

AD-A283 481



Unclassified

NAVAL WAR COLLEGE
Newport, R.I.

①

THE OPERATIONAL LEADERSHIP OF HELMUTH von MOLTKE

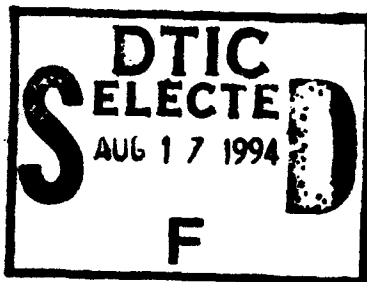
by

Gary J. Ohls

Lieutenant Colonel, United States Marine Corps Reserve

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

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



Signature: 

17 June 1994

*Paper directed by Captain H. Ward Clark
Chairman, Department of Military Operations
Dr. Milan Vego, Professor*

This document has been approved
for public release and sale; its
distribution is unlimited.

Approved by:

Faculty Research Advisor

Date

94-25904 3708



Unclassified

94 8 16 08 4

**Best
Available
Copy**

REPORT DOCUMENTATION PAGE

1a. REPORT SECURITY CLASSIFICATION UNCLASSIFIED		1b. RESTRICTIVE MARKINGS NONE	
2a. SECURITY CLASSIFICATION AUTHORITY		3. DISTRIBUTION / AVAILABILITY OF REPORT DISTRIBUTION STATEMENT A: APPROVED FOR PUBLIC RELEASE; DISTRIBUTION IS UNLIMITED.	
2b. DECLASSIFICATION / DOWNGRADING SCHEDULE			
4. PERFORMING ORGANIZATION REPORT NUMBER(S)		5. MONITORING ORGANIZATION REPORT NUMBER(S)	
6a. NAME OF PERFORMING ORGANIZATION OPERATIONS DEPARTMENT	6b. OFFICE SYMBOL (If applicable) C	7a. NAME OF MONITORING ORGANIZATION	
6c. ADDRESS (City, State, and ZIP Code) NAVAL WAR COLLEGE NEWPORT, R.I. 02841		7b. ADDRESS (City, State, and ZIP Code)	
8a. NAME OF FUNDING / SPONSORING ORGANIZATION	8b. OFFICE SYMBOL (If applicable)	9. PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER	
8c. ADDRESS (City, State, and ZIP Code)		10. SOURCE OF FUNDING NUMBERS	
		PROGRAM ELEMENT NO.	PROJECT NO.
		TASK NO.	WORK UNIT ACCESSION NO.
11. TITLE (Include Security Classification) (UNCLASSIFIED) THE OPERATIONAL LEADERSHIP OF HELMUTH von MOLTKE			
12. PERSONAL AUTHOR(S) OHLIS, GARY JOE, LTcol, USMC R			
13a. TYPE OF REPORT FINAL	13b. TIME COVERED FROM TO	14. DATE OF REPORT (Year, Month, Day) 1994 06 17	15. PAGE COUNT 38
16. SUPPLEMENTARY NOTATION A paper submitted to the Faculty of the Naval War College in partial satisfaction of the requirements of the Department of Operations. The contents of this paper reflect my own personal views and are not necessarily endorsed by the Naval War College or the Department of the Navy.			
17. COSATI CODES		18. SUBJECT TERMS (Continue on reverse if necessary and identify by block number)	
FIELD	GROUP	SUB-GROUP	
		OPERATIONAL LEADERSHIP, OPERATIONAL ART, STRATEGY LEVELS OF WAR, PLANNING, SUSTAINMENT, MOLTKE'S CONTRIBUTION	
19. ABSTRACT (Continue on reverse if necessary and identify by block number)			
<p>Understanding operational leadership is an important aspect of officer professionalism in the modern American military. By studying the evolution of this concept we can better comprehend its role in the current defense environment, and gain some insights into how it can be applied. Helmuth von Moltke is the prototype model for modern operational leadership. He provides a superb example in both his writings and in his actual application of the military arts. To understand Moltke's contribution, it is necessary to first understand the times in which he practiced his art. The Napoleonic era and its aftermath set the stage for Moltke's role in nineteenth century warfare. The events of the Napoleonic era resulted in a series of reforms in Prussia including the development of the General Staff system from which Moltke built an effective military machine. His mastery of planning, staff development, mobilization, deployment, sustainment, and the implementation of technology helped to make the Prussian (and later the German) army the master of Europe. He applied his talents, in conjunction with Chancellor Otto von Bismarck, to defeat Denmark in 1864, Austria in 1866 and France in 1870-71. Moltke was a student and admirer of Clausewitz, but did not follow all his prescriptions at all times. Moltke was a master of military efficiency and ranks among the great captains of all time. His greatness resulted primarily from superior management skills which he applied to military strategy and operations in a manner never surpassed before or since.</p>			
20. DISTRIBUTION / AVAILABILITY OF ABSTRACT <input checked="" type="checkbox"/> UNCLASSIFIED/UNLIMITED <input type="checkbox"/> SAME AS RPT. <input type="checkbox"/> DTIC USERS		21. ABSTRACT SECURITY CLASSIFICATION UNCLASSIFIED	
22a. NAME OF RESPONSIBLE INDIVIDUAL CHAIRMAN, OPERATIONS DEPARTMENT		22b. TELEPHONE (Include Area Code) 841-3414	22c. OFFICE SYMBOL C

French Estimate of the Situation at the Battle of Sedan

"Nous sommes dan un pot de chambre et nous y serons emmerdes."

*Général Auguste-Alexandre Ducrot
Sedan, 31 Août 1870*

Course of Action Selected by Napoléon III at the Battle of Sedan

Monsieur mon Frère,

*N'ayant pu mourir au milieu mes troupes, il ne me reste qu'a remettre
mon épée entre les mains Votre Majesté.*

*Je suis de Votre Majesté,
le bon Frère,
Napoléon*

Sedan, le 1er Septembre, 1870

Accession For	
NTIS CRA&I	<input checked="checked" type="checkbox"/>
DTIC TAB	<input type="checkbox"/>
Unannounced	<input type="checkbox"/>
Justification _____	
By _____	
Distribution /	
Availability Codes	
Dist	Avail and/or Special
A-1	

Abstract of
THE OPERATIONAL LEADERSHIP OF HELMUTH von MOLTKE

Understanding operational leadership is an important aspect of officer professionalism in the modern American military. By studying the evolution of this concept we can better comprehend its role in the current defense environment, and gain some insights into how it can be applied. Helmuth von Moltke is the prototype model for modern operational leadership. He provides a superb example in both his writings and in his actual application of the military arts. To understand Moltke's contribution, it is necessary to first understand the times in which he practiced his art. The Napoleonic era and its aftermath set the stage for Moltke's role in nineteenth century warfare. The events of the Napoleonic era resulted in a series of reforms in Prussia including the development of the General Staff system from which Moltke built an effective military machine. His mastery of planning, staff development, mobilization, deployment, sustainment, and the implementation of technology helped to make the Prussian (and later the German) army the master of Europe. He applied his talents, in conjunction with Chancellor Otto von Bismarck, to defeat Denmark in 1864, Austria in 1866 and France in 1870-71. Moltke was a student and admirer of Clausewitz, but did not always follow his prescriptions. Moltke was a master of military efficiency and ranks among the great captains of all time. His greatness resulted primarily from superior management skills which he applied to military strategy and operations in a manner never surpassed before or since.

Contents

<u>Subject</u>	<u>Beginning Page</u>
Abstract	ii
Table of contents	iii
Moltke and Operational Leadership	1
Napoleon, Reform, and the Peace Era	2
The Dawning of the Moltke Era	4
Moltke's Leadership in the Prusso-Danish War	6
Moltke's Leadership in the Austro-Prussian War	8
Moltke's Leadership in the Franco-Prussian War	15
Moltke and Clausewitz	22
Conclusions on Moltke's Operational Leadership	23

Attachments

Leadership Example "Matrix"	Attachment "A"
Bibliography	Attachment "B"
Map of Prusso-Danish War ¹	Attachment "C"
Map of Austro-Prussian War ²	Attachment "D"
Map of Franco-Prussian War ³	Attachment "E"
Map of the Battle of Gravelotte-St. Privat ⁴	Attachment "F"

¹ Trevor N. Dupuy. A Genius for War: The German Army and General Staff, 1807-1945. (Englewood Cliffs, NJ: Prentice-Hall, Inc., 1977), p. 71.

² Roland G. Foerster. "The Operational Thinking of the Elder Moltke and its Consequences." Operational Thinking in Clausewitz, Moltke, Schlieffen and Manstein. Bonn, Germany: Militargeschichtliches Forschungsamt, Freiburg im Breisgau, 1989), p. 26

³ Michael Glover. Warfare from Waterloo to Mons. (London, England: Cassell Ltd., 1980), p. 126.

⁴ Ibid. p. 140.

The term 'operational art' as employed within the doctrine of warfare is a relatively new concept. Although it has been studied in American War Colleges for over ten years, it has not been well understood nor widely used until quite recently. It received an increased level of professional attention as a result of General Schwartzkopf's frequent use of the term during and after the 1991 Persian Gulf War. Although fairly new as a defined concept, operational art has been exercised by commanders throughout the ages. Previously, the concept of operational art was often described in terms of strategy or tactics, using subtle nuances to connote larger or lesser levels of activity. As the size and complexity of military forces increased over time, a need developed to better structure the management of military forces and operations in both theory and practice. The modern concept of operational art has accomplished that purpose, and can best be described as the activity necessary to link the effects of tactical actions to the accomplishment of strategic aims. It includes "the theory and practice of preparing, planning, conducting, and sustaining operations and campaigns aimed to attain operational or strategic objectives in a given theater of operations or theater of war."¹ Operational art is exercised through "the employment of military forces to attain strategic and/or operational objectives through the design, organization, integration, and conduct of strategies, campaigns, major operations, and battles."² Operational leadership can be thought of as that leadership exercised in the implementation of operational art.

The concept of operational art becomes quite clear when viewed in light of its evolutionary development. Great military thinkers have often used the terms "operations" and "operational" in a rather general sense in discussing military activities. They have also applied these terms to actions which are more correctly of a strategic or large scale tactical nature; and, conversely, have used the term strategy for activity we would now consider operational. In much of Clausewitz' writings, for example, we would find the term strategy used to describe activity which is now considered to be part of operational art. This issue of dated terminology is a problem when reading many of the great military writers, and can be found throughout the literature of warfare. In the writings of Helmuth von Moltke, we begin to see terminology more similar to what we use today, although imprecisions remain. But Moltke's greatest contributions to the understanding of operational art is in his demonstration of leadership rather than any precise use of terminology. It was with the rise of Moltke that we begin to see the formulation of operational art as it is practiced in the modern age. Through the study of his leadership and his contributions to military art, we can better understand how the current concept was developed, and thereby become better operational leaders ourselves. Moltke is significant to this because he stands as the prototype for the exercise of operational leadership in the modern era. To fully appreciate Moltke's contribution we must also understand the man himself, his role as a military professional, and the circumstances under which he practiced his craft.

In the evolution of warfare, it is generally recognized that the Napoleonic era is followed by the Moltke era. In attempting to understand the Moltke era, it

¹ Milan N. Vego. Fundamentals of Operational Art (NWC 4054). (Newport: Naval War College, 1994), p. 42.

