature of warfare at the operational level. The introduction of these new technologies

turned war itself into a question of managing complex systems. Time after time some new tactic or technological device seemed to offer a way out, but in each case the end result was more integration, not less. Integration permitted greater and greater forces to be mobilized, husbanded, focused, and finally hurled at the enemy.⁴⁷

The telegraph provided a means for the national command authority and operational level commander to communicate quickly and reliably. The railroad and steamboat provided a rapid means to move troops and supplies from one theater to

another. No longer were theaters isolated and non-supporting.

With the invention of the telegraph in 1830, the United States military was provided the first major long-distance communications capability. By the start of the Civil War, there was a well developed telegraph infrastructure with over 50,000 miles⁴⁸ of line installed in the United States. Both the Confederate and Union Armies employed the telegraph during the war. For the first time ever, senior commanders in the rear were provided near-real time information.

The introduction of the telegraph underlay the first clear technical transformation of the general's role since the beginning of organized warfare. It could enormously enhance the power of generals to collect intelligence, summon reinforcements, rapidly redispense their forces, and coordinate the movement of widely separated formations.⁴⁹

The Union army used the telegraph more extensively than the Confederate army, deploying it down to the brigade level. The telegraph was used to gain intelligence for the commander thereby enabling him to make better informed decisions and plans. Scouts would go behind enemy lines to tap the telegraph wires, intercept messages, and send false messages. At the battle of Fair Oaks in May 1862, a telegraph operator and instrument were taken up in a hot air balloon. The operator reported on the enemy's activities directly to the commanders.

Both the Confederacy and the Union relied on the railroads and the use of steamboats on rivers to move forces and supplies. Railroads and use of rivers provided a strategic mobility to warfare. Time and again throughout the war, commanders would use these means to rapidly concentrate their forces. Since the majority of battles took place far from the industrial bases of both the Union and the Confederacy and the size of the armies had grown considerably, the use of railroads and steamboats for large scale transportation of supplies was imperative. The underdeveloped road network and limited hauling capability of horses and wagons severely restricted timely resupply by these means.

The improvements in firepower caused an increase in dispersion on the battlefield as well as a change in the tactics. The muzzle-loading percussion capped rifles dominated every field.⁵⁰ With this rifle, the battlefield became more deadly; the effective range and volume of fire increased, and accuracy greatly improved.⁵¹ Artillery soldiers were now in range of the enemy's rifle fire. Forces in the defense came to rely on improvised field fortifications. Dispersion of soldiers greatly increased from a ratio of one soldier per 10 square meters for armies as a whole in the eighteenth century to one soldier per 25 square meters during the Civil War.⁵² Armies began to fight

in long thin skirmishing lines instead of the military formations of previous wars.⁵³ Use of cover and concealment and entrenchment greatly increased during the Civil War.⁵⁴ The effect of the cavalry as an offensive arm was decreased as a result of the improved weapons.

What kind of commander would be successful on this new battlefield?

General Ulysses S. Grant

"The art of war is simple enough. Find out where your enemy is. Get at him as soon as you can. Strike at him as hard as you can and as often as you can, and keep moving on."
Ulysses S. Grant

At the outbreak of the Civil War, General Ulysses S. Grant, a veteran of the Mexican War, was appointed as colonel and commanded a regiment of Illinois volunteers. Within three years, he rose to the rank of lieutenant general, a rank not held by an Army officer in the United States since George Washington⁵⁵, and commanded the Armies of the United States. A study of Grant during the Civil War reveals that he possessed all six of the current dynamics of command.

Even though Grant "lacked a martial appearance or much personal magnetism"⁵⁶ and was "certainly not a man to impress by either his appearance or his manner,"⁵⁷ he was in

every sense of the word a leader. Grant has been described as a man of character, determination, modesty and as a strict disciplinarian. He inspired confidence in his men even though he was not a charismatic leader. "He valued a day of drill higher than a week of oratory."⁵⁸ Uncharacteristic of his times, Grant "appears never to have addressed his troops."⁵⁹

Grant possessed both moral and physical courage as well as innate decision making capabilities. In February 1862 at Fort Donelson, Grant arrived after the Confederate troops attempted to break out and caused McClernand's troops to fall back due to lack of ammunition. He quickly assessed the situation, determined there was ammunition near by, that the enemy must be severely demoralized and that if his left began an attack immediately, the Confederates would not have had enough time to redistribute his forces from the break out attempt. Grant, with a staff officer, rode along the line and directed the soldiers to fill their "cartridge-boxes quick, and get in line; the enemy is trying to escape and he must not be permitted to do so." This spurred the soldiers to action. The men only wanted some one to give them a command."⁶⁰

It was his presence and self-control which established order. The presence of the general-in-chief, in the face of danger, at once creates confidence, for his personality is fused into the impersonal crowd, and the higher his self-control the higher does this confidence grow, it

magnetizes his men and morally re-unifies them. No operation order could have accomplished this, and without this change in moral feeling, which the personality of the general-in-chief could alone effect, no operations order would have been of much use.⁶¹

Again at the battle of Shiloh when met by 5,000 panic stricken stragglers⁶², Grant's presence, quick action, and direction "seizes upon his men and morally shakes them out of chaos into order."⁶³

Grant recognized the advantages of the telegraph and used it extensively. He relied heavily upon the telegraph for both gathering information about his and enemy forces and dispatching his orders to his subordinate commanders. In 1864, he received daily situation reports from Sherman.⁶⁴ He valued accurate information and would gather it from other sources as well. While in southern territory, Grant would get intelligence from runaway slaves, cavalry reconnaissance, spies and from the press.⁶⁵ He took the available information and correctly assessed the actions of the enemy as the above example from Fort Donelson illustrates.

