

NAVAL WAR COLLEGE
Newport, R.I.

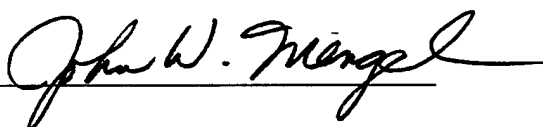
AN ANALYSIS OF THE OPERATIONAL LEADERSHIP
OF GENERAL HEINZ GUDERIAN

by

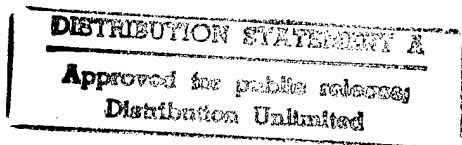
John W. Mengel
LCDR USN

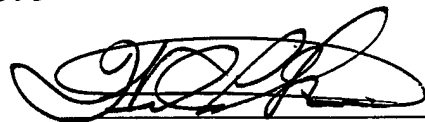
A paper submitted to the Faculty of the Naval War College in partial satisfaction of the requirements of the Department of Joint Military Operations.

The contents of this paper reflect my own personal views and are not necessarily endorsed the Naval War College or the Department of the Navy.

Signature: 

13 February 1998




Colonel William P. Goodwin, USA
Faculty Advisor

DTIC QUALITY INSPECTED 1

19980709 065

REPORT DOCUMENTATION PAGE

1. Report Security Classification: UNCLASSIFIED			
2. Security Classification Authority:			
3. Declassification/Downgrading Schedule:			
4. Distribution/Availability of Report: DISTRIBUTION STATEMENT A: APPROVED FOR PUBLIC RELEASE; DISTRIBUTION IS UNLIMITED.			
5. Name of Performing Organization: JOINT MILITARY OPERATIONS DEPARTMENT			
6. Office Symbol: C		7. Address: NAVAL WAR COLLEGE 686 CUSHING ROAD NEWPORT, RI 02841-1207	
8. Title (Include Security Classification): An Analysis of the Operational Leadership of General Heinz Guderian. (U)			
9. Personal Authors: John W. Mengel, LCDR, USN			
10. Type of Report: FINAL		11. Date of Report: 13 Feb 1998	
12. Page Count: 19			
13. Supplementary Notation: A paper submitted to the Faculty of the NWC in partial satisfaction of the requirements of the JMO Department. The contents of this paper reflect my own personal views and are not necessarily endorsed by the NWC or the Department of the Navy.			
14. Ten key words that relate to your paper: Guderian, operational leadership, operational art, blitzkrieg, armor, mechanized warfare, character, will, intellect, risk.			
15. Abstract: This paper is a historical analysis of General Heinz Guderian's operational leadership. These elements are operational thinking, execution of operations, and the operational leader's character. Guderian's development of combined mechanized warfare (blitzkrieg), and his leadership style in campaigns against Poland and France are discussed.			
16. Distribution / Availability of Abstract:	Unclassified X	Same As Rpt	DTIC Users
17. Abstract Security Classification: UNCLASSIFIED			
18. Name of Responsible Individual: CHAIRMAN, JOINT MILITARY OPERATIONS DEPARTMENT			
19. Telephone: 841-6461		20. Office Symbol: C	

PREFACE.

Operational art is a vital link between the national and theater strategic objective and tactical combat. It deals chiefly with the theory and practice of planning, preparing, conducting and sustaining major operations and campaigns. The very essence of operational art is to win decisively -- achieving the strategic aim, while avoiding a costly attrition war.¹

Implied in this definition is the importance of the role of the commander, for it can be argued that the most critical element of operational art deals with operational leadership.² The operational commander is responsible for developing an operational vision that will achieve the strategic aim. In short, operational art challenges the commander to consider the ends he must achieve, the ways to achieve those ends, and how to use the means available to him.