² Ibid.

is essential to have an appreciation of the age of Napoleon and how those events affected the Prussian army. The impact of Napoleon on warfare was spectacular, of course, and resulted in many new military concepts. The use of massed armies moving rapidly over vast distances and attacking with devastating effect will always be the hallmark of 'le Grand Napoléon.' Great battles of annihilation were conducted, and entire wars could be decided by one or a few major victories. No army of Europe could stand up to the brilliance of Napoleon and the concepts of warfare he introduced to the world. Ultimately, Napoleon was defeated only when the armies of Europe were able to conduct internal reforms and then combine into an irresistible alliance. Although Napoleon himself was eliminated from the European political order, the effects of his era were not. This was especially true in the German state of Prussia.

Prussia was among the states which were able to adjust to the challenge of Napoleon. The proud state of Frederick the Great responded to the defeats at Jena and Auerstadt with a determination to reestablish her military reputation. As William McElwee stated in his book The Art of War: "After years of selfish isolation, Prussia had taken on Napoleon single-handed in 1806 and had suffered defeats more spectacular and a collapse of morale such as the apparently decadent Austrian Empire never experienced. With French garrisons in Berlin and all the principle fortresses, the nation of Frederick the Great all but disintegrated. Equally spectacular was the recovery during the following six years, staged on the civilian side by Stein and on the military by Scharnhorst and Gneisenau. Essentially their work was imitative, based on the profound studies of Carl von Clausewitz into the system and methods which had enabled Napoleon almost to subject the whole of Europe. It was from this that the concept of the nation at war was evolved, requiring not merely a new kind of army, but a new kind of nation altogether."³

The reforms which Scharnhorst and Gneisenau⁴ initiated recognized that the King would act as the Commander in Chief of the army, but the system they created was designed to be effective regardless of the King's military competence. The key element in assuring such effectiveness was the development of a General Staff system consisting of professional officers who would assist and advise the king, yet have specific responsibilities and duties of their own. The General Staff would play a larger or lesser role depending upon the ability and interests of the reigning King. The essential duties of the General Staff were those of planning, coordinating and supervising, and operational readiness and effectiveness. These duties included the following elements:

Planning

- Gathering and cataloging information

³ William McElwee. The Art of War - Waterloo to Mons. (Bloomington, IL: Indiana University Press, 1974), p. 29.

⁴ The complete team of reformers consisted of Scharnhorst, Gneisenau, Grolman, Boyen and Clausewitz. Scharnhorst was the leader and most important member of the team. Although he suffered an early death, and was ultimately surpassed in history by his pupil, Carl von Clausewitz, he was the outstanding force behind the reform movement of this period. Upon his death in 1813, Gneisenau became the most important leader of the movement. Therefore the reforms coming from this period are usually referred to as being those of Scharnhorst and Gneisenau.

- Recruiting, especially for combat replacement
- Training, at all levels at all times
- Mobilization planning and implementation
- Logistical planning and implementation
- Developing and revising geo-strategic war plans

Coordinating

- Initial deployment and movement of armies, corps and divisions
- Planning and supervising changes to plans and movements
- Centralized supervision without micro-management

Operational readiness

- Officer education, especially members of the General Staff
- Positioning of officers trained by the General Staff to key billets
- Planning and conducting maneuvers and mobilization exercises
- Creation and modification of operational doctrine

All of these ingredients were, of course, interrelated and highly interactive. It was therefore essential that the orchestration of this complex effort be conducted by a professional officer of the highest level of ability and competence. This required that the Prussian army maintain the capacity to produce officers worthy of such responsibility, thereby making an officer education and development program fundamental to the reforms. The development of the General Staff system and its supporting officer education program was to be further improved following the reform period, and has been referred to by Colonel Trevor Dupuy as the "institutionalization of military excellence."

Other reforms which accrued from the efforts of Scharnhorst and his reform group included the creation of an effective national conscription system, improvement in the popularity of the army, broadening the constituency of the army, improvement of morale and patriotism within the army, improvement of the quality and education of the officer corps in general, and a willingness to consider new ideas and opportunities. Much of this was achieved grudgingly and was only partially or occasionally successful. But in the move toward reform, the progress made by this group was superior to that of other nations of the period, and it laid the basis for greater strides in the future. Although these reforms brought the Prussian army much improvement after the defeats of Jena and Auerstadt, the army's performance at the 1915 battle of Waterloo exposed lingering deficiencies and demonstrated a need for further progress.

After the defeat of Napoleon, most European armies became locked in a complacency generated by their hard won victory. Even leaders who had been brilliant and innovative on the field of battle lapsed into a sort of military lethargy, becoming rigid from years of peace and a false sense of competence. Additionally, the demands emanating from the social and political realm, the lack of a clear and present threat, and the effectiveness of the Peace of Paris all conspired to reduce the commitment and support provided by European powers to their military forces. Although Prussia also fell prey to this malaise, she was

less affected because of the impact of the institutionalized military excellence system remaining from the reform period. The superb staff system, designed by Scharnhorst and improved by his successors, and the superior officer development program combined to provide Prussia an advantage which allowed her to forge ahead of other European armies. The conscription system, although in need of further reform, had been retained and served as an excellent basis for building a superior military force when needed. During the years following the battle of Waterloo, Prussia alone avoided military stagnation and mediocrity. She had developed an appreciation for the value of technology and created a nascent arms industry able to provide excellent new weapons for both the infantry and artillery. In October of 1857, at the time of Moltke's accession to the position of Chief of the General Staff, Prussia alone retained a creative impulse and a potential for military innovation. It was for this great leader to refine the existing features of the Prussian army, integrate new concepts and innovations, and thereby introduce warfare to the modern age. Moltke, the brilliant product of a system of excellence, was to combine with the political genius of Bismarck and the Prussian military tradition, to create a remarkable period known to military thinkers as the Moltke era.

The Napoleonic and Moltke eras were separated by forty years of peace, or at least the absence of general war. This tranquillity was first disturbed by the Crimean War which raged from 1853 through 1856, and proved to be a harbinger of change. As stated by William McElwee: "Looking backward, then, the Crimean War was just a belated epilogue to the age of Napoleon. Only a very few statesmen and soldiers perceived that it might also be the curtain-raiser for a very different sort of drama. The forty years during which there had been no major disturbance of the peace were followed by fifteen which would see the whole shape of the world altered and its future determined by five wars, and which, we can now perceive, set the stage for the great, world-wide struggles of the twentieth century."⁵ It was shortly after the Crimean War, in 1857, that Moltke was elevated to the position of Chief of the General Staff, a position he was to hold until 1889. Moltke had been able to observe the Crimean War from the vantage point of a staff officer. But he was able to observe the Italian campaign of 1859 between Austria and France/Piedmont from the more focused position of Chief of the General Staff. It is in his analysis and writings of the Italian campaign that we first begin to observe some elements of Moltke's operational leadership.

Although Napoleon III had won victories over the Austrian army at Magenta and Solferino during the Italian campaign, it had been accomplished with difficulty and at great cost. Napoleon III and most other leaders of Europe had concluded from the Italian campaign that France was the strongest military power in Europe and that Austria was a close second. Moltke, however, learned a different lesson from that war. In the words of William McElwee: "Only Moltke and a handful of his General Staff colleagues, comparatively junior officers in the Prussian military hierarchy, reached the correct conclusions: that two great armies, wholly antiquated both tactically and logistically, had blundered their way through a campaign which, in the last analysis, proved only that both could be comfortably defeated by a more modern conception of the

⁵ McElwee, p. 4.

potentialities of fire and movement. Moltke's perception of the truth was to transform the map and the whole future of Europe." ⁶ Among the specific deficiencies that Moltke observed from the Italian campaign "was the difficulty experienced by the opposing high commands in maintaining control over field forces of nearly 200,000 men. The efforts of both sides to assure coordination broke down completely at Solferino, and it was evident to Moltke that this was not merely the result of meddling of the two amateur Imperial Commanders...Although the French and Austrians subordinate commanders performed well when their orders were clear, Moltke noted that they generally stopped and awaited further instructions when orders were lacking or conflicting." ⁷ Avoiding the lack of clarity and initiative that typified the Italian campaign was to be one of the main achievements of Moltke's tenure in office. His observations of the Italian campaign were to reaffirm his belief in the use of mission type orders and the value of ensuring that all subordinate commanders understand the objectives and aims of the campaign they are conducting. Additionally, Moltke believed that "the old Napoleon precept, 'separate to live, unite to fight' needed to be slightly updated for the larger armies of the mid-nineteenth century: 'separate to live and to move; unite only to fight.'" ⁸

Through his study of the Crimean war and the Italian campaign, Moltke had developed a firm grasp of the capabilities and deficiencies of his potential enemies. He also maintained a continuing appraisal of the conditions within the Prussian army. Although Prussia had not entered the Italian war, the King, William I, did order a mobilization against France at one point. As Trevor Dupuy states: "The orders, based on Moltke's plans, were promptly issued, and for the first time railways became the principle means of moving troops and material to the mobilization assembly areas. Mobilization, however, had not yet achieved either the economic or psychological significance which was to be the logical development of Moltke's concepts when applied to 'nation at arms.'" ⁹ For Moltke, the problems experienced in the mobilization processing and his use of the railway system would serve as learning points which he used to further refine his concepts and procedures. As the Chief of the General Staff, Moltke set out to take maximum advantage of these observations, and to implement the changes he believed necessary to create a Prussian army that would be an irresistible force in Europe.

As Moltke took charge of the General Staff, his impact on the army was quickly felt. Among his immediate enhancements were:

- Reorganization of the General Staff based on a geo-strategical orientation. Creation of the Lines of Communications and Military History departments.
- Pressed for the arming of all infantrymen with the breech loading needle gun and the production of breech loading artillery pieces.
- Selected and personally trained exceptional officers and disbursed them to key positions throughout the army.

⁶ *Ibid.* pp. 9-10

⁷ Trevor N. Dupuy. A Genius for War: The German Army and General Staff, 1807-1945. (Englewood Cliffs, NJ: Prentice-Hall, Inc., 1977), p. 66.

⁸ *Ibid.* p. 67.

⁹ *Ibid.* p. 65.

- Created and developed the concept of using railways in support of mobilization, military movements, and logistical support. Formed a civilian-military joint commission to operate the railways in time of war.

In considering the long term impact of Moltke's leadership of the General Staff, his contributions are even broader and include:

- Elevation of meticulous planning to the level of artistic perfection.
- Implementation of the concept of centralized control with decentralized execution of military operations.
- Defined, primarily through his action and leadership, the modern concept of operational art.
- Integration of rapidly developing technology into military operations.
- Establishment of pragmatism in the analysis and implementation of concepts, coupled with open minded objectivity.

The historic effect of Moltke's leadership first came to the forth during the Prusso-Danish war of 1864. During that war, his talents as a planner, strategist, and director of field operations were fully recognized and used with great effectiveness. Although the wartime duties of the Chief of the General Staff were not clear during the initial phases of the war, the effects of Moltke's insight and planning were. Fourteen months before the out break of the Prusso-Danish war, Moltke had outlined for the King and the Minister of War, Albrecht von Roon, his views on the probable Danish actions and the likely course of the war. As stated by Trevor Dupuy in his book A Genius for War: "As Moltke had foreseen in a prewar strategic planning memorandum to Roon and the king, the Danes had quickly fallen back from the frontier, avoiding a major battle in which they might be overwhelmed and destroyed. They had withdrawn to the fortifications of Dybbol (Duppel) in eastern Schleswig, guarding the approach to the island of Als (Alsen) across the Alesensund, and to the island of Fyn (Funen). Duppel (to use the German name) was one of the strongest fortifications in Europe at the time.

