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1918 and the Emergence of Operational Art

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PhD in War Studies

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Abstract

This thesis examines the origins and emergence of operational art. It does so by studying the changes in the conduct of warfare that caused operational art to emerge. It further investigates how armies perceived and responded to the changes. The thesis emphasises how armies adapted at the higher levels of command and especially the strategic-operational interactions. Operational art in western armed forces is often defined in broad terms and may span the entire spectre from strategy to tactics. It has been criticised for that reason and for being a relic from the Cold War. This thesis argues that operational art emerged piece-meal from the mid-nineteenth century. The reason for its emergence was the increased complexity of warfare caused by the effects of new technology, the industrial revolution, and mass armies. The parts first came together in the Allied 1918 offensive that won the First World War. When operational art was defined conceptually in the Soviet Union's Red Army in the 1920s, the Allied offensive was at the core of the definition. There were previous examples of successful operational art, such as the Russian 1916 Brusilov offensive and the German 1918 spring offensives. Still, all suffered from dysfunctional strategic direction and failed strategically despite positive tactical and operational results.

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Acknowledgements

My interest in operational art emerged gradually. I was introduced to it when I attended the Norwegian Defence Command and Staff College. A year later, I was at Bagram Airbase in Afghanistan as part of Operation Enduring Freedom. I returned to Norway and posted to the Department of Strategic Studies at the Staff College, initially responsible for teaching military theory. The central subject was joint operations, where operational art was something of an abstract concept that connected operations to strategy. A few years later, I was posted as a liaison to the German Operational Headquarters in Potsdam. It was conveniently close to the Center for Military History and Social Sciences of the Bundeswehr, where I was introduced to German studies of military operations. Back at the Staff College, I was put in charge of revising the Norwegian Joint Operational Doctrine. This thesis results from looking at operational art from all these different perspectives, but not coming to terms with it.

Several people deserve thanks for their support and assistance in this thesis. First of all, the Norwegian Defence University College for the scholarship and opportunity to begin this research. I am incredibly thankful to my supervisors Professor Peter Jackson and Dr Alex Marshall. My relation with Professor Jackson began several years before the project emerged when he lectured at the Staff College. Later, when the Staff College decided to provide me with a scholarship, Professor Jackson let me on board and supervised my efforts to determine where the project was heading. He has offered indispensable criticism and direction. Thank you especially for the careful editing to make the thesis far better than I thought possible. Dr Marshall provided invaluable criticism and guidance on the crucial issue of Russian and Soviet military thinking. A great thanks to Merete Ruud for proofreading the chapters. Thanks also to Joseph Brendan Macbride and Elisabeth Ødemark for great help with language issues. A special thanks to Andreas Løes Narum for indispensable support in translating the Russian texts. Last but not least, my wife Hilde deserves the most generous thanks for her support and patience.

Introduction

By my faith! For more than forty years I have been speaking prose without knowing anything about it, and I am much obliged to you for having taught me that.

“Monsieur Jourdain”¹

What we cannot speak about we must pass over in silence.

Ludwig Wittgenstein²

When I first was introduced to operational art as a Staff College student, it was, together with “maneuver warfare”, the philosopher’s stone to success in war. When I came back as an instructor a few years later, returning from a deployment to Afghanistan, a clear understanding of operational art was not that easy to get around. Was it a level of war or perhaps a more skilful and artistic approach to warfare? Historical examples revolved around “operational warfare” and “operational maneuver”, where common traits among the stunning historical examples were the size and curvature of the arrows on the maps. When I got involved in doctrinal processes, my confusion reached new levels, since there were numerous and different doctrinal definitions of operational art. Frustration grew, even more, when new concepts were introduced that promised both to change the nature of war and make operational art superfluous. When I then back-tracked to translations of Soviet definitions and discussions from the 1920s, much of the mystique went away, but was what was left really worth all the fuss? There was no other option left but to find out myself.

This is a study of the emergence of operational art. Operational art is the planning and conduct of military operations to achieve strategic objectives by directing the effort of tactical forces.³ Operational elements, separate pieces of operational art, became parts of warfare when modern operations began to take shape in the last half of the nineteenth century. These elements became more prevalent in numerous wars before 1914 and in operations in the last

¹ J. B. Poquelin de Molière, *Le bourgeois gentilhomme* (New York: W. R. Jenkins, 1889), 31. “*Par ma foi , il y a plus de quarante ans que je dis de la prose , sans que j’en susse rien ; et je vous suis le plus obligé du monde , de m’avoir appris cela.*” Translated by Philip Dwight Jones: “The Middle Class Gentleman,” <http://www.gutenberg.org/files/2992/2992-h/2992-h.htm>.