Why are some commanders successful in this challenge while others are not? Is the study of operational leadership even worthwhile, given the myriad of intangible factors involved? The answer is yes; the study of great leaders can illuminate the qualities that contribute to military victory.³ Although studying great leaders will uncover a diversity of characteristics and methods, the thesis of this paper is that there is an identifiable set of personal leadership qualities that successful operational commanders possess in common. These qualities may be broadly grouped as operational thinking, execution of the operational plan, and the intangible character traits of the commander.

¹ Milan Vego, "On Operational Art (Draft)", unpublished material in NWC 1035 for The United States Naval War College, Newport, RI, September 1997, 3.

² *Ibid.*, 18.

³ Milan N. Vego, "Operational Leadership," unpublished material in NWC 4107A for The United States Naval War College, Newport, RI, September 1996, 2.

This paper will attempt to identify the essential qualities of operational leadership by analyzing the style and methods of General Heinz Guderian.

THEORETICAL FRAMEWORK.

The operational leader must have the rare gift of thinking broadly and understanding how each action fits into the overall design so as to accomplish strategic or operational goals. Accurately analyzing current events combined with anticipating future events is vital to success in any major operation or campaign.⁴ Utilizing operational thinking, a leader can develop operational vision – an ability to understand how operational-level activities fit into the larger, strategic picture.

It is through the commander's operational thinking that the appropriate operational design is produced. This thinking is focused on operational objectives, centers of gravity, critical vulnerabilities, culminating points, decisive points, and the lines of operation. The successful commander is also able to formulate a vision of the end state. After conceptualizing the end state, he must provide his organization with a clear sense of direction, and inspire his subordinates to strive to reach that goal. It is critical that the operational commander impart to his subordinates his personal "roadmap" to victory. He must also provide the ways and means for achieving victory.⁵ In addition, the commander must establish a command and control organization that provides for simplicity, clarity, unity of command, and delegation of authority to permit decentralized execution.

⁴ Ibid., 1.

⁵ Ibid., 1.

During the execution of a major operation or campaign, the operational commander must be able to read events as they unfold on the battlefield. His skill in doing this affects the decisions he makes and, thus, influences the overall accomplishment of the operation. This skill also allows the commander to maintain the initiative and provides him an opportunity to respond quickly, and flexibly to the fluid nature of the battlefield. The operational commander must continually assess the battlefield in order to establish courses of action that shape his area of operations to ensure reaching the objective. The commander may influence the outcome by commitment of operational reserves, obtaining additional forces, changing the priority of effort, and accepting risk to ensure sufficient strength at the decisive point.⁶

Ultimately, the operational commander's character drives his operational thinking and execution. Character is shaped by personality traits. A successful operational commander exhibits essential traits such as intelligence, mental toughness, boldness, moral and physical courage, self-confidence, compassion, candor, and imagination.⁷ A willingness to assume responsibility and take risks are also critical character traits for the successful commander. Heinz Guderian exhibited these traits and that is what made him a successful military innovator and field commander. Before exploring Guderian's leadership style, his innovative theories of mechanized warfare, and his successful execution of these theories in battle, a look at his background is in order to help understand what shaped his leadership qualities.

⁶ Jurgen J. Gwin, "An Analysis of Operational Leadership: Field Marshal Erich Von Manstein," (Unpublished Research Paper, U.S. Naval War College, Newport, RI: February 1995), 2.

⁷ Vego, "Operational Leadership," 2.

GUDERIAN'S UPBRINGING AND EDUCATION.

Born the son of an infantry officer in East Prussia in 1888, Guderian later attended both the Karlsruhe cadet school and the Gross-Lichterfelde in Berlin. The standards of these institutions were high and the curriculum was heavy in its emphasis on math, history and modern languages. The latter was particularly significant in the future development of Guderian's thought. His excellent English and French skills allowed him to read and analyze much of the military literature in Europe as an adult.⁸ Moreover, it was at the cadet schools that Guderian was schooled in the Prussian method of inculcating its students with a thirst for knowledge and the mental tools for critical thinking. Many viewed Prussian military training as strict and unbending.⁹ On the contrary, the Prussians were not interested in creating "robots."¹⁰ The system taught the young cadet to acknowledge authority, but it also encouraged the discourse of differing ideas and opinions. From this exposure, Guderian developed a flexibility of thought and a healthy skepticism of the established system of military thought. These traits carried Guderian into adulthood and helped to shape his career.