"Moltke's strategic memorandum had pointed out that, without a fleet capable of challenging the Danish Navy, it would be impossible to do serious harm to Denmark other than occupying the fertile province of Jutland. But the Austrians feared the possibility of intervention by the other signatories of the treaty of London (Britain, France, Russia and Sweden) if operations were carried into Denmark proper, and so opposed any move into Jutland. Accordingly, at Bismarck's instigation, that aspect of the General Staff plan was deleted from the order issued in the King's name to Wrangel by Roon."¹⁰ In this debate as to whether or not Prussian forces should enter Jutland, we have the seeds of a civil-military conflict which is common in military history, and is to become monumental in future Prussian operations. The political point of view, as advanced by Bismarck, was that the Danish forces should be destroyed at Duppel rather than incur the political risk of entering Jutland. The military view, as proffered by General Friedrich von Wrangel and Prince Frederick Charles and supported initially by Moltke, was that attacking Duppel would be too costly,

¹⁰ *Ibid.* p. 72-73.

and that maneuvering against Jutland was a more promising military option. As related by Gordon Craig in The Politics of the Prussian Army: "While Wrangel had advanced into Jutland, the siege of Duppel had been entrusted to Prince Frederick Charles. This commander was impressed by the strength of the Danish position and less so with the arguments which came from Berlin. 'Is it supposed to be a political necessity to take the bulwarks?' he wrote the King. 'It will cost a lot of men and money. I don't see the military necessity.' The Prince was supported by his own Chief of Staff, Blumenthal, and by the Chief of the General Staff as well. 'Any reasonable soldier must see,' wrote Moltke, 'that a quick decision at Duppel is not to be expected and that time is needed...One cannot express sanguine hopes, and a good rider doesn't encourage his best horse to make a jump which will break its neck. Our troops will certainly show what they can accomplish, but the assault must be prepared.' Moltke, at least, envisaged an eventual attack on Duppel. Frederick Charles, on the other hand, seemed to prefer almost any operation except the one desired." ¹¹

Ultimately, Bismarck prevailed and Duppel was attacked and carried. By that time, Moltke had been dispatched to replace Wrangel's vexatious Chief of Staff, General Karl Ernst Eduard Vogel von Falckenstein, as both the King and Roon had become disaffected by the conduct of operations in the field. After an abortive attempt at peace negotiations, the King decided to unify the commands operating against Denmark, placing Prince Frederick Charles in the position of unified field commander with Moltke as his Chief of Staff. During the peace negotiation period, Moltke had remained active developing battle plans and preparing the army for the possibility of renewed hostilities. "Thus when the war was renewed on June 28, the Prussian troops were ready. Within two weeks Als and Jutland had been occupied and Denmark was suing for peace. The smooth efficiency of these operations contrasted sharply with the confusion and controversy that had attended the initial invasion of Schleswig. King William, who was in the field with the army during the final weeks of the campaign, recognized that the difference was due to Moltke and to the system of coordination that linked the Chief of the General Staff to the Chiefs of Staff of the subordinate commands." ¹²

The Prusso-Danish war provides an excellent opportunity to observe the operational leadership of Helmuth von Moltke. The most obvious lesson from this war is that Moltke's application of operational art clearly encompasses both the strategic and the operational level of war. His capacity for strategic thinking is exhibited by his superior insight regarding the actions of both his Danish enemy and the non-belligerent nations of Europe. His ability to assess the inherent risks of this war and to develop the appropriate theater strategic plans proved to be superior to that of other Prussian leaders both within and outside the army. He discerned that without an adequate navy, the options available to Prussia against Denmark would be limited to a ground campaign and local amphibious operations. He correctly identified the Danish center of gravity as being Copenhagen, but recognized that Prussia did not have the ability to attack it, and that the only viable alternative was the destruction of the Danish military forces and the occupation of large parts of their homeland including

¹¹ Gordon A. Craig. The Politics of the Prussian Army 1640-1945. (London, England: Oxford University Press, 1955), p. 188.

¹² Dupuy, p. 74-75.

Jutland and Als (Alsen). Having assessed the limitations and capabilities of the Prussian forces and his Danish opponent, he shaped the theater of war to ensure that he could conduct the war to Prussia's advantage.

Upon his accession to the position of Chief of Staff to the field command of Prince Frederick Charles, Moltke demonstrated his ability to function at the operational level of war. In many ways, he melded the strategic level of war and the operational level into one as he developed operational plans and directed the employment of his forces to achieve both operational objectives and strategic war aims within the theater of operations. The vast improvement in the efficiency of the Prussian army after his appointment to the position of Chief of Staff under Prince Frederick Charles attests most eloquently to his talents as a practitioner of the operational art at the operational level of war.

By the end of the Danish war, Moltke had been Chief of the General Staff for seven years. During that time, he had assessed the results of two foreign wars; implemented improvements in the peacetime General Staff system; effectively prepared for war in the areas of strategic and operational planning, mobilization planning, and logistical planning; had performed superbly in directing operations during the Danish war; and had established himself as the most respected military officer in the Prussian army. During the period of peace following the war with Denmark, Moltke reconstituted the Prussian army based on his wartime experiences, and began preparation for the war with Austria which he knew to be on the horizon.

Moltke's status in the Prussian army as the Austro-Prussian war approached is forcefully attested to in Gordon Craig's The politics of the Prussian Army in which he states: "The transformation of the General Staff into the agency charged with jurisdiction over all questions of command and the recognition of its chief as the highest advisor to the King in matters of warfare was the achievement of Helmuth von Moltke. It was not, however, an overnight accomplishment...When, precisely, William became an admirer of Moltke is a matter of speculation. What is known is that, at the very outset of hostilities against Austria, on 2 June 1866, a royal cabinet order stated that from now on the commands of the General Staff would be communicated directly to the troops and no longer through the mediation of the War Ministry. For the duration of the war at least, the General Staff had been released from its subordination to the Ministry."¹³ This effectively made Moltke the Commander in Chief of all Prussian forces for the duration of the Austro-Prussian war. As Trevor Dupuy states: "It was a substantial command, stretched in an arc more than 300 miles long, from the Neisse River on the east to the Aller River in the west. In central Silesia was Crown Prince Frederick William's Second Army of about 115,000 men. Based on southern Brandenburg, and now sweeping through eastern Saxony, was the First Army 93,000 strong under Prince Frederick Charles. Further west, marching south from Torgau on Dresden, was the Army of the Elbe, 48,000 men under General Karl Eberhard Herwarth von Bittenfeld. General Vogel von Falckenstein's Western Army, about 50,000 men, was concentrated in Prussian Saxony."¹⁴

From the beginning, Moltke exercised strategic control of the overall war, and operational control of the main effort against the Austrians in Bohemia.

¹³ Craig, p. 194-195.

¹⁴ Dupuy, p. 79.

Initially, he remained in Berlin where he made excellent use of the telegraph network to implement his mobilization system and the initial troop dispositions. During the deployment and initial operations of his armies, Moltke remained true to his concept of providing mission type orders and allowing subordinate commanders the maximum amount of flexibility in their execution. However, he could also be very intolerant when subordinate commanders diverted from their mission or failed to keep the operational objective in mind. On at least one occasion, with Vogel von Falckenstein, it was necessary for Moltke to compel a subordinate commander to desist from errant activity and execute his mission as directed. The incident occurred on the western most axis of advance which was focused against Austria's German allies. Moltke's plan was for the western army to defeat the Hanoverian army, and then conduct operations against the Bavarian and Saxon armies. Falckenstein was diverted from his mission due, in part, to the meddling of Chancellor von Bismarck, and partially to the fact that the military lines of authority had not yet been fully clarified. Had it not been for Moltke's awareness of the situation in southern Hanover, and his immediate corrective action in dispatching additional troops and ordering Falckenstein to reestablish contact with the Hanoverian army, the strategy for that theater of operations would likely have been frustrated. As it turned out, Moltke's intercession was effective and Falckenstein was able to defeat the Hanoverian army at the battle of Langensalza on June 27, 1864.

Moltke's strategy for defeating the Austrian army under General Ludwig August Ritter von Benedek, was to move south with his main armies along three well separated axis of advance and to converge on the Austrian army in central Bohemia. As Trevor Dupuy described the event: "Meanwhile the three main Prussian armies were advancing steadily toward Bohemia. The Army of the Elbe took Dresden on June 19, then pursued the Saxony army of 35,000 men toward the Bohemian mountains. On June 22 Moltke ordered the three army commanders to cross the mountains and meet near Gitschin, in front of the main Austrian army, now advancing from Olmutz. They were to move rapidly to avoid the dangers of defeat in detail.

"As they approached the frontier, the Army of the Elbe and the First Army converged, and pushed ahead into the mountain passes under the overall command of Prince Frederick Charles. Less than 100 miles further east, the Second Army was streaming through the passes south of Breslau. Moltke, receiving daily telegraphic reports in Berlin, recognized that there was still some danger that Benedek might be able to concentrate his army against either the combined First and Elbe Armies to the west, or the Second Army to the east, to defeat one, and then the other. However, the reports he received late on June 27 - the same day as the battle of Langensalza - convinced Moltke that the Austrians were neither bold enough nor concentrated enough even to try to defeat the Prussians in detail, and much less able to accomplish it."¹⁵

As Moltke's columns advanced to close with the main Austrian army on June 27 through 29, a series of sharp local engagements were fought at Munchengratz, Trautenau, Nachod, and Gitschin, between the Prussian forces and those of Austria and Saxony. Although stymied for a short time at Trautenau, in the Second Army's zone of action, the Prussians were able to win

¹⁵ *Ibid.* p. 80.

these engagements through their ability to concentrate their forces faster than their foe, and to deliver a superior quantity of fire power. As Moltke observed the concentrations of the Austrian army north of Koniggratz, he became convinced that his converging armies could encircle Benedek and bring about a second Cannae. It was evident to Moltke that the Prussian command and control system was superior to Benedek's in both the quickness of the decision making process and in its ability to support the activities of the maneuvering forces. Accordingly, he issued orders for his armies to concentrate in the vicinity of Gitschin, and on June 30, his headquarters joined that of the combined First and Elbe Armies in the field to control the major battle he believed to be imminent. The General Staff's analysis of strategic intelligence, much of it from Austrian newspapers, convinced Moltke that Benedek's entire army was concentrating in the vicinity of Koniggratz.

Understanding the vicinity of your enemy's forces, and knowing their exact location in order to conduct an attack, can be very different things. The strategic intelligence available to Moltke was excellent, but the operational and tactical reconnaissance was woefully inadequate, due to poor use of the cavalry at all levels. It was therefore a surprise when Prince Frederick Charles was to learn, late on July 2, that a large Austrian force was deployed to his left flank. He immediately ordered his army to reorient to the east, and issued orders to attack the following day. In so doing, he was acting in concert with Moltke's concept of operations and defined objectives, yet he took immediate, independent action as permitted within his flexible, mission type orders. Moltke's plan was to engage the center of the main Austrian army with the Prussian First Army, while attacking the Austrian left with the Army of the Elbe and the right with the Prussian Second Army. The missing element on July 2, as Prince Frederick Charles completed his deployments, was the Second Army. Prince Frederick Charles sent a message to Frederick William explaining the situation and requesting that he strike the Austrian right flank and rear the following day. A message was also sent to Moltke informing him of the situation and the actions taken.