Grant's clarity of communication with his subordinate commanders was noteworthy. Grant personally wrote most of his own dispatches and orders to his subordinate commanders giving them current intelligence and direction.

Meade's chief of staff once remarked that "there is a striking feature of Grant's orders; no matter how hurriedly he may write them on the field, no

one ever has the slightest doubt as to their meaning, or even has to read them over a second time to understand them.'⁶⁶

He clearly and incisively conveyed his intent to his subordinate commanders.

Grant's greatness as a commander was best demonstrated in his ability to visualize and conceptualize. By the time he commanded the western theater, he understood the necessity for a well-integrated strategic approach in order to overcome the Confederacy's strategic advantage of interior lines.⁶⁷ He mastered the concept of exhaustion; destroy your enemy's source of supply and logistics "until they withered away or became so feeble that they could be destroyed or brushed aside."⁶⁸ He realized that seizing and retaining enemy territory required a growing number of forces to guard it and increased the vulnerability of his line of communications. He also comprehended the benefits of taking the battlefield into the enemy's heartland and "making the people bear the real burdens of the conflict they had brought on the republic."⁶⁹ He developed the strategy of armies conducting raids aimed at destroying Confederate railroads and the Union armies surviving off the land thereby depriving the Confederates of those resources as well.⁷⁰

Grant had a finely developed sense of terrain. He had always been enthralled with maps and once looking at a map,

"he could follow its features without referring to it again."⁷¹ This ability to visualize the landscape and intuitiveness would aid him in his development of plans.

During the Vicksburg Campaign, Grant's mastery of operational art was exceptional. Once the Union forces landed on the eastern bank of the Mississippi River, Grant made a conscious decision to accept risk in logistics resupply. He directed his three corps commanders to live off the land until he could establish a reliable line of communication. He deployed his three corps on separate routes moving northeast around Vicksburg. The three corps were able to support each other via lateral roads. Upon encountering Confederate forces at Raymond, Grant was able to maneuver his corps to defeat the enemy piecemeal. Grant "by keeping his army together, had defeated the enemy's scattered detachments, in four engagements, at Raymond, Jackson, Champion's Hill and Big Black, all fought within six days."⁷²

Prior to his appointment as General in Chief of the Armies of the United States, Grant realized the importance of a coordinated effort by both theaters of operations. Halleck as Chief of Staff of the Armies solicited Grant's opinion of operations in other theaters. Grant, still the commander in the western theater, responded with an outline

of his plan for his theater and a coordinated plan of operations for the eastern theater under Meade.⁷³

Regardless of the changes in technology present during the Civil War, the human element of warfare remained unchanged. A successful commander needed to demonstrate leadership and presence on the battlefield. Time and again, at Shiloh, Fort Donelson and Champion Hill, Grant changed the course of the battle by his presence. His ability to visualize and conceptualize the importance and relationship of successive battles and the deployment of his forces were exceptional for his times. He used technology to his advantage but clearly understood that it was soldiers and commanders who made the difference in battle. The current dynamics of command were present in a successful commander during warfare in the 1860's. Would they also be present in the next century during the Korean War?

Nature of Warfare during the Korean War

From the close of the Civil War to the advent of the Korean War, the nature of warfare grew increasingly complex. One new dimension was added to warfare; air power. Improved and more lethal weaponry and development of the armored tank provided commanders increased combat power. Communications improved with reliable radios. Motorization

was prevalent to move supplies and troops. In addition, the development of atomic weapons provided a new more lethal threat if the conflict escalated to an unlimited war.

During the Korean War, the United Nation's command of the air was never seriously threatened.⁷⁴ Air Force, Naval and Marine airplanes greatly increased the combat power of the United Nations' forces. Air power was used to bomb enemy lines of communications and supply bases. United Nations' pilots flew air to air combat missions against Soviet MiG 15s. Air Force and Marine aircraft provided close air support to ground forces. Aircraft were also used for aerial reconnaissance. The Army expanded the role of the helicopter beyond movement of VIPs. The helicopter demonstrated its potential "as a new means of mobile transportation, reconnaissance, evacuation and rescue work."⁷⁵

Even though the terrain of Korea was not typical tank country like Europe, tanks were employed by the United Nations' forces. In early 1951, the Eighth Army had "670 tanks in its inventory."⁷⁶ The majority of the tanks were American; a combination of light Chaffees, medium Shermans, heavy Pershings and Pattons. Due to terrain, tanks could not be employed on a wide front as in World War II but were extremely useful when employed singly.⁷⁷

Other advances in technology included field artillery, 4.2 inch and 81-mm mortars, 90-mm antitank guns, and antiaircraft vehicles. The United States' field artillery units in Korea were equipped with 105-mm howitzers and the longer range 155-mm howitzers. There were two types of antiaircraft vehicles employed during the Korean War. The M-16, half-track mounted four interlinked .50 caliber machine guns and the M-19, fully tracked vehicle mounted two interlinked 40-mm Bofors automatic cannons.⁷⁸ These weapons, even though obsolete against jet planes, provided heavy firepower in support of the infantry and were very much in demand.⁷⁹

The nature of the terrain and enemy forces provided new challenges to the United Nations' forces. The best description of the terrain was provided by General Ridgway.