GUDERIAN'S TRAINING AND EXPERIENCE.

Guderian was commissioned in 1907 and reported to an infantry battalion in Lorraine where his father was the battalion commander. During the First World War he served as a signals officer in a cavalry unit. This experience left Guderian with two

⁸ Heinz Guderian, *Achtung-Panzer!* (London: Arms and Armour Press, 1992), 8.

⁹ Kenneth Macksey, *Guderian: Creator of the Blitzkrieg* (London: Stein and Day Press, 1975), 4.

¹⁰ Guderian, *Achtung-Panzer!*, 8.

distinct impressions. First, he became familiar with the advantages and disadvantages of operating with mounted troops, which in those days provided the only mobile arm of the army.¹¹ In particular, he witnessed the logistical feasibility of moving large numbers of troops through difficult terrain. Second, Guderian observed the latest wireless radio technology and gained an accurate understanding of its tactical applications. This experience convinced him that if high mobility, long-range operations were to be well-coordinated, radio communications had to be accurate and reach down to the lowest possible level (e.g., individual tank, APC, jeep).¹²

By inter-war standards, the progress of Guderian's career was average until the rise of Hitler. Thereafter, Guderian's career took off. While his early promotion pace was ordinary, Guderian's career was unusual in the diversity of assignments that gave him a broad experience.¹³ Guderian successfully served as a signals staff officer, General Staff officer, battalion commander, quartermaster, intelligence officer, and operations officer with units from the company to the corps levels.

Heinz Guderian's assignment to the Department of *Truppenamt* (Motor Transport) turned out to be one of the ironic twists of his career. Guderian tried to avoid the assignment, claiming he knew nothing about motor transport. It was, however, during the two years spent in this assignment, investigating troop movements by truck, that Guderian concluded that the concept of motorized combat operations was not only valid, but essential to the future of the German army. He foresaw that infantry attacks on

¹¹ F.W. von Mellenthin, German Generals of World War II (Norman: University of Oklahoma Press, 1977), 86.

¹² Macksey, 50.

¹³ George A. Higgins, "The Operational Tenets of Generals Heinz Guderian and George S. Patton, Jr." (Fort Leavenworth: SAMS Monograph, 1985), 13.

foot and mass formations were obsolete. Mobility was the key to avoiding the attrition-style warfare that characterized the First World War. Infantry mounted in trucks, however, was not sufficient. Guderian envisioned that the infantry needed to be combined in fully motorized formations of tanks, artillery and combat engineers.

Guderian developed a fascination with tanks, although he had no involvement with them in the First World War. To fill the experience gap, he read the available literature on motorized warfare, including articles by J.F.C. Fuller, Liddell Hart, Gifford Martel, and Charles de Gaulle. In addition, he studied carefully the British employment of tanks at the Battle of Cambrai in November 1917. Between 1924 and 1930, Guderian went from student to instructor. Because of his growing reputation, he was invited to lecture on armored and motorized warfare at the Berlin War Academy. He also began to contribute many articles to the military press.

In retrospect, Guderian's assignment to the *Truppenamt* helped him in two ways. First, it required him to understand the historical and contemporary use of armored and motorized forces, thereby making him the German army's *defacto* expert on the subject. Second, teaching and writing played an important role in Guderian's conception, development, and dissemination of armored and motorized warfare doctrine for a future war.¹⁴ It is ironic that by the end of the 1920's Guderian was officially acknowledged as a leading expert on tank tactics and he had yet to set foot in a tank.¹⁵

Although Germany lacked tanks, Guderian recognized that foreign developments in tank technology proved that tanks possessed the speed and range to be considered not

¹⁴ *Ibid.*, 18.

¹⁵ Heinz Guderian, *Panzer Leader* (London: Michael Joseph, Ltd, 1952), 22-24.

only of tactical, but potentially of operational, significance. Guderian's operational doctrine called for the creation of a combined arms organization with the tank as the centerpiece. It also called for close cooperation with the air force. Guderian was convinced that tanks on their own, or merely in conjunction with infantry, would never achieve tactical or operational success. Guderian stressed the need for equal mobility among the various arms.