It appears that Moltke was the only person among the high level of leadership that recognized this to be the culminating point of the attack. Moltke had made superior use of five different railroads in order to focus massive combat power at this point, whereas Benedek's logistical system was served by only one railroad. Although Prussian logistic support would likely remain superior to that of the Austrians, the relative advantage would never be greater than at this point. And, the Prussian army was on advantageous ground and able to concentrate very rapidly. Moltke alone perceived this as an opportunity to destroy Benedek's entire army, and not just its major elements. As the First Army completed its deployments on July 2, the key to battlefield success lay in the ability of Frederick William to deliver a powerful blow against the Austrian right flank before Benedek could defeat Frederick Charles and Bittenfeld to his front and left. Moltke took immediate and forceful action to ensure that this opportunity would not be lost.

As Trevor Dupuy describes Moltke's intercession: "It is doubtful if Moltke would have wanted Frederick Charles to do anything differently from the way he did, save for the wording of the message to the Second Army. Moltke was awakened from his sleep shortly before midnight when the report from Frederick

Charles reached the royal headquarters. He read the messages the Prince had sent and recognized the dangers of inadequate response by Frederick William...He merely sent a message of his own to Frederick William to march at once, with all possible force and all possible speed, against the Austrian right flank. To make certain that the urgency of the message was appreciated, he awakened the King at midnight, and asked him to countersign the order.

"Frederick William, and his Chief of Staff Blumenthal, had already replied to the message from Frederick Charles, telling him that only one corps would be available to support First Army on the third. When Moltke's order reached them at 4:00 a.m., however, they changed their minds and issued urgent march orders to the entire army. The leading elements of the Second Army reached the battlefield by 11:00 a.m. " 16

The timely arrival of Second Army on the battlefield was the key to the outcome. Frederick William's attack on the Austrian right flank turned a tough battle, in which the issue was in question, into a Prussian victory. Although the battle of Koniggratz was an impressive victory, and among Moltke's greatest achievements, it was not the second Cannae Moltke had hoped for, as the defeated Austrians were able to retire in good order. Bittenfeld, although able to attack the Austrian left flank with his Army of the Elbe, was unable to close the circle from that quarter, and thereby left open an escape path for Benedek's retreat. The victory at Koniggratz did, however, provide Bismarck with the victory he needed to terminate the war under conditions that achieved Prussia's war aims and contributed to the building of modern Germany.

In many ways, the Prussian victory in the war with Austria was a result of the joint effort of Moltke and Bismarck. Prior to the outbreak of hostilities, Moltke had assured Bismarck and the King that Prussia could defeat Austria if other European powers could be kept from intervening against Prussia, and an ally could be found to engage some of the Austrian forces. Bismarck was able to create and maintain these conditions thereby allowing Moltke to clearly delineate the parameters of the war. By understanding that he would only need to fight Austria and her German allies, Moltke was able to identify the enemy center of gravity as being the Austrian army, and then focus his efforts against it. This, of course, culminated in the battle of Koniggratz. Bismarck's other important contribution, although not appreciated by Moltke at the time, was his skill in ending the war while Prussia was victorious and able to gain the fruits of her battlefield success. Much of Bismarck's success, over his career, was due to the ability of the Prussian army to win victories. So, too, was much of Moltke's success due to Bismarck's ability to restrain the Prussian army from military zealotry. After the victory at Koniggratz, Moltke was among the advocates of continuing the war to crush the remnants of the Austrian army. But Bismarck worked to prevent this, as he knew that many European powers were becoming concerned over Prussia's success. Ending the Austro-Prussian war while Prussia was in the best possible position, and before other powers could intervene and reverse the results, was an important contribution by Bismarck to the success of the Seven Weeks War.

In the events associated with the Seven Weeks War, Moltke was to demonstrate a range of operational leadership even greater than his previous

16 Ibid. p. 85.

accomplishments. Prior to the outbreak of hostilities, Moltke had analyzed the relative power between Prussia and Austria and her German allies, and provided advice to the political leadership regarding conditions necessary for success. He had prepared strategic and operational plans and had conducted mobilization and training exercises to ensure the readiness of the Prussian army. Additionally, he had ensured that the best possible weapons systems were in the hands of his troops and that modern technology, such as the railway systems and telegraph networks, were fully integrated into the plans and operations of the Prussian army.

After the commencement of hostilities, Moltke made effective use of new technology by implementing a superior theater-wide command and control system. This was accomplished through the sophisticated use of the telegraph system which was accessed by means of communications teams attached to every major headquarters in the Prussian army. As stated by Michael Glover: "Prussian communications were also excellent. Every divisional headquarters had attached to it a field telegraph wagon which reeled out cable behind it so that each headquarters could be kept in touch with the permanent telegraph system running alongside the railways. Thus, within half an hour of a headquarters being established, it could communicate not only with corps command but with Berlin." ¹⁷ This communications system, coupled with Moltke's use of brief, mission type orders, which he normally issued only to his four army commanders, helped make the Prussian decision making, and reaction time, much quicker than that of his opponent. Benedek's headquarters, for example, was writing detailed orders and issuing them to no fewer than thirteen ¹⁸ subordinate commanders. One of the hallmarks of Moltke's campaigns throughout his career, was that he always kept inside the decision cycle of his opponents. Although there are many reasons for his ability to do this - including precision planning, use of mission type orders, superior analysis of information, and the concept of a limited span of control - having a communications system that was both innovative and distinctly superior to that of the enemy was a critical element in Moltke's mastery of operational command and control.

Much has already been said about Moltke's excellent use of the railway system. In the Seven Weeks War, however, he raised that asset to yet a higher level of profit. Previously, he had demonstrated the value of rails in the mobilization process and to some extent in troop deployment. In the Seven Weeks War, he extended its use to large scale deployments and movements and to theater-wide sustainment operations conducted on a level not previously accomplished in the history of warfare. These sustainment operations included logistical resupply, evacuation, troop replacement and support, and operational movement of forces. Moltke is well known for his strategic planning, operational maneuvering and organizational genius. As great as he may have been in these areas, his achievements in the field of operational sustainment, as demonstrated during the Seven Weeks War, were even greater yet.

Most of the focus regarding the achievements in the Seven Weeks War have been centered around the battle of Koniggratz and Moltke's defeat of the

¹⁷ Michael Glover. Warfare from Waterloo to Mons. (London, England: Cassell Ltd., 1980), pp. 128-129.

¹⁸ McElwee, p. 50.

Austrian forces. This is understandable, as the Austrian army was clearly the center of gravity for the Prussian war effort. However, the scope of Moltke's leadership was much greater than just this theater of operations. Moltke also directed operations involved in the conquest of Schleswig-Holstein, conquering the Northern German states, defeating Saxony, and coordinating with the Italian forces operating against the Archduke Albert in Venetia. For Moltke, the Seven Weeks War involved controlling and coordinating actions which ranged widely on many fronts. This again demonstrates his ability to blend the strategic and operational levels of war into a well coordinated and highly synergistic effort.

After the Seven Weeks War, Moltke set out, as always, to identify deficiencies and make improvements. Changes were necessary not only to correct deficiencies, but also to adjust to the new and different circumstances resulting from the Prussian victory. For example, by integrating the north German states into Prussia's German Federation, the mobilization pool was significantly increased, thereby increasing the potential size of the army by about thirty percent. Additionally, the relative power balance within Europe had been dramatically changed with Austria's defeat and Prussian growth. Prussia's war plans and supporting doctrine must accordingly be modified in order to accommodate these new conditions.

One of Moltke's most immediate actions was the restructuring of the General Staff. He was to reorganize the functional departments into two major elements as follows:

Main Establishment

(Three Mission/geographically oriented planning departments)

- The First Department responsible for: Austria, Russia, Scandinavia, Turkey, Greece, Asia
- The Second Department responsible for: Prussia, Germany, Switzerland, Italy
 - Sub-Department within Second Department responsible for: Railways
- The Third Department responsible for: France, Great Britain, Belgium, Holland, Spain, Portugal, and America

Supporting Establishment

(Five functional departments)

- Military History
- Geographical/Statistical
- Topographical
- War Room
- Land Triangulation Bureau

More important than staff reorganization was Moltke's special attention to doctrine modification. Through his focus on doctrine, Moltke was able to address nearly all the functional areas in need of improvement including infantry, artillery and cavalry. The battle of Koniggratz had confirmed his belief in the growing significance of firepower to the outcome of war. He had

observed the importance of the breech-loading needle gun in the Danish war, but had not completed its integration into the army by the time of the Seven Weeks War. Although the Prussian infantry was better armed than the Austrians, and used their weapons to much better effect, Moltke knew that other nations would study this campaign and also learn the value of these weapons. Doctrine must therefore be modified to ensure that Prussia would make the best possible use of breech loaders in the future, and that the entire Prussian army would carry them into future battles. Artillery was another area of firepower that captured Moltke's attention. The Austrian artillery had been more effective than the Prussians, especially at the battle of Koniggratz. Most military observers, however, learned the wrong lesson from that fact. Many concluded that the bronze muzzle loading, smooth bore cannon remained superior to the steel breech loaders of the Prussians. Moltke, however, realized that the Austrian effectiveness lay in the superior skill of the gunners and not in the weapons employed. By continuing to acquire modern howitzers, and modifying doctrine to improve their use, Moltke was able to correct the Prussian deficiencies while avoiding the mistaken lessons learned by most foreign military leaders.

The greatest deficiency of the war - greater than the shortage of Needle guns or unsatisfactory gunnery skills - was the inadequate use of cavalry units in gathering operational and tactical intelligence. This was a deficiency at all levels of command, and experiences at Koniggratz awakened Moltke to the need for improvement. Through the modification of doctrine, and by undertaking an officers' awareness and education program, Moltke ensured that operational reconnaissance would not be deficient in the future. In all three areas, infantry, artillery, and cavalry, Moltke worked through other appropriate officers, including War Minister von Roon and the inspectors of the functional areas, to correct deficiencies and further improve what was already the best doctrine in Europe. ¹⁹

If Moltke and the senior officers of the Prussian army learned many correct lessons from the Seven Weeks War, they also learned at least one wrong lesson. Bismarck had created problems for the military leaders on two significant occasions. The first resulted from his concern that the mobilization of the Prussian VIII Corps in the Rhineland province would be provocative to Napoleon III. Bismarck took it on himself to have the order canceled without first clearing it through Moltke, and the force concentration plans for south central Prussia were thereby disrupted. Moltke was able to undo the damage, but it was at great cost to his goodwill. The second case was the diversion of Falckenstein from his assigned mission as was previously mentioned. As a result of these incidents, most Prussian officers, including Moltke, developed an intense resentment against Bismarck personally, and against the involvement of politicians in military matters generally. This manifested itself in Moltke taking the position that political control of military matters must stop at the beginning of a war and not resume until the war has concluded. This attitude was to spread throughout the army and become ingrained in the military leaders of Prussia

¹⁹ Moltke had observed that Prussian forces had problems getting artillery into battle in a rapid and dynamic manner. Working through the Artillery Inspector, General von Hinderman, they introduced the practice of placing substantial detachments with the advance guard and ended the practice of holding artillery in reserve. This latter change was to become a universal standard for armies throughout the world, and remains so to this day.

and Germany. It was passed down to fellow officers, and was to have severe consequences during the Franco-Prussian war, and utterly disastrous effects during the First World War.