The granite peaks rose to 6,000 feet, the ridges were knife-edged, the slopes steep, and the narrow valleys twisted and turned like snakes. The roads were trails, and the lower hills were covered with scrub oaks and stunted pines.⁸⁰

The weather was as uninviting as the terrain. Winter temperatures were commonly below zero and could be as much as 50 degrees below zero. Deep snows were not uncommon. During summer months, the heat would be unbearable. The very heavy summer rains turned trails to viscous mud.⁸¹

The terrain was suited for guerrilla warfare. The Eighth Army faced the "unconventional army of the People's

Republic of China, which utilized lightly armed troops who were masters of infiltration, deception, and concealment."⁸² The enemy traveled light and at night. He knew the terrain better than the United Nations' forces. "He was inured to the weather and to all kinds of deprivation and could feed himself and carry what weapons and supplies he needed by whatever means the land offered."⁸³

Would the current dynamics of command prove successful in this complex and somewhat unconventional battlefield?

General Matthew B. Ridgway

"Leadership demands - as the word implies - that the leader COMMUNICATE his ideas, his knowledge, his proposed plans, AND, the reasons for them, to those whose cooperation is necessary for successful execution."

Matthew B. Ridgway

At the onset of the Korean war, General Matthew B. Ridgway was serving as the assistant chief of staff for Operations and Administration, Department of the Army. As such, he was acutely aware of the current operations in Korea. Upon the death of Lieutenant General Walton Walker, commander of Eighth Army, General MacArthur requested from the Army Chief of Staff, General Collins, that Ridgway replace Walker as commander. Ridgway had served with distinction during World War II as commander of the 82nd

Airborne Division and later as commander of the XVIIIth Airborne Corps.

The situation that faced Ridgway upon his arrival in Korea was bleak. The Eighth Army had been retreating under pressure from the Chinese Communist Forces. Since the 5th of December 1950, the Army had lost contact with the enemy and was unsure of its disposition. The Eighth Army consisted of approximately 350,000 men, three American corps (seven divisions), the Republic of Korea (ROK) Army which consisted of three corps and nine divisions and a Commonwealth Brigade, a British Brigade, a Turkish Brigade, and individual battalions from Canada, Belgium, France, Greece, the Netherlands, the Philippines, Thailand and New Zealand.⁸⁴ Along with a lack of situational awareness in regards to the enemy, the Eighth Army lacked a fighting spirit.

Ridgway quickly demonstrated his strong leadership skills. He immediately went to the front to meet his subordinate commanders and to talk to soldiers to assess for himself the morale of the Army. He traveled in an open jeep, so that the soldiers could see the new commander sharing the same conditions as they. In every unit he visited he found the same thing.

I had discovered that our forces were simply not mentally and spiritually ready for the sort of action I had been planning (offensive). Their courage was still high and they were ready to take

on any mission I might have assigned. But there was too much of a looking-over-your-shoulder attitude, a lack of that special verve, the extra alertness and vigor that seems to exude from an army that is sure of itself and bent on winning.⁸⁵

Upon talking with commanders and their operations officers, he discovered that no plans were being prepared for the offensive. At each unit Ridgway visited, he tried to instill confidence and spirit into the leaders and the soldiers. His escort Paul Smith wrote 'The spirit generated during each of these meetings was so evident and so strong it was palpable.'⁸⁶

Upon his return from the initial battlefield visits, Ridgway issued the following guidance to his subordinate commanders.

- Both corps and division commanders were to get out of their command posts and spend more time on the front lines with their subordinate commanders. Commanders needed to get a better appreciation of the terrain in their area of operations.
- Units would begin to conduct aggressive reconnaissance and patrols in order to reestablish contact with the enemy and to disrupt their operations. Units would travel off the roads, go to the high ground and "button up securely at night".
- Commanders would begin training their units on night operations.

- Commanders were to use all means of firepower at their disposal prior to requesting support.
- Commanders were to take immediate action to obtain cold weather clothing and at least two hot meals a day for their soldiers.
- Commanders would visit the wounded in order to impart in them a desire to return to the unit.
- Commanders were to restrict the number of medals issued and ensure the standard for issuance was met.
- Commanders would employ foreign units in a manner which best used their skills.
- Units would not abandon their equipment under any circumstances.⁵⁷

One can see that his guidance stressed basic leadership principles as well as an offensive spirit. Ridgway felt that the best place for a commander was where

the crisis of action is, where the going is toughest. He does not belong back at his command post. He is not there to trespass on the sphere of his subordinates. He is there to drink in, by his senses and all his experience, the actual situation, the human element above all else.⁸⁸

Not only could the higher commander depend on his own senses to give him an understanding of the current situation but the commander could quickly decide on further resources he could commit to the main effort.