Guderian conceived of a new relationship among the various arms on the battlefield. He opposed the parceling out of tanks to infantry divisions. He believed that armor units should be the centerpiece around which combined arms organizations should be built. Guderian came to the conclusion that tanks, integrated in mechanized formations with infantry, artillery and engineers in "proper proportion" and used together for concentrated blows, would determine the course of a major operation or a campaign.¹⁶ He recognized that mobile operations involving attacks to operational depths would require a great deal of combat power consisting of divisions which could complement each other: Panzer divisions for penetrations and deep thrusts, and motorized divisions for flank security, holding terrain, and providing depth.¹⁷ This was Guderian's crucial insight and he claims to have made it by the early 1930's.¹⁸

Many conservative officers remained skeptical of Guderian's message. To some he was a radical. With credit to his foresight and persistence, Guderian's innovative ideas gained a great deal of acceptance by the outbreak of the Second World War. Yet

¹⁶ Heinz Guderian, *Achtung-Panzer!*, 10.

¹⁷ Higgins, 23.

¹⁸ Heinz Guderian, *Panzer Leader*, 24.

the Panzer forces he advocated never gained an overwhelming priority. Guderian was forced to fight continually for resources with the other combat arms. Guderian wrote his famous *Achtung - Panzer!*, outlining his vision of tank employment, in order to gain the widest publicity and resources for the cause of the panzer divisions. The book asserted that only by the intelligent use of armored formations could Germany achieve swift and decisive victories in future wars.

In February 1938, Hitler appointed Guderian to command the world's first armored corps. Fittingly, as the creator of Germany's armored forces, he was selected over several officers senior to him. The invasion of Poland provided Guderian the first opportunity to demonstrate the effectiveness of his concepts in battle.

POLISH CAMPAIGN:

During the Polish campaign, Guderian was given a rare opportunity – namely, to test his concepts in battle. That the Polish campaign ended so quickly owed much to the startling success of the *blitzkrieg* concepts that Guderian advocated. The essence of *blitzkrieg* was the synergism between surprise, speed and concentration. Surprise facilitated speed; speed fostered surprise; concentration enhanced both.¹⁹

Surprise was achieved by Hitler's negotiating until the last moment, and then attacking without warning and with overwhelming strength. The *Wehrmacht's* combined arms offensive achieved exactly what Guderian had foreseen. The deep penetration into the Polish rear areas by the panzer divisions at the *schwerpunkt* (the decisive point),

¹⁹ *Ibid.*, 303.

together with the *Luftwaffe's* elimination of the Polish air force, brought about the very battle of paralysis and annihilation that Guderian advocated.

Guderian's own XIX Corps, which contained one panzer and two motorized infantry divisions, played an important role in the overwhelming defeat of Poland. It advanced in the north from Pomerania to the Vistula river and cut off enemy forces in the Polish corridor. Guderian, never one to lead from behind, put himself in an armored command vehicle and accompanied the leading panzer formations. This enabled him to maintain contact with his Corps headquarters and with his subordinate commanders. Guderian was aware that, since Napoleon and the advent of large armies, the tendency was for commanders to lead from the rear. The reasoning was that from this vantage point the commander could survey the entire battlefield. In this new age of fast, deep-penetrating mobile warfare, however, Guderian promoted the idea that commanders must accompany the lead elements of the *blitz*. Guderian wrote after the war that a commander should be located where he could personally see what was going on and receive directly the reports of his reconnaissance units. From this vantage point, he was able to make decisions and give orders rapidly. "The commander must always be in front of his men, otherwise he loses all possibility of leadership. The soldier wants to be able to see his general himself."²⁰

In order to ensure that lateral and rearward communications and liaisons were maintained, and that his orders were transmitted to all concerned, he reorganized his staff. Guderian separated his staff into a forward echelon, which accompanied the