During the four years between the Seven Weeks War and the Franco-Prussian War, Moltke continued to reform the Prussian army as it developed into the world's premier military force. Although the army and its Chief of the General Staff had become renowned for their victories of 1864 and 1866, their performance in the 1870-71 war with France would be something to amaze the world. Upon the outbreak of the Franco-Prussian war, the Prussian mobilization proved to be an operational masterpiece. The French mobilization, however, was an unmitigated disaster. Whereas the Prussian mobilization was based on detailed planning and a considerable amount of practice, the French relied on 'le système D, se débrouillera toujours'. In the face of the efficient Prussian mobilization and deployment program, the French system of 'muddling through' was not to be satisfactory. The effects of the French inability to assemble and move reserves effectively created a cascading effect that put the entire French movement and deployment program behind schedule. Trains that were later needed to move supplies during the early battles were unavailable because they were still moving reserves. The effects of these delays continued to compound one another, and the French found it increasingly difficult to get out from under the weight of their inefficiency. Prussia and her German allies were able to mobilize about 475,000 troops with yet another half million available for later call up. They were to move against the French with a force of about 380,000 troops within two weeks. The French were to mobilize about 250,000 men, 224,000 of which were to be deployed along the border with Germany, but their army remained a disorganized mess as the first battles began to unfold.

Before the war, the French believed their army to be superior to that of the Prussians. This was based on their sense of historic greatness coupled with the fact that they had also studied the Seven Weeks War, and believed they had made good use of its lessons. They had developed and issued a breech loading rifle, called the Chassepot, which was actually superior to the Prussian needle gun. They had also attempted to improve their artillery by the integration of a device called the Mitrailleuse. This was an early type machine gun which was introduced at the expense of modern artillery. Although they replaced about twenty-five percent of their artillery pieces with the Mitrailleuse, it proved relatively ineffective in combat. The artillery, which had been displaced by the Mitrailleuse, would be sorely missed during the battles of Gravelotte-St. Privat and Sedan. The French attitude of superiority apparently mitigated against the development of adequate war plans and when war broke out, they were to rely on a faith in offensive action and the slogan 'à Berlin.' Moltke was well aware of these factors and particularly of the French proclivity for the offense, which he intended to use against them. He maneuvered his armies to create a trap in the German Saarland where he again hoped to create a second Cannae. Unfortunately for Moltke, it was not to be this easy.

As Described by Trevor Dupuy: "It is probable that the slow, disjointed, and uncoordinated advance of the eight separate (French) corps toward the frontier would have brought them within the encirclement Moltke had planned north of Saarbrücken, had it not been for the impetuosity of General von Steinmetz, commanding the German First Army. Without orders, he pressed

forward to Saarbrücken, where the first engagement of the campaign took place. It was a minor action, but brought the French advance to a full halt. The Emperor had not realized that major Prussian forces were so near at hand.

"Belatedly Napoléon III ordered a consolidation of command in two armies: the Army of Lorraine, five corps in the Metz-Saarbrücken area, under one of the corps commanders, Marshal François Achille Bazaine; and the Army of Alsace, the three corps in the northeastern corner of France, under another corps commander, Marshal M.E. Maurice de MacMahon. There were no army staffs; the new army commanders had to use their own corps staffs to direct their armies as well as to perform their regular functions of corps operational control. The delay and confusion resulting from this series of events saved the French from destruction in the first week of August; it was to be a prolonged agony, even though the result would be the same."²⁰

After the engagement at Saarbrücken, there were a series of battles occurring from the second through the sixteenth of August as the German main effort moved westerly toward the fortress city of Metz. These include battles at Weissenburg, Froeschwiller (Worth), Spichern, Borny, Mars-la-Tour, Vionville, and Rezonville. The first several engagements were relatively minor episodes, but the Mars-la-Tour, Vionville, and Rezonville engagements were hard fought affairs in which the French "gave as good as they took." Even so, they all concluded with the French retiring from the field and the Germans continuing to penetrate deeper into France. The impact of this fighting and the subsequent retreats had the obvious effect of depressing French morale. The further effect was that the German First and Second Armies had moved to the south and west of the Army of Lorraine and were maneuvering into positions between Bazaine and Paris. The stage was now set for the battle of Gravelotte-St. Privat.

In the history of the Franco-Prussian war, Sedan is usually thought of as the critical battle most responsible for the defeat of Napoleon III. It was, indeed, a significant engagement of high drama and great political repercussions. But the battle of Gravelotte-St. Privat was a much harder battle and was fought while the French army was still a formidable opponent. It was the first battle of the war in which both sides fully intended to fight prior to meeting on the field. The Germans had maneuvered to the west of Gravelotte-St. Privat, and were attacking toward the east, with Paris to their rear and Germany to their front. The French had taken good advantage of the terrain and were in strong defensive positions on a line leading north from Gravelotte. This created an interesting situation in which Moltke's operational employment of forces was at variance with his professed beliefs. The effects of modern firepower had caused Moltke to previously conclude that: "The attack of a position is becoming notably more difficult than its defense. The defensive during the first phase of battle offers a decisive superiority. The task of a skillful offensive will consist of forcing our foe to attack a position chosen by us, and only when casualties, demoralization, and exhaustion have drained his strength will we ourselves take up the tactical offensive...Our strategy must be offensive, our tactics defensive."²¹ Although Moltke wrote these words in 1865, and professed to believe in them throughout his career, it is hard to find a case where he actually

²⁰ Dupuy, p. 57.

²¹ *Ibid.* p. 91.

practiced it. The entire record of his wartime leadership was that of seeking the offense and retaining the initiative. Such was the case at Gravelotte-St. Privat and throughout the Franco-Prussian war.

Moltke's operational plan for the battle of Gravelotte-St. Privat was to attack Bazaine with Steinmetz' First Army at Gravelotte, while moving Prince Frederick Charles' Second Army north to attack the French right and rear. In the battle of Gravelotte-St. Privat, like most battles, there were many mistakes. Moltke and Prince Frederick Charles had not realized that Bazaine's right flank extended as far north as St. Privat. As Frederick Charles moved his army to the north, he exposed his right flank to the French who were occupying positions between Gravelotte and St. Privat. To the good fortune of Moltke and Frederick Charles, Bazaine elected not to take advantage of the opportunity. Another German mistake was Steinmetz' constant, rash frontal attacks against the French positions near Gravelotte. These were repulsed with enormous casualties and left Steinmetz open for a counterattack which, again, the French declined. When Frederick Charles initially conducted his attack on what he thought to be the French right flank at St. Privat, he found instead a strong defensive position and his initial attack was repulsed with terrific losses. Had the fighting ended during the afternoon of August 18, it would have been a drawn battle and would have required Moltke to reform the German forces for further action. However, the day was won for Moltke when the Saxon forces under Frederick Charles finally extended far enough north - to the village of Roncourt - to turn the French right flank and get behind Bazaine's army. This made the French position untenable and forced them to retire on the fortress city of Metz and hope for succor from MacMahon's army advancing from Chalons.

Fritz Hoenig described this battle in great detail in his 1895 book entitled Twenty-Four Hours of Moltke's Strategy. Some passages from that highly detailed account are instructive. In referring to the disastrous attacks by Steinmetz, Hoenig states: "General von Moltke had watched the last struggle on the slope of Point du Jour, and rode back at 10:30 p.m. with the headquarters in the direction of Rezonville. The impression which he had gained of the fight of the 1st. Army was not favorable; on the contrary, the general seemed by no means pleased to leave the field of battle. But he did so with the firm determination that, after the assembly of the 8th and 7th Corps had taken place under cover of the 2nd, a decision must be arrived at in the very early morning of the following day. Much which the day had brought forth could have given no pleasure to the general; but he had at least seen what had taken place with the 1st. Army, while he knew how matters there stood, and that in any case the battle was all over for the night.

"Affairs were very different with regard to the 2nd Army. St. Privat had fallen at about the time that the 2nd Corps extended against Point du Jour, and the enemy had soon afterwards abandoned Amanvillers also. Moreover, Prince Frederick Charles had already taken steps to destroy the communications in the valley of the Moselle (the order of the 12th Corps at 11:45 a.m.), and had thus acted entirely in the spirit of Moltke's intention. The Prince had then remained present at the struggle until it had completely ceased, and at 8:30 p.m. had already issued suitable orders for the night. Owing to the great distance between St. Privat and Gravelotte, the report of Prince Frederick Charles on all these matters did not reach General von Moltke on the field of battle, and did not

find him until during the night at Rezonville. On the other hand, the Prince also had received no further orders from Moltke, but had fought out the battle quite independently. In this he received the very greatest assistance from the commander of the 12th Corps; but the glory of the victory of St. Privat fell principally to the account of Prince Frederick Charles, and not that of Moltke. For even though Moltke (at 10:30 a.m.) had prescribed a turning attack to the Prince, without any further aid from any one, he understood how to adapt Moltke's ideas to vastly different conditions and in the best manner possible. He even went further than Moltke, since already at 11:45 a.m., he of his own accord ordered the communications in the Moselle valley to be destroyed, repeated the order at 3:45 p.m. and at 6 p.m. ordered infantry to push forward into that valley. ²²

Hoenig goes on to condemn General von Steinmetz for his military awkwardness and misplaced energy. He further praises Prince Frederick Charles as a commander who ever strives to carry out Moltke's original ideas and in so doing not only won the battle of St. Privat but also the battle of Gravelotte. Hoenig further believes that without the victory of Gravelotte-St. Privat, there could have been no Sedan. In this, Hoenig is getting closer to the important point of this study which is that the battle of Gravelotte-St. Privat was in fact the most significant strategic battle of the war. He states: "The battle of St. Privat-Gravelotte was a strategic battle, and was really as good as won from the moment when the strategic movements into the battle had been carried out, and when the German armies had completed their change of front to the right. In spite of the serious negligence and evil episodes which took place, the change of front to the right was carried out, and Moltke was thus enabled to select the form of attack which he always preferred - a frontal attack combined with a turning movement against one or both flanks." ²³

Hoenig sums the Gravelotte-St. Privat battle and those leading up to it as being of historic significance. "Moltke's greatest success - which consisted of the operation around Metz up to the end of the battle of the 18th of August - has never been properly appreciated. The catastrophe which formed the close of the passage of arms at Sedan has up to the present day exercised a far greater effect - even upon professional soldiers. We there, with a comparatively small sacrifice of men, obtained a great and obvious success upon the field of battle combined with a rare political victory. For this reason both the intelligent and the unintelligent public, when the two battles are compared as to their value, land Sedan a hundred times for once that St. Privat-Gravelotte is praised. The clear blue eagle-eyes of General Moltke saw differently; 'cut off from our communications, we must win victories by our fire.' This shows distinctly how highly Moltke himself estimated the success of the 18th. This was the turning-point of the whole war, of which everything else was only the consequence, which the great leader did not altogether anticipate, but of which he yet knew how to take advantage at the right moment. The military and political centre of gravity of France was in Bazaine's army; if it were removed, the war was as good as won, and the settlement of accounts was only a question of time." ²⁴

²² Fritz Hoenig. Twenty-Four Hours of Moltke's Strategy. (Woolwich, England: The Royal Artillery Institution), 1895. pp. 171-172

²³ Ibid. p. 175.

²⁴ Ibid. pp. 183-184.