Having been in country only a couple of days, he determined from the little intelligence that he received that the Chinese were massing for a strong attack on or about New Year's. He received from the Korean President 30,000 laborers to dig trenches on the line the United Nations currently held and on a line 15 miles to the south of current positions and south of the Han River. He determined at this second line, his forces would hold and begin to conduct their counterattacks. The Chinese did attack all across the 135 mile line and were able to break through at a couple of places. After three days of fighting, Ridgway ordered a withdrawal to the subsequent line. This time the withdrawal was orderly. However, commanders did lose contact with the enemy.

Ridgway understood the importance of accurate information and intelligence. Throughout his time in Korea, he worked to improve the intelligence situation.

We have a curtain beyond the range of our immediate combat intelligence activities which I find extremely difficult to pierce. The location, strength, composition, status of supply and equipment, morale, and intentions of the major groups of hostile forces reported to be in Korea, presently outside of the immediate combat zone, but capable of intervening in a matter of days, remain largely undetermined.⁸⁹

He continually urged his commanders to maintain contact with the enemy. He also demanded that his subordinate units provide complete and accurate reports to his headquarters.

He would receive reports without the basic information of date and time. He understood that without accurate information he could not get a good understanding of the current situation.

Ridgway possessed the dynamics of visualization and conceptualization. In order to turn the war around and push the Chinese out of South Korea, he needed to instill an offensive spirit and confidence into his subordinate commanders and soldiers. He felt that even though the United Nations forces were outnumbered by the Chinese, they had the advantage of fire power; air, sea, armor and artillery.⁹⁰ He understood that all of these elements must be synchronized and optimized to bring massed effects on the enemy. He devised an offensive plan that would start with small offensive actions and develop into large scale operations. With each small success, confidence and the offensive spirit would be restored in his forces.

Once the defense was set, Ridgway outlined his plan for offensive action.

Get a firm line established, and when the advance began it would be solid; no one unit would be permitted to get very far ahead of the rest of the line. A thorough search of all the ground would be made to make sure no enemy had been left behind the advance, and the troops would climb the hills and intervening terrain between roads. This army would not be roadbound. Advances would not be primarily to gain ground; they would be to find and destroy the enemy, bit by bit.⁹¹

The Eighth Army started the offensive with small patrols probing north, looking for the enemy. Eventually the attacks increased to a division in each corps. "Strong armored counterattacks, supported by all arms, would be executed at every opportunity."⁹² Once on the offensive, Ridgway developed a series of operations to push the Chinese out of South Korea and past the 38th parallel. "All operations were conducted in depth, with air and naval strikes deep into the 38th parallel area and North Korea."⁹³ The intent was to inflict maximum casualties upon the enemy while minimizing friendly casualties. "Ridgway succeeded in establishing a line across the breadth of Korea, and each month that passed saw it forged more firmly."⁹⁴

Ridgway understood that a commander needed to know the terrain. He berated his commanders for not knowing the terrain in their area of operations. At night in his tent, he would intensely study his map and develop his plans for the army. He would also conduct reconnaissance by flying low over the terrain. In one instance, Lieutenant General Partridge, the commander of the 5th Air Force, personally flew Ridgway in a two seater plane, 20 miles into enemy territory.⁹⁵

The battle at Chipyeong-ni in mid-February 1951 was a turning point of the war. It was critical to the success of Eighth Army. It invigorated the army with heightened morale

and disheartened the enemy.⁹⁶ On the 12th of February, Colonel Freeman, commander of the 23rd Regimental Combat Team, requested permission to withdraw his forces from Chipyeong-ni to Yaju because two Chinese divisions had cut his escape routes in the south. The 23rd Regimental Combat Team was in a tight perimeter. Both the 2nd Division commander and the X Corps commander agreed. Ridgway, however, did not. He realized the importance of this position. "Ridgway said he was determined to hold Chipyeong-ni, the hinge between IX Corps and X Corps, even if he had to send all of Eighth Army reserves and part of the IX Corps into the battle there to do so."⁹⁷

Ridgway understood the importance of communications. He was always visiting his subordinate commanders, ensuring they understood his intent and concept of the operations. A dialogue would ensue regarding the unit's plans. He strongly believed that units must maintain contact with adjacent units and be mutually supporting. He would not accept the excuse of faulty radios for lack of communications. He directed that couriers be established to maintain communications. After he had been in Korea for a month, it came to his attention that soldiers were not sure why they were there and what they were fighting for. He immediately drafted a response that was distributed to all

his commanders with the instructions that it be read to every soldier in Eighth Army.

General Matthew B. Ridgway, like Grant, can be considered a great captain. Within a matter of months, he imposed his will and turned a demoralized, retreating army into a successful fighting force. Through his strong leadership example and offensive spirit, Ridgway changed the outlook of the Eighth Army. The success of Ridgway demonstrated that regardless of the technology present, it is the human element which remains enduring. A successful commander must be a leader, possess physical and moral courage, be able to motivate soldiers and be able to visualize and communicate his desired end state.