²⁰ Heinz Guderian, "Armored Warfare: Considerations of the Past and Future," Armored Cavalry Journal, January-February 1949, 3.

commander, and a rear echelon, for the transmission of orders and messages to the flanks and to the rear. Guderian kept the forward or command staff echelon small and mobile so that it could maintain itself on the battlefield. To accomplish this, Guderian was one of the first to mount his command staff in armored vehicles, equipping them with the latest radios and encryption devices. He also developed a “command language” for armored units to ensure brevity and clarity for passing orders.²¹ Guderian’s time as a signals officer gave him these insights. Guderian created not only a new combat arm, but also capitalized on new technologies. He proved he was not only a theorist, but a practical officer highly versed in all aspects of active soldiering as well.

In the Polish Campaign, Guderian demonstrated the potential advantage of tank forces. Guderian concentrated his armor up front to achieve penetration at the *schwerpunkt*. This ensured that the armor would be in a position to race into the operational depths of the defending enemy. Guderian recounts that by 4 September 1939 his XIX Corps had pushed across the Polish Corridor to the Vistula River and had totally destroyed two to three Polish infantry divisions and one cavalry brigade, capturing thousands of prisoners and hundreds of guns.²² This fact supports the claim that the payoff for reaching operational depths quickly can be significant. Operational success is measured by the resulting operational or strategic effects. In the Polish Campaign, Guderian’s operations played a decisive part in achieving the German strategic goal of the collapse of the Polish armed resistance and the surrender of the Polish armed forces.

²¹ *Ibid.*, p. 3.

²² Guderian, *Panzer Leader*, 73.

There were further organizational and tactical changes affecting the conduct of future battles. In particular, Guderian advocated that commanders lead the battle from the front. To accomplish this, Guderian insisted that units be provided with better command vehicles and communication systems. Close air support for the leading troops was also studied in greater detail; improved integration evolved. The Germans identified and corrected other deficiencies as they readied themselves for an invasion of France.

THE SICKLE CUT: THE GERMAN CAMPAIGN AGAINST FRANCE.

Following the defeat of Poland, Hitler directed the General Staff to develop a campaign plan to defeat France. The General Staff's initial plan was basically a version of the failed *Shlieffen* Plan of 1914. It called for the main effort to be made by an enveloping attack through the lowlands of Belgium and northern France. General Erich von Manstein, whom Guderian called "our finest operational brain," obtained a copy of the General Staff's Plan Gelb (Yellow) and found little to admire about it.²³ The strategic objective was to defeat France quickly in a *blitzkrieg* campaign and avoid the stalemate and attrition warfare that characterized the First World War. Manstein argued that the proposed plan might provide operational success but not the strategic objective.

Manstein proposed a radically different plan. He insisted that the strength of Germany's forces, as demonstrated in the Polish Campaign, now lay in their mobility and offensive capability. Although Manstein was not a tank expert, he thought in terms

²³ Len Deighton, Blitzkrieg: From the Rise of Hitler to the Fall of Dunkirk (London: Jonathan Cape, Ltd, 1979), 85.

of long armored thrusts with Panzers and mechanized forces slicing through the French lines in the Ardennes. He envisioned these breakthroughs advancing to the channel coast, cutting off the Allied forces in Belgium and destroying them before they could escape across the Somme. Following an operational pause, the remaining Allied forces behind the Somme could be destroyed.

The German high command did not support the Manstein plan. Manstein thus approached the only man in Germany who could verify the feasibility of getting tanks through the narrow, twisting roads of the Ardennes; that man was Heinz Guderian.²⁴ Manstein simply assumed that it was possible to maneuver tanks through the Ardennes forest. Guderian remembered the terrain from the First World War and thought it was possible to move and supply his armored and motorized forces through this hilly terrain. Although the major designer of the Sickle Plan, Manstein was relegated to commanding an infantry corps during the campaign. The major role in executing the plan was given to Guderian.