After the fighting of August 18, Moltke drove Bazaine's forces into the defenses of Metz, where his army was to remain until its ultimate surrender. The French center of gravity was thus eliminated from the war, although the siege of Metz was to continue for over two months. As Bazaine settled into his defenses, MacMahon's newly formed Army of Chalons set out with 120,000 men to relieve and combine with the forces at Metz. Could he have done so, it would have created a formidable military force which could yet contest for the soil of France. But Moltke had no intention of allowing this to happen. After forcing Bazaine into Metz, Moltke reconstituted his forces, leaving the First Army and part of the Second to invest Bazaine's army at Metz. He then created the Army of the Meuse, under Prince Albert of Saxony, using all remaining forces in this theater of operations. As Moltke moved the Army of the Meuse up the Meuse valley, he ordered Prince Frederick William's Third Army north through the Argonne Forest in a cooperative effort to destroy MacMahon's army. The Army of the Meuse first met MacMahon at Douzy, and forced him northward. There were sharp engagements at Nouart, Beaumont, and Bazeilles all having the effect of driving the French and forcing MacMahon into Sedan. As the Army of the Meuse closed around Sedan from the south and east, Frederick William's Third Army closed from the south and west, and the French became completely enveloped with their back against the Belgian frontier. On the first of September, the new French commander, General Auguste Ducrot, attempted a breakout in two different directions. Both were repulsed, and the German forces began a devastating artillery bombardment of the fortress and city of Sedan. There was no hope for the tightly compacted forces, and it remained only for the French to surrender. Both their newest commander, General Emmanuel F. de Wimpffen, and Emperor Napoleon III succumbed to reality and surrendered on the third of September.

Moltke immediately set out to reduce other remaining fortresses, tighten his grip around Bazaine's army at Metz, and on September 19, establish a siege of Paris. At this point France appeared to be defenseless. Her first line army was being invested at Metz and her second line army had been destroyed at Sedan. When Bazaine surrendered his army of 173,000 men on October 27, it would seem that the end was at hand. However, it was not to be the case. Guerrilla warfare had been waged against the German armies since their entry into France, but it intensified throughout the theater after the fall of Sedan. Additionally, the French had proclaimed the Third Republic on September 4, and began recruiting new armies under Leon Gambetta and General Louis Jules Trochu. The possibility of a protracted war, which would invite foreign intervention, became a genuine concern, and caused severe strains in the Prussian leadership. The victory at Sedan was not to produce a neat and quick conclusion to this war, as the battle of Koniggratz had provided for the Seven Weeks War.

In only six weeks the Prussians had won a series of battles including the strategic victories at Gravelotte-St. Privat and Sedan. In another six weeks, Bazaine's army was to surrender at Metz. Yet after Napoleon's capitulation at Sedan, there would be eight more months of war before an armistice was achieved. During this period, there developed an enormous conflict between Bismarck and Moltke as to the conduct of the fighting and the efforts toward war termination. Moltke's approach was to wage a war of extermination, designed

to destroy any remnant of French resistance and then dictate a peace of German choosing. In the process, he found himself engaged in two major sieges, extensive field operations, and a difficult guerrilla campaign which resulted in constant fighting and severe strains. Among the major engagements occurring subsequent to the victory at Sedan were:

During 1870

- | | | |
|----------------|-----------|-------------------------|
| • November 9 | Coulmiers | French defeat Bavarians |
| • December 2-4 | Orleans | Germans defeat French |
| • December 23 | Hallue | Drawn battle |

During 1871

- | | | |
|-----------------|---------------------|-----------------------|
| • January 2-3 | Bapaume | Drawn battle |
| • January 5 | Paris | Bombardment begins |
| • January 10-12 | Le Mans | Germans defeat French |
| • January 15-17 | Belfort | Germans defeat French |
| • January 19 | St. Quentin | Germans defeat French |
| • May 10 | Treaty of Frankfurt | Germans defeat French |

During the campaign from the out break of war through the victory at Sedan, Moltke had functioned at both the strategic and operational levels of war. During the period after Sedan, he functioned at the theater strategic level, as he directed and supported numerous operations in several theaters. As Prussia prosecuted this phase of the war, Moltke's skills in organizational leadership were of even greater value than his talent for planning and force sustainment.

Moltke's broad range of skills and talents were primarily responsible for the German success in the Franco-Prussian war. As Michael Howard states in his book The Franco-Prussian war: "The German victories, as was universally recognized, had been won by superior organization, superior military education, and, in the initial stages of the war at least, superior manpower; and it was these qualities which would bring victory in any future wars. The small, introvert professional army, more conscious of its social than its professional status, was no longer an effective form of military organization; and any continental power which wished to escape annihilation as swift and overwhelming as that which overtook the Second Empire had to imitate the German pattern and create a Nation in Arms - a nation whose entire manpower was not only trained as soldiers, but could be mobilized, armed, and concentrated on the frontiers within a very few days." ²⁵

After the Austro-Prussian war, Moltke had focused particular attention on improvements in the areas of infantry firepower, artillery firepower, and the use of cavalry. During the Franco-Prussian war, these insights proved to be critical. The German cavalry was not only distinctly superior to the French, but they were also much better employed by the German commanders. The superiority of steel, breech loading artillery pieces, already accepted by Moltke, was to prove

²⁵ Michael Howard. The Franco-Prussian War. (London, England: Routledge, 1989), p. 454.

its worth; and the skill of the German gunners was far superior to that of the French. Again, not only was that arm superior, but the ability of the German commanders to employ it was much improved. Only in the area of breech loading rifles did the French show an advantage. Moltke's concern that others would learn the lessons of Koniggratz with respect to infantry firepower had been well founded. As previously mentioned, the French Chassepot was a superior weapon to the German Needle Gun, and the French infantrymen were well trained in its use, proving to be formidable when confronted. Any advantage the French gained from their use of the Chassepot, however, was minimized through Moltke's efforts to ensure that the Prussian army utilized its needle guns to their absolute maximum potential. Had the Prussian army gone against the French at Gravelotte-St. Privat with the same quantities of needle guns using the same techniques as at Koniggratz, they may have been defeated. Had that happened, the war could well have taken a different course. Other key elements in the German victory include the high quality and discipline of the German troops, and the existence of an efficient General Staff of which the French had no counterpart. Indeed, the French were so disorganized that regardless of the dedication of her soldiers or the skill of the commanders, they could not compete with the efficient manner in which the Germans brought power to bear on the battlefield.

The method in which Moltke fought the Franco-Prussian war would have been risky against a more competent enemy. But he minimized the risk by the application of his famous maxim: "First reckon, then risk."²⁶ His approach was to have detailed plans for mobilization, initial deployments, and expected early battles fully prepared and ready for immediate use. His planning for subsequent operations was accomplished one operation at a time, since the outcome of each battle would determine the next move. As we have seen previously, his ability to issue brief, mission type orders very rapidly, and the ability of his subordinate commanders to exercise flexibility and initiative, was critical to the effectiveness of this system. The system could only work if all commanders and their chiefs of staff could keep focused on the strategic aims and operational objectives at all times. For this Moltke assumed personal responsibility, and ensured its success by positioning his personally trained staff officers throughout the Prussian army.

Subsequent to the Franco-Prussian war, Moltke repeated his familiar pattern of analyzing its lessons and translating them into improvements for the Prussian army. As Trevor Dupuy states: "During the years immediately after the Franco-Prussian War the activities of Moltke and his General Staff were focused on three major tasks, which they probably considered of almost equal importance, even though they required varying amounts of attention: refinement and improvement of strategic planning; technical developments and improvement of the German Army in general, and the General Staff in particular; and enlargement and reorganization of the German Army. The third of these tasks - Army enlargement and reorganization - was, of course, closely related to the first: Strategic planning. General Staff efforts to deal with both tasks went hand in hand.

²⁶ J.F.C. Fuller. A Military History of the Western World, volume three. (Minerva Press, 1956), p. 134.

"For forty-four years of peace the General Staff - now the German General Staff - prospered and grew, but did not allow either prosperity or growth to affect performance of its one major mission: perpetual quest for military preparedness and excellence. The prestige, which the General Staff and its distinguished Chief had won in the victories over Denmark, Austro-Hungary, and France, was reflected in increased peacetime influence and responsibility for the training, organization, and equipping of the army, in addition to the planning functions to which its direct responsibility had previously been limited." ²⁷

In the long view of history, only Clausewitz could compare to Moltke in the contribution made to the development of the Prussian/German army. Moltke admired Clausewitz, of course, and read his writings extensively. Yet he found some of the teaching very difficult to practice. This was particularly noticeable in Moltke's advocacy for the equal authority of military and political leadership during time of war. This is very much at variance with Clausewitz who stated: "It is clear, consequently, that war is not a mere act of policy but a true political instrument, a continuation of political activity by other means." ²⁸ And: "If war is part of policy, policy will determine its character....Policy, of course, will not extend its influence to operational details. Political considerations do not demand the posting of guards or the employment of patrols. But they are more influential in the planning of war, of the campaign, and often even of the battle." ²⁹ Moltke obviously rejected that concept as demonstrated by his insistence on a continuation of the Austro-Prussian war after the battle of Koniggratz, and in his conflicts with Bismarck on the issue of war termination during the Franco-Prussian war. Moltke's concept of co-equal leadership during time of war became enshrined as that of military primacy by the leaders who followed him. The effect of this on German military development was to create a force which was operationally superb, but strategically deficient. This came to full fruition during the First World War when the mere winning of battles became not only the operational objective, but the strategic aim as well. Additionally, Clausewitz' ideal became inverted, and politics ended up being the instrument of the military. As a result, opportunities for a negotiated settlement were lost, bringing about the defeat and collapse of the German nation. It has been said that Moltke, without Bismarck, may have been another Ludendorff. A more interesting question for Germany might be; would Ludendorff, with a Bismarck, have been another Moltke?

Both Clausewitz and Moltke struggled with the offensive/defensive paradox in their life work. Clausewitz wrote that: "We have already indicated in general terms that defense is easier than attack. But defense has a passive purpose: preservation; and attack a positive one: conquest. The latter increases one's own capacity to wage war; the former does not. So in order to state the relationship precisely, we must say that the defensive form of warfare is intrinsically stronger than the offensive....If the defense is the stronger form of war, yet has a negative object, it follows that it should be used only so long as weakness compels, and be abandoned as soon as we are strong enough to

²⁷ Dupuy, p. 112.

²⁸ Carl von Clausewitz. On War. (Princeton, NJ: Princeton University Press, 1976), p. 87.

²⁹ Ibid. p. 606.

*pursue a positive object."*³⁰ For Moltke, this issue was a matter of experience, as well as theory. He had observed first hand the increasing effects of firepower on the battlefield, and professed to believe that the strategic offense combined with the tactical defense was the solution to this seeming paradox. But Moltke did not practice this in his operations. His whole concept of rapid mobilization, quick initial deployments, large converging forces supported by agile logistical systems, and efficient command and control networks was designed for offensive action. Although he avoided involving himself in controlling tactical evolutions, they were also, invariably, offensive in nature. Moltke professed to believe in the strategic offense-tactical defense, but his operations always amounted to the strategic offensive-tactical offensive. This was clearly the case at the two most important battles of his life, Koniggratz and Gravelotte-St. Privat. He would prefer to avoid frontal attacks conducted in isolation, and usually used the envelopment or encirclement to defeat his opponents. Yet even these maneuvers invariably required a frontal attack to support the turning movement. It must be said, however, that this approach was always successful for Moltke, and, on this issue, his actual practice of operational leadership proved to be superior to Clausewitz' theory.