Nature of Warfare in the 21st Century

Currently, the Army is undergoing a technical revolution. The Army is looking to leverage technology to develop a smaller, more lethal force. This technological change will effect "land warfare through several dominant trends: lethality and dispersion; volume and precision of fire; integrative technology; and mass and effects."⁹⁸ How will the nature of warfare change as a result?

As lethality of weapons increase so does the dispersion of forces. As weapons become more sophisticated with laser

designators and position guidance systems the trend towards greater lethality at greater range continues. Furthermore, both individuals and units will fight more dispersed than in the past. As a result of the need to disperse, forces are more mobile. This in turn increases the

requirement to communicate over greater distances, to maneuver more quickly, and to use fires from platforms of all services that are dispersed over greater distances. This trend will place a great premium on the commander's ability to make decisions quickly, the staff's requirement to synchronize the movements of greatly dispersed units, and the subordinate leader's responsibility to make on-the-spot decision within a senior commander's intent.⁹⁹

As weapons developed from breech-loading rifles to automatic machine guns with magazines and ammunition belts, the rate of fire increased correspondingly. This increased rate of fire effected other areas of the battlefield; the use of entrenchments, the development of the tank and infantry fight vehicle for protection, planning factors for casualty rates and logistic resupply rates.¹⁰⁰ Precision of weapons increased significantly and will continue to do so.

Dragons, TOWs, laser-aimed individual weapons; precision aiming systems such as those on the Abrams and Bradley; longer range precision weapons systems like Apache, ATACMS and MLRS; laser designators that guide artillery rounds as well as the bombs delivered by aircraft of other services; brilliant munitions now in development - all confirm the trend toward increased precision accompanying increased volume.¹⁰¹

With the probability of a first time hit and the ability to fire more rapidly, Armies will be able to inflict more damage with fewer forces.

Integrative technology affects the whole force, not just individual weapon systems. "In the 21st century, the systems of land forces will become an integrated circuit that is, in turn, part of a network of combined land/air/sea/ space forces."¹⁰² The near-real time communications between intelligence, maneuver, fire and logistical support systems will greatly effect the conduct of future warfare. The commander will have an increased situational awareness.¹⁰³ More information will be available to the commander in order to make his decisions. There will be an increase of a common picture of the battlefield at all levels.

The above three factors influence the trend of smaller units to create decisive effects.¹⁰⁴ Smaller units will become more deadly as a result of improved lethality of weapons, volume of fire and precision. Smaller units will be able to employ these weapon systems from a greater distance. Units will be organized into combined arms or maybe even joint teams as low as the company level.¹⁰⁵ Units will have greater mobility and therefore maneuver capability. The tempo of operations will greatly increase.

Even though units may be smaller, mass will be achieved by the effects of the weapon systems.

How will this future nature of warfare effect command?
Are the current dynamics relevant for the future?

General X in the 21st Century

Just as the dynamics of command; leadership, decision making, information assimilation, visualization, conceptualization and communication, can be applied to generalship during the Civil War and the Korean War, they will be applied to generalship of the future. Although impossible to determine exactly what warfare will be like in the 21st century, by studying the trends of warfare one can assume that the complexity of warfare will increase. As this complexity increases, the challenges of command will continue to increase as well. The effectiveness of the commander will be determined by how well he balances these dynamics and applies them to his situation.

The human element is an unchanging aspect of warfare. As long as soldiers are involved in warfare the strong leadership demonstrated by both Grant and Ridgway will be required. Just as leadership was the most essential dynamic during the Civil and Korean Wars, leadership may continue to

be the most essential dynamic of command in the 21st century.

Armed conflict, however, is dominated above all by stress, danger, hardship, suffering, deprivation, and pain. Everything else being equal, the best army will be the one which possesses a thorough understanding of these factors and uses that understanding in order to cope with them.¹⁰⁶

It is up to commanders to have this understanding and be able to motivate soldiers to face the terrors of the battlefield. Leadership at all levels will be increasing difficult owing to the increased dispersion and lethality of the battlefield. Commanders still need to be present on the battlefield like the Grants and the Ridgways. Commanders must not command their forces from behind a computer screen.

Conclusion

On both the individual and collective levels, war is therefore primarily an affair of the heart. It is dominated by such irrational factors as resolution and courage, honor and duty and loyalty and sacrifice of self. When everything is said and done, none of these have anything to do with technology, whether primitive or sophisticated.¹⁰⁷

Leadership, decision making, information assimilation, visualization, conceptualization and communication are all essential dynamics of command rooted in the past and relevant for the future. Technology has changed and will continue to change the nature of warfare. However, the

dynamics of command apply to the unchanging aspects of warfare mainly the human element; the commanders and the soldiers that they lead. Technological innovations are merely tools for a commander to implement. A great captain of the future must still possess the characteristics which made Grant and Ridgway successful; the ability to lead soldiers, and the ability to visualize and communicate his desired end state.

A study of the theories on command of Sun Tzu, Carl von Clausewitz, Antoine Henri Jomini and J. F. C. Fuller demonstrated that each of the dynamics of command were discussed by the theorists. Even though none of the above theorists included all the dynamics, this does not preclude their relevancy.