Guderian became a leading advocate of the "Sickle Plan" during a series of war games in February 1940. He proposed that his corps (XIX Panzer Corps of Army Group A) cross the Meuse river near Sedan and then drive to Amiens on the Somme river, 120 miles to the west. Senior members of the General Staff strongly disagreed with him. They suggested that Guderian's tanks might be able to make a bridgehead over the Meuse, but that the armor units needed to wait for the infantry to catch up to make a

²⁴ *Ibid.*, 209.

“unified attack.” Guderian viewed this as old thinking; operational design based on the same old tactics.

Guderian, as was his trademark, contradicted his seniors. He was certain that waiting for the infantry units would jeopardize the operation. Such hesitation, he argued, would allow the Allies to mass reinforcements along the Meuse and halt his attack.

Guderian had a healthy respect for the Allied forces, particularly the French. Because the Allied forces greatly outnumbered the Germans, Guderian insisted that it was essential for the Germans to use all of their available offensive power in one surprise blow at the *schwerpunkt*; to drive a wedge so deep and wide into the enemy’s rear that the German forces need not worry about their flanks. Guderian reasoned that his forces could immediately exploit any success without bothering to wait for the infantry.²⁵

This illustrates Guderian’s vision of the proper sequencing of operations for mechanized forces: first to break through the enemy’s lines; second, wreaking havoc in the enemy rear causing fear and confusion; and finally, the destruction of the enemy’s forces. This is a testament to Guderian’s innovative vision, technical skill, leadership and understanding of operational design. This design placed German strength against enemy weakness. It also achieved operational surprise. In addition, Guderian’s decisive thrust into the Allied rear cut off the Allied forces, thus attacking a critical vulnerability by cutting off their lines of communication.

Attacking through the Ardennes involved great risk. This suited Guderian’s personality and leadership style perfectly. A consummate risk-taker, he was “too well

²⁵ Guderian, Panzer Leader, 90.

trained and expert in the handling of armor to be foolhardy.”²⁶ Guderian proved to his detractors that he was at his best when handling aggressive operations.

Guderian carried the main part of the campaign. His three panzer divisions, with more than 300 tanks apiece, crossed 60 miles through the tough, steep terrain of the Ardennes forest and over the river Meuse at Sedan before the Allies, and most of the German General Staff, realized that he had pulled off the impossible; Guderian drove his forces through the “impassable” Ardennes.

In his drive to the channel coast, it is accurate to say that Guderian faced as much opposition from his own superiors as he did from the Allies. When Guderian had reached the Meuse, the General Staff was so riveted on what the tactical challenge of crossing the Meuse that they lost sight of the overall goal, the Allied defeat.²⁷ The German high command accepted securing the bridgehead as an end in itself, rather than as a means of destroying the Allied forces. Guderian did not lose focus of the strategic goal, but was frustrated throughout the campaign by a series of halt orders.

Guderian’s instincts at the Meuse allowed him to keep the strategic goal of defeating the Allies in mind. He advanced without hesitation, dragging Hitler and the German high command with him, while making history and revolutionizing warfare along the way. Guderian accurately sensed that the halt orders and hesitance of his seniors would prevent the *schwerpunkt* force from reaching the channel coast and causing the offensive in the west to fail.

²⁶ von Mellenthin, 90.

²⁷ R.H.S. Stolfi, Hitler’s Panzers East: World War II Reinterpreted (Norman: University of Oklahoma Press, 1991), 110.

Guderian's relationship with his superiors throughout the war, especially with Hitler, was often controversial. Their differences centered on how operations should be conducted. Guderian retained his operational style of driving his panzer forces forward in a quick *blitz*. Guderian met with Hitler countless times during the war and often criticized Hitler's military leadership. His willingness to stand up to Hitler provoked many bitter and violent clashes between them. Time and again Guderian mustered the courage to contradict and warn Hitler. He was one of the few senior German officers who stood by his own views and maintained the moral courage to contradict Hitler.

CONCLUSIONS AND LESSONS FOR TODAY.

The successes Guderian achieved are powerful examples of the impact of operational leadership. Guderian's innovative ideas, his operational thinking, his execution of operations, and most importantly his character, brought success on the battlefield.