There are a number of military historians who would disagree with my point regarding Moltke's tendency toward the strategic offensive-tactical offense. They specifically cite the battle of Gravelotte-St. Privat as an example to the contrary. They contend that by maneuvering across Bazaine's lines of communications, Moltke invited attack and was therefore on the tactical defense. This would be true had he compelled the French to attack. But not only did the French decline to attack, the Prussians conducted consistent attacks against Bazaine's positions. Even Moltke's maneuver against the French right flank resulted in a tactical attack which brought about the Prussian victory. A thorough study of Moltke's generalship does not support his claim - nor that of certain historians - that he was committed to the strategic offense-tactical defense.

Outside these two issues, Moltke was very much Clausewitzian. Indeed, Moltke was the first important commander to lead armies after publication of the writings of both Clausewitz and Jomini. It has been said that Clausewitz and Jomini were the interpreters of Napoleon. It could be said that Moltke was the implementer of Clausewitz and Jomini. In many ways, Moltke synthesized the lessons of Napoleon, the contributions of the Prussian reformers, the writings of Clausewitz and Jomini, and became the first great military leader to bring those experiences into the age of modern warfare.

Moltke's penchant for technology has been thoroughly addressed in this paper. It is important to note that it was not only the use of the most advanced technology of his day that made Moltke so effective, but more the manner in which he applied it. Many armies attempted to utilize railways at the time Moltke was doing so. But Moltke developed detailed plans for his army's use, conducted exercises to test their effectiveness, and trained the forces that would execute the plans. His creation of a railways department within the General staff, along with the establishment of a civilian-military joint committee, ensured the efficient use of railways and their integration into the operations of the army.

³⁰ *Ibid.* p. 358.

These factors made Moltke's use of the railroads totally different and significantly superior to that of the other armies of his time. Much the same could be said for his use of the telegraph network. Taping into the telegraph lines was a thought that had occurred to many military leaders. But the creation of special communications teams that could make the telegraph system available to every major headquarters within the army was for Moltke and his General Staff to devise. Moltke's talent for this type of innovation and his effective integration of new technologies into military operations are evidence of his superior organizational skills. These skills, coupled with his talent for detailed planning, were to make him, perhaps, the greatest manager of warfare in history. Moltke's unique combination of skills also made possible the realization of the 'nation in arms' ideal which had been an elusive goal for over a century. With the 'management tools,' that Moltke developed, forces could not only be mobilized in great numbers; but could also be deployed, maneuvered, and sustained in numbers undreamed of previously. Moltke's leadership created the conditions for full implementation of the 'nation in arms,' by devising the mobility and command and control means to support large scale operations and campaigns. For better or for worse, this was to be the standard for generations to come.

The operational leadership of Moltke was based on a logical approach to warfare. It relied heavily upon planning, doctrine development, technological innovation, and flexibility in implementation. His planning not only included the preparation of geo-strategic and operational plans, but also highly detailed plans for mobilization, initial deployment and sustainment operations. His highly precise planning was designed to mobilize and deploy the army so as to create an initial advantage which could thereafter be maintained with proper leadership and management. Through a clear understanding of strategic aims, campaign objectives, and operational doctrine, commanders had the knowledge necessary to keep the army working in a cohesive manner. This, supplemented with brief, mission type orders and the initiative of subordinate commanders, provided the flexibility needed to keep the army agile and responsive. The system was energized by the efficient General Staff, and a modern command and control system. With these elements working in harmony, the Prussian army became one of the most efficient, respected fighting forces of its day. It would not be true to say that the Prussian system worked perfectly all the time, but it was effective more often than that of its opponents, and its normal level of efficiency was higher than the norm of other armies. It was the effectiveness of this great military machine that best attests to the operational leadership of Helmuth von Moltke.

Some Examples of Moltke's Exercise of Operational Leadership

Defining and Shaping the Theater - Organized the Danish war effort for final victory, shaped the theater for the battle of Koniggratz, shaped the theater for the battle of Gravelotte-St. Privat and battle of Sedan, structured the theater for battles and counter guerrilla warfare in France after the fall of Sedan.

Establishing Command Organization and Relationships - Reorganized staff immediately and continuously upon appointment as chief, refined duties of General Staff, refined the commander/chief of staff relationships throughout the army, established General Staff as the paramount command organization.

Making Operational Decisions - Improved the decision making process before and during wartime, influenced all major battles which occurred during his tour as chief, many decisions were made during the planning phases, operations and operational decisions were always smooth under Moltke's leadership.

Operational Planning - Introduced precision planning upon his appointment as chief, created highly detailed strategic, operational and sustainment plans, exercised plans to ensure efficacy, was one of the most accomplished planners in all of history.

Operational Training - Enhanced the special staff officer training program and extended its benefits to the entire army, created ongoing doctrine modification program which resulted in improved training and performance for the entire army, conducted operational exercises for realistic training.

Operational Logistics - Innovative use of railways and telegraph, highly detailed logistical planning, conducted logistics exercises, achieved a high level of logistical support for all wars and battles during his tour as chief, was never out performed in operational logistics by his opponents.

Mobilization - Able to mobilize quicker and bring forces to bear faster than any of his contemporaries due to superior planning and excellent mobilization exercises, refined concept of dual Landsturm/Landwehr system, among the major reasons for his success in all three wars of German unification.

Pre-Deployment Activities - Detailed plans and effective exercises ensured success in all wars, he knew where to locate himself at all times during the planning, mobilization and deployment phases of all operations, worked with political leadership to define parameters of various wars.

Deployment - Effective use of all means of transportation for all deployments, established superior command and control system prior to deployments to ensure effectiveness during deployments, improved status of Landwehr to better support initial deployments.

Employment - Effective use of transportation systems, brilliant use of telegraph network and communications systems, superior command and control system including use of mission type orders and limited span of control, refined concept of central planning and direction with decentralized, flexible execution.

Sustainment - Superior planning and use of railroads, ratio of 5:1 advantage in use of rails for sustainment operations during Seven Weeks War, forces always were supplied and maintained, force levels never fell below safe level, created a new standard for sustainment operations.

Redeployment - Brilliant redeployment after Sedan to engage numerous forces of Republican France, quick redeployment after becoming chief of staff to the field army during Danish war, successful redeployment during occupation of France after 1871.

Reconstitution - Through use of precise planning and advanced logistical methods, was able to maintain desired level of combat capability in all three wars of German unification, phased use of the Landsturm, Landwehr, second line reservists maintained sufficiency of troops for combat operations.

Demobilization - Was able to adjust forces after each war and modify war plans and doctrine to reflect the changing reality resulting from the war experience.

Bibliography

Books -

Craig, Gordon A. The Politics of the Prussian Army 1640 - 1945. London, England: Oxford University Press, 1955, 1964.

Dupuy, Trevor N. A Genius for War: The German Army and General Staff, 1807 - 1945. Englewood Cliffs, NJ: Prentice-Hall, Inc., 1977.

Fuller, J.F.C., Major General. The Conduct of War 1789 - 1961. London, England: Eyre & Spottiswoode (Publishers) Ltd., 1961.

Fuller, J.F.C., Major General. A Military History of the Western World, volume three. Minerva Press, 1956.

Glover, Michael. Warfare from Waterloo to Mons. London, England: Cassell Ltd., 1980.

Goerlitz, Walter. The German General Staff 1657 - 1945. New York, NY: Frederick A. Praeger, Publishers, 1953.

Hittle, J.D., Brigadier General. The Military Staff: Its History and Development. Harrisburg, PA: The Stackpole Company, 1944, 1952.

Hoenig, Fritz. Twenty-Four Hours of Moltke's Strategy. Woolwich, England: The Royal Artillery Institution, 1895.

Holbron, Hajo. "Moltke and Schlieffen: The Prussian-German School." Makers of Modern Strategy: Military Thought from Machiavelli to Hitler. Princeton, NJ: Princeton University Press, 1971.

Howard, Michael. The Franco-Prussian War. London, England: Routledge, 1961, 1989.

Liddell Hart, B.H. Strategy. New York, NY: Frederick A. Praeger, Publisher, 1968.

McElwee, William. The Art of War Waterloo to Mons. Bloomington, IL: Indiana University Press, 1974.

Montross, Lynn. War Through the Ages. New York, NY: Harper & Brothers Publishers, 1944, 1946, 1960.

Morris, William O'Connor. Great Commanders of Modern Times. London, England: W.H. Allen and Co., Limited, and at Calcutta, 1891.

Palat, Colonel. La Stratégie de Moltke en 1870. Paris, France: Berger-Levrault & Cie, Éditeurs, 1907.

Sun Tzu. The Art of War. New York and Oxford: Oxford University Press, 1963.

von Clausewitz, Carl. On War. Princeton, NJ: Princeton University Press, 1979.

Wright, Quincy. A Study of War. Chicago, IL: The University of Chicago Press, 1941, 1971.

Zook, David H. and Robin Higham. A Short History of Warfare. New York, NY: Twayne Publishers, 1966.

Articles -

Antal, John F. "Railroad mobilization was only one element of Moltke's planning." Military History. February 1992.

Foerster, Roland G. "The Operational Thinking of the Elder Moltke and its Consequences." Operational Thinking in Clausewitz, Moltke, Schlieffen and Manstein. Bonn, Germany: Militargeschichtliches Forschungsamt, Freiburg im Breisgau, 1989.

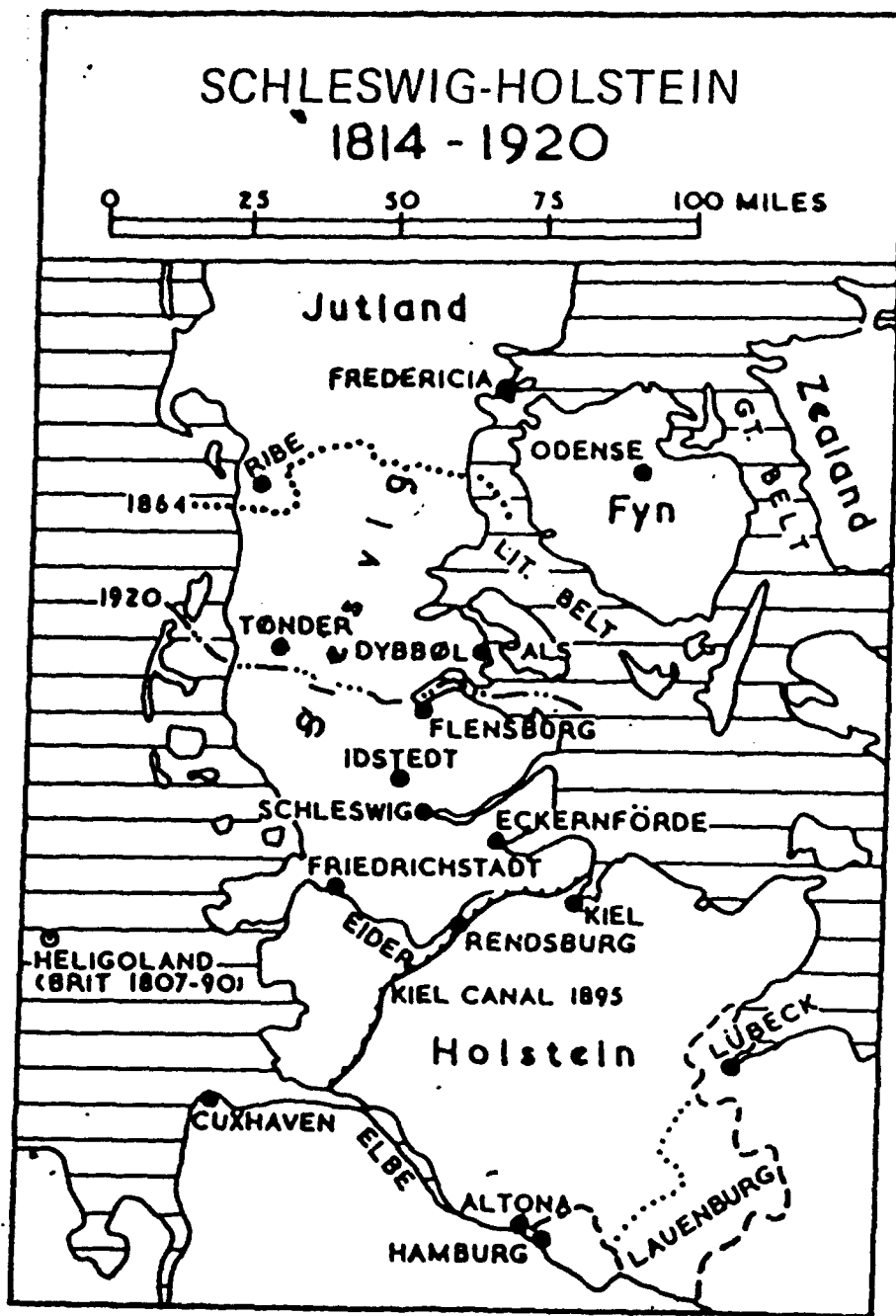
Smoke, Richard. "The Wars of German Unification: The Austro-Prussian War." and "The Wars of German Unification: The Franco-Prussian War." War: Controlling Escalation. Cambridge, MA: Harvard University Press, 1977.