The study of U.S. Army doctrine from 1941 to the present indicates that the current dynamics of command have a basis in past doctrine. The terms may have been different but the concepts are similar.

The study of two operational commanders, Grant during the Civil War and Ridgway during the Korean War, demonstrated that both of these great captains were leaders, decision makers, able to assimilate information, able to visualize and conceptualize a desired end state and develop a plan to accomplish that end state and able to communicate their intent and concept of operations to their

subordinates. The dynamics of command can be applied to the generalship of both Grant and Ridgway.

A brief look at the nature of future warfare indicates that the dynamics of command will be enduring into the 21st century. The role of the commander will be made more difficult due to the increased dispersion, lethality and tempo of future operations. The bottom line is that men in battle will still need to be commanded by great captains.

There are three major constants. First is the objective of war: the employment of lethal implements for the purpose of imposing one's will upon an enemy. Second is the way in which wars are fought, commonly summarized in a handful of principles, usually called Principles of War. Third - and the essential constant in war - is the unchanging nature of man.¹⁰⁸

Endnotes

¹ Field Manual 100-5, Operations. (Washington, D.C.: U.S. Department of the Army, June 1993), 2-12.

² FM 100-5, Glossary-1.

³ Battle Command, Draft 2.1. (Fort Leavenworth, KS: Battle Command Battle Laboratory, 22 April 1994), 2.

⁴ Joint Publication 1-02, Department of Defense Dictionary of Military and Associated Terms. (Washington, D.C.: Department of Defense, 1989), 77.

⁵ Battle Command, Draft 2.1. 10.

⁶ Ibid., 10.

⁷ Ibid., 10.

⁸ Ibid., 11.

⁹ Ibid., 12.

¹⁰ U.S. Department of the Army, FM 100-6, Information Operations, (Washington D.C.: Department of the Army, August 1996), 1-11.

¹¹ Ibid., 13.

¹² Ibid., 14.

¹³ Sun Tzu, Art of War, trans. Ralph D. Sawyer (Boulder: Westview Press, 1994), 167.

¹⁴ Ibid., 133.

¹⁵ Ibid., 179.

¹⁶ Ibid., 179.

¹⁷ Antoine Henri Jomini, Summary of the Art of War, ed. J. D. Hittle in Roots of Strategy, Book 2, (Harrisburg, PA: Stackpole Books, 1987), 455.

¹⁸ Ibid., 456.

- ¹⁹ Ibid., 448.
- ²⁰ Ibid., 464.
- ²¹ Ibid., 555.
- ²² Ibid., 534.
- ²³ Carl von Clausewitz, On War, ed. and trans. by Michael Howard and Peter Paret, (Princeton: Princeton University Press, 1989), 100.
- ²⁴ Ibid., 104.
- ²⁵ Ibid., 106.
- ²⁶ Ibid., 102.
- ²⁷ Ibid., 103.
- ²⁸ Ibid., 102.
- ²⁹ Ibid., 102.
- ³⁰ Ibid., 109.
- ³¹ Ibid., 109.
- ³² J. F. C. Fuller, Generalship, Its Diseases and Their Cure, (Harrisburg, PA: Military Service Publishing Co., 1936), 35.
- ³³ Ibid., 28.
- ³⁴ Ibid., 62.
- ³⁵ Ibid., 32.
- ³⁶ Ibid., 78.
- ³⁷ U.S. Department of the Army, FM 100-5, Operations, (Washington D.C.: Department of the Army, June 1993), G-3.
- ³⁸ U.S. Department of the Army, FM 100-5, Field Service Regulations: Operations, (Washington, D.C.: War Department, 1941), 23.
- ³⁹ Ibid., 18.
- ⁴⁰ Ibid., 19.

⁴¹ U.S. Department of the Army, FM 100-5, Field Service Regulations: Operations, (Washington, D.C.: War Department, September 1954), 28.

⁴² U.S. Department of the Army, FM 100-5, Operations, (Washington, D.C.: Department of the Army, July 1976), 3-4.

⁴³ U.S. Department of the Army, FM 100-5, Operations, (Washington, D.C.: Department of the Army, August 1982), 2-7.

⁴⁴ U.S. Department of the Army, FM 100-5, Operations, (Washington, D.C.: Department of the Army, June 1993), 2-14.

⁴⁵ U.S. Department of the Army, FM 22-103, Leadership and Command at Senior Levels, (Washington, D.C.: Department of the Army, 1987) 7.

⁴⁶ Ibid., 28.

⁴⁷ Martin van Creveld, Technology and War, (New York: The Free Press, 1989), 161.

⁴⁸ John Keegan, The Mask of Command, (New York: Penguin Books, 1987), 211.

⁴⁹ Ibid., 210.

⁵⁰ J. F. C. Fuller, Generalship, Its Diseases and Their Cure, 42.

⁵¹ Martin van Creveld, Technology in War, 171.

⁵² Ibid., 173.

⁵³ Ibid., 173.

⁵⁴ Trevor N. Dupuy, The Evolution of Weapons and Warfare, (Fairfax, VA: Hero Books, 1984), 197.

⁵⁵ Herman Hattaway and Archer Jones, How the North Won, (Urbana, IL: University of Illinois Press, 1991), 515.