Guderian's example still provides lessons for today. Guderian was a visionary who saw that a revolution in military technology, coupled with revolutionary doctrine, could transform the battlefield. Although his vision was often opposed by the German military establishment, Guderian's perseverance translated his beliefs into reality. One of Guderian's greatest skills was his ability to communicate his vision to his subordinates, and then lead them personally from the front.

Guderian was a master in maximizing an economy of force. He realized that at the beginning of most campaigns, German units would be outnumbered. He was acutely

aware that Germany would not be victorious if it fell into another static, attrition style war like the First World War. Thus, Guderian espoused the need for quick, *blitz*-style attacks, that capitalized on surprise and an overwhelming concentration of strength at the decisive point. His pre-war preparations engineered the techniques that made this type of warfare possible not only for his own forces, but for every other part of the German Army.²⁸ Guderian's development of logistics and communication systems enabled German motorized forces to operate independently for up to five days, and to respond rapidly to their leaders' commands. This point cannot be overemphasized. Without this system, the *Wehrmacht* would probably not have achieved its stunning victories in the early years of the war.

Guderian's operational thinking, planning, and execution were based on his willingness to accept risk in order to keep his forces concentrated at the *schwerpunkt*. Guderian was often criticized and second-guessed by his superiors. Time and again, however, his skill in accurately assessing the situation proved his skeptics wrong. Guderian had a knack for making sound and timely decisions when assessing the best employment of his forces. Once these decisions were made, he aggressively implemented them. Today's operational leaders could learn much about decision-making from Guderian's example.

²⁸ Macksey, 211.

BIBLIOGRAPHY

Books

Alexander, Bevin. How Great Generals Win. New York: W.W. Norton & Company, 1993.

Carver, R.M. The Apostles of Mobility. New York: Holmes and Meier Publishers, 1979.

Guderian, Heinz. Achtung-Panzer!: The Development of Armoured Forces, Their Tactics and Operational Potential. London: Arms and Armour Press, 1992.

_____. Panzer Leader. London: Michael Brown, Ltd., 1952.

Hart, B.H. Liddell. The German Generals Talk. New York: William Morrow and Company, 1948.

Macksey, Kenneth. Guderian: Creator of the Blitzkrieg. New York: Stein and Day Publishers, 1975

_____. The Tank Pioneers. London: Jane's Publishing Company, 1981.

_____. Tank Warfare: A History of Tanks in Battle. New York: Stein and Day Publishers, 1971.

_____. From Triumph to Disaster: The Fatal Flaws of German Generalship from Moltke to Guderian. London: Greenhill Books, 1996.

Mellenthin, F.W. von. German Generals of WWII: As I Saw Them. Norman: University of Oklahoma Press, 1977.

_____. Panzer Battles: A Study of the Employment of Armor in the Second World War. Norman: University of Oklahoma Press, 1956.

Stolfi, R.H.S. Hitler's Panzers East: World War II Reinterpreted. Norman: University of Oklahoma Press, 1991.

Strawson, John. "General Heinz Guderian." in The War Lords, Edited by Field Marshal Sir Michael Carver, Boston: Little, Brown and Company, 1976.

Government Documents

Guderian, Heinz. "Armored Forces and Their Cooperation with Other Arms." translated from the German. Fort Humphreys: The Army War College, 1937.

Gwin, Jurgen J. "An Analysis of Operational Leadership: Field Marshal Erich von Manstein." Unpublished Research Paper, U.S. Naval War College, Newport, RI: 1995.

Higgins, George A. The Operational Tenets of Generals Heinz Guderian and George S. Patton, Jr. Fort Leavenworth: SAMS Monograph, 1985.

Vego, Milan. "On Operational Art." Unpublished Paper, U.S. Naval War College, Newport, RI: 1997.

_____. "Operational Leadership." Unpublished Paper, U.S. Naval War College, Newport, RI: 1996.

Periodicals

Guderian, Heinz . "Armored Warfare: Considerations of the Past and Future." Armored Cavalry Journal. Jan-Feb 1949.

_____. "The German Armored Divisions." Military Review, Sep 1940.