Government Documents -

Armed Forces Staff College. AFSC Pub 1, The Joint Staff Officers' Guide 1993. Norfolk, VA: U.S. Government Printing Office, 1993.

Headquarters, Department of the Army. Field Manual 100-5 Operations. Washington, DC: 1993.

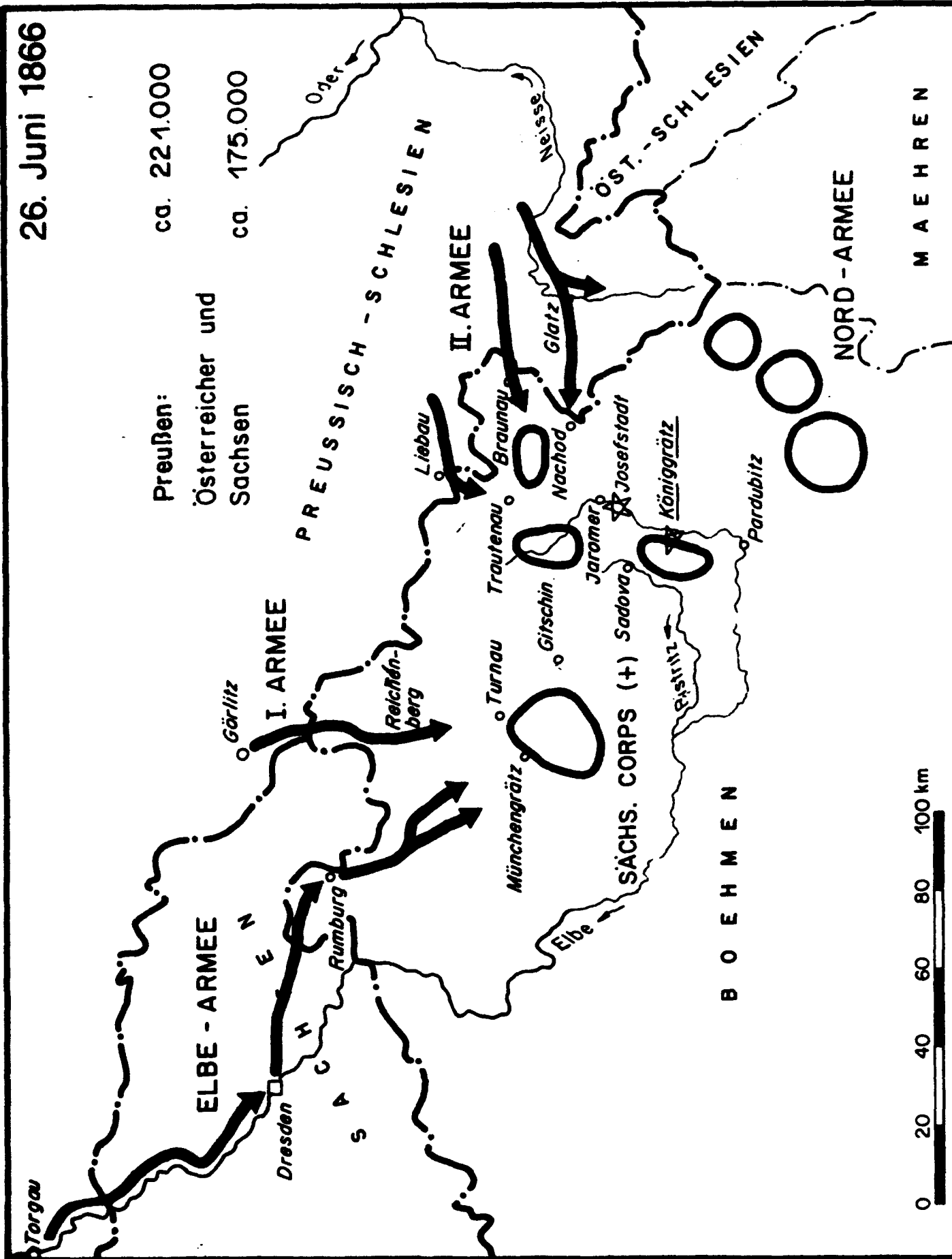
Vego, Milan N. Fundamentals of Operational Art (NWC 4054). Newport, RI: U.S. Naval War College, February 1994.

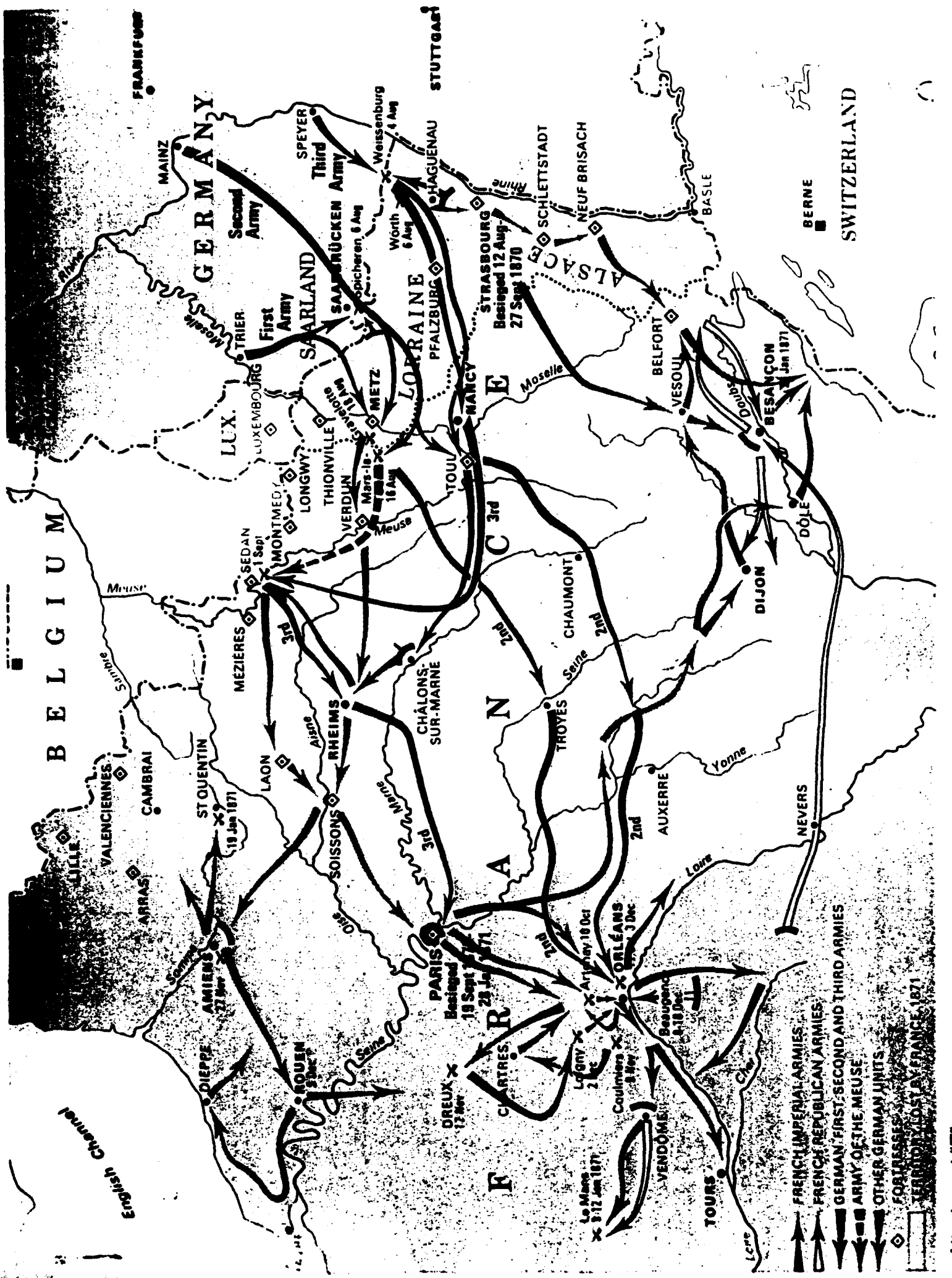


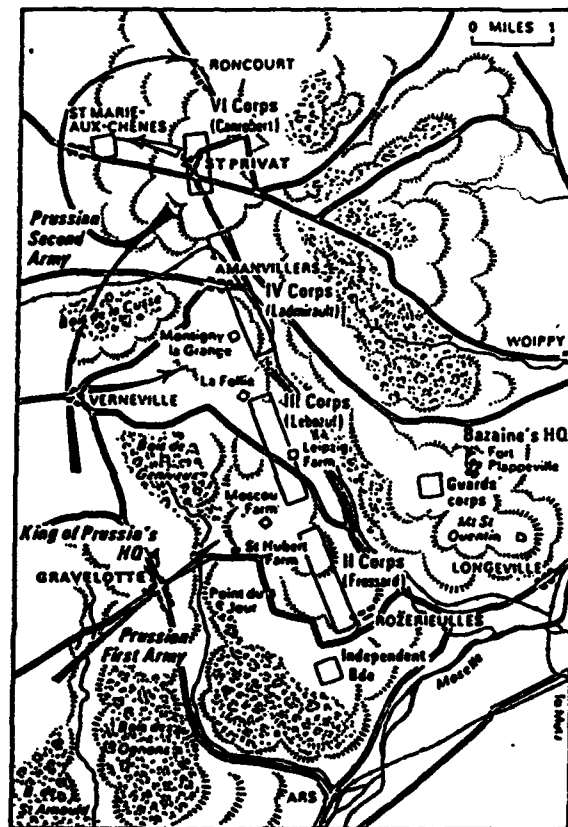
26. Juni 1866

Preußen: ca. 221.000

Österreich und
Sachsen ca. 175.000







The Battle of Gravelotte-St Privat



Prussian Infantry at the Battle of Gravelotte-St Privat