⁵⁶ Archer Jones, Civil War Command and Strategy, (New York: The Free Press, 1992), 229.

⁵⁷ John Keegan, The Mask of Command, 202.

- ⁵⁸ Ibid., 193.
- ⁵⁹ Ibid., 206.
- ⁶⁰ Grant, Ulysses S, The Personal Memoirs of Ulysses S. Grant, (New York: Konecky & Konecky) 181.
- ⁶¹ J. F. C. Fuller, Generalship, Its Diseases and Their Cure, 45.
- ⁶² Ibid., 45.
- ⁶³ Ibid., 46.
- ⁶⁴ John Keegan, The Mask of Command, 210.
- ⁶⁵ Ibid., 215.
- ⁶⁶ Ibid., 200.
- ⁶⁷ Herman Hattaway and Archer Jones, How the North Won, 488.
- ⁶⁸ Ibid., 489.
- ⁶⁹ John Keegan, The Mask of Command, 207.
- ⁷⁰ Richard E. Beringer, Herman Hattaway, Archer Jones, and William N Still, Jr., Why the South Lost the Civil War, (Athens, GA: The University of Georgia Press, 1986), 310.
- ⁷¹ John Keegan, The Mask of Command, 213.
- ⁷² Matthew Forney Steele, American Campaigns, Vol. 1 (Washington: Byron S. Adams, 1909), 23.
- ⁷³ Herman Hattaway and Archer Jones, How the North Won, 512.
- ⁷⁴ Trevor N. Dupuy, The Evolution of Weapons and Warfare, 280.
- ⁷⁵ Ibid., 280.
- ⁷⁶ Clay Blair, The Forgotten War, America in Korea 1950-1953, (New York: Anchor Press Books, 1987), 637.
- ⁷⁷ Ibid., 637.
- ⁷⁸ Ibid., 130.

- ⁷⁹ Ibid., 130.
- ⁸⁰ Ibid., 571.
- ⁸¹ Matthew B. Ridgway, The Korean War, (Garden City, NY: Doubleday and Co., Inc., 1967), 2.
- ⁸² Stephen Peter Rosen, Winning the Next War, (Ithaca, NY: Cornell University Press, 1991), 33.
- ⁸³ Matthew B. Ridgway, The Korean War, 89.
- ⁸⁴ Clay Blair, The Forgotten War, America in Korea 1950-1953, 569.
- ⁸⁵ Matthew B. Ridgway, The Korean War, 86.
- ⁸⁶ Clay Blair, The Forgotten War, America in Korea 1950-1953, 587.
- ⁸⁷ Ibid., 586-587.
- ⁸⁸ Matthew B. Ridgway and Walter R. Winton, "Troop Leadership at the Operational Level: The Eighth Army in Korea," Military Review 70, no. 4 (April 1990): 60.
- ⁸⁹ Roy E. Appleman, Ridgway Duels for Korea, (College Station: Texas A & M University Press, 1990), 312.
- ⁹⁰ Clay Blair, The Forgotten War, America in Korea 1950-1953, 605.
- ⁹¹ Roy E. Appleman, Ridgway Duels for Korea, 140.
- ⁹² Douglas J. Morrison, "Operational Battle Command, Lessons for the Future", Fort Leavenworth, KS: School of Advanced Military Studies, Second Term 1993-1994, 34.
- ⁹³ Ibid., 34.
- ⁹⁴ Roy E. Appleman, Ridgway Duels for Korea, 580.
- ⁹⁵ Matthew B. Ridgway, "The Korean War", Saturday Evening Post 228, no. 35 (February 25, 1956): 130.
- ⁹⁶ Roy E. Appleman, Ridgway Duels for Korea, 580.
- ⁹⁷ Ibid., 258.

⁹⁸ Gordon R. Sullivan and James M. Dubik, Envisioning Future Warfare, (Fort Leavenworth, KS: U.S. Army Command and General Staff College Press, 1995), 11.

⁹⁹ Ibid., 12.

¹⁰⁰ Ibid., 13.

¹⁰¹ Ibid., 14.

¹⁰² Ibid., 14.

¹⁰³ Ibid., 16.

¹⁰⁴ Ibid., 17.

¹⁰⁵ Ibid., 18.

¹⁰⁶ Martin van Creveld, Technology and War, 247.

¹⁰⁷ Ibid., 314.

¹⁰⁸ Trevor N. Dupuy, The Evolution of Weapons and Warfare, 287.

Bibliography

- Appleman, Roy E. Ridgway Duels for Korea. College Station: Texas A & M University Press, 1990.
- Battle Command Battle Laboratory. Battle Command, Draft 2.1. Fort Leavenworth, KS, 22 April 1994.
- Beringer, Richard E., Herman Hattaway, Archer Jones, and William N. Still, Jr. Why the South Lost the Civil War. Athens, GA: The University of Georgia Press, 1986.
- Blair, Clay. The Forgotten War, America in Korea 1950-1953. New York: Anchor Press Books, 1987.
- Boyd, Morris J., and Michael Woodgerd. "Force XXI Operations." Military Review 74, no. 11 (November 1994): 17-30.
- Calvo, Mark D. "Digitizing the Force XXI Battlefield." Military Review 76, no. 3 (May-June 1996): 68-73.
- Clausewitz, Carl Von. On War. Edited and translated by Michael Howard and Peter Paret. Princeton: Princeton University Press, 1989.
- Coe, Lewis. The Telegraph: A History of Morse's Invention and Its Predecessors in the United States. Jefferson: McFarland And Company, Inc., 1993.
- Czerwinski, Thomas J. "Command and Control at the Crossroads." Marine Corps Gazette 79, no. 10 (October 1995): 13-15.
- Department of Defense. Joint Publication 1-02, Department of Defense Dictionary of Military and Associated Terms. Washington, D.C.: Department of Defense, 1989.
- Dupuy, Trevor N. The Evolution of Weapons and Warfare. Fairfax, VA: Hero Books, 1984.
- Fuller, J. F. C. Generalship, Its Diseases and Their Cure. Harrisburg, PA: Military Service Publishing Co., 1936.
- Fuller, J. F. C. The Generalship of Ulysses S. Grant. Bloomington: Indiana University Press, 1977.
- Grant, Ulysses S. The Personal Memoirs of Ulysses S. Grant. New York: Konecky & Konecky.

- Hattaway, Herman and Archer Jones. How the North Won.
Urbana, IL: University of Illinois Press, 1991.
- Hunt, James G., and John D. Blair, eds. Leadership on the
Future Battlefield. Washington, D.C.: Pergamon
Brassey's International Defense Publishers, 1985.
- Jomini, Antoine Henri. Art of War. Edited by J.D. Hittle.
Roots of Strategy Book 2. Harrisburg: Stackpole
Books, 1987.
- Jones, Archer. Civil War Command and Strategy. New York:
The Free Press, 1992.
- Keegan, John. The Mask of Command. New York: Penguin
Books, 1988.
- Madigan, James C., and George E. Dodge. "Battle Command: A
Force XXI Imperative." Military Review 74, no. 11
(November 1994): 29-39.
- Miller, John E., and Kurt C. Reiting. "Force XXI Battle
Command." Military Review 75, no. 4 (July- August
1995): 4-9.
- Morrison, Douglas J. "Operational Battle Command, Lessons
for the Future". Fort Leavenworth, KS: School of
Advanced Military Studies, Second Term 1993-1994.
- Ridgway, Matthew. The Korean War. New York: Doubleday &
Co, 1967.
- Ridgway, Matthew B. "The Korean War", Saturday Evening Post
228, no. 35 (February 25, 1956) 36, 127-130.
- Ridgway, Matthew B. and Walter R. Winton. "Troop Leadership
at the Operational Level: The Eighth Army in Korea",
Military Review 70, no. 4 (April 1990): 57-67.
- Rosen, Stephen Peter. Winning the Next War. Ithaca, NY:
Cornell Univerisity Press, 1991.
- Rosenberger, John D. "Coaching the Art of Battle Command."
Military Review 76, no. 3 (May-June 1996): 27-38.
- Steele, Matthew Forney. American Campaigns, Vol. 1.
Washington: Byron S. Adams, 1909.
- Sullivan, Gordon R. "A Vision for the Future." Military

Review 75, no. 3 (May-June 1995): 5-14.

Sullivan, Gordon R. and James M. Dubik. Envisioning Future Warfare. Fort Leavenworth, KS: U.S. Army Command and General Staff College Press, 1995.

Sun, Tzu. Art of War. Translated by Ralph D. Sawyer. Boulder: Westview Press, 1994.

U.S. Department of the Army. FM 22-103, Leadership and Command at Senior Levels. Washington, D.C.: Department of the Army, 1987.

U.S. Department of the Army. FM 100-5, Field Service Regulations: Operations. Washington, D.C.: War Department, May 1941.

U.S. Department of the Army. FM 100-5, Field Service Regulations: Operations. Washington, D.C.: War Department, June 1944.

U.S. Department of the Army. FM 100-5, Field Service Regulations: Operations. Washington, D.C.: Department of the Army, August 1949.

U.S. Department of the Army. FM 100-5, Field Service Regulations: Operations. Washington, D.C.: Department of the Army, September 1954.

U.S. Department of the Army. FM 100-5, Operations of the Army Forces in the Field. Washington D.C.: Department of the Army, September 1968.

U.S. Department of the Army. FM 100-5, Operations. Washington D.C.: Department of the Army, August 1982.

U.S. Department of the Army. FM 100-5, Operations. Washington D.C.: Department of the Army, May 1986.

U.S. Department of the Army. FM 100-5, Operations. Washington D.C.: Department of the Army, June 1993.

U.S. Department of the Army. FM 100-6, Information Operations. Washington D.C.: Department of the Army, August 1996.

U.S. Department of the Army. TRADOC PAM 525-5 Force XXI Operations. Fort Monroe, VA: Government Printing Office, 1 August 1994.

Van Creveld, Martin. Technology and War. New York: The Free Press, 1989.

Yoder, Keith R., and Robert J. Rice. "21st Century Coup d'Oeil: Developing Commanders for Force XXI." Field Artillery, June 1995, 8-11.