² “Wovon man nicht sprechen kann, darüber muss man schweigen.” Translation by Pears/McGuinness at <http://people.umass.edu/klement/tlp/> Ludwig Wittgenstein, *Tractatus Logico-Philosophicus Logisch-philosophische Abhandlung* (London: Kegan Paul, 1922), 109.

³ Aleksandr A. Svechin, *Strategy* (Minneapolis, MN.: Eastview, 1927; repr., 2004), 68-69, 269-271.

part of the First World War. All of these elements were first brought together when operational art materialised during the Allied offensives in 1918.

The research question is

How, why, and for what purpose did operational art emerge?

Operational art as a concept was not identified by the armies that conducted it in the First World War. Both the Allied and the German post-war analyses interpreted developments in 1918 as pragmatic adaptations of tactics and strategy. They had been “speaking prose without knowing anything about it”. Operational art was first defined by the Soviet General Alexandr Andreevich Svechin in the 1920s as the third military discipline that bridged strategy and tactics.⁴ A military discipline in this context is a major field of military science, alongside strategy and tactics.⁵ Operational art was confined to the Soviet sphere of influence until the 1980s when it entered the American military reform debate and US Army doctrine.⁶

Since its introduction in the western militaries during the 1980s, operational art has been debated, criticised, questioned, and rejected outright. The critique spans claims that operational art is an artificial construct that only serves to confuse strategy and tactics to its lack of utility in the counter-insurgencies of the twenty-first century. Operational art as a concept also met with scepticism long before it was formally introduced in US Army doctrine: “The purpose of such an innovation [operational art] is unclear ... in western military science operational art as a theoretical concept is completely rejected. ... The West should not add this concept to its armoury.”⁷ This fragmented quote by Walter D. Jacobs is somewhat misleading since Jacobs wrote in the Cold War environment and argued that operational art was a unique Soviet construction to structure warfare formally “because of the limits placed

⁴ Ibid., 67-68.

⁵ S. N. Kozlov et al., "Soviet Military Science," (Fort Belvoir, VA: Defence Technical Information Center, 1967), 67-77.

⁶ Jacob W. Kipp, "Operational Art and the Curious Narrative on the Russian Contribution: Presence and Absence Over the Last 2 Decades," in *The Russian military today and tomorrow : essays in memory of Mary Fitzgerald*, ed. Stephen Blank and Richard Weitz (Carlisle, PA: Strategic Studies Institute, U.S. Army War College, 2010), 194-203; Richard M. Swain, "Filling the Void: The Operational Art and the U. S. Army," in *The operational art : developments in the theories of war*, ed. B. J. C. McKercher and Michael A. Hennessy (Westport, Connecticut: Praeger, 1996); "FM 100-5 Operations," ed. Department of the Army (Washington DC, 1982); "FM 100-5 Operations," ed. Department of the Army (Washington DC, 1986).

⁷ Walter Jacobs, *Army Magazine*, November 1961, quoted in Justin Kelly and Michael J. Brennan, *Alien: How Operational Art Devoured Strategy* (Carlisle, PA: Strategic Studies Institute, U.S. Army War College, 2009), 1.

in the USSR on original thinking and imagination.”⁸ Such a formal construct would allow Soviet commanders more freedom in their operations than the established strategy-tactics understanding. On the other hand, Western commanders already had the necessary freedom of action and did not need another level of command.⁹

Much of the critique of operational art is based on a superficial understanding of it as large scale campaigns and operations, an understanding that is also reflected in early doctrinal definitions and historical case studies. What is lacking is an explicit conceptual understanding of operational art beyond formal doctrine and the popular images of *le bataillon carré*, *Blitzkrieg*, and *glubokaya operatsiya* (deep operations). To understand and criticise operational art, an in-depth study of its essence is needed.

This thesis explores the nature and character of operational art by studying its origins, emergence, and finally its materialisation in 1918, in light of the early and original descriptions and theoretical expressions. It bases itself on other studies that have identified the First World War’s role in the emergence of operational art but will study the campaigns and operations in light of the initial Soviet definition of operational art in the 1920s.¹⁰ The thesis aims to reconsider the operations in 1918 to determine whether they illustrated operational art *avant la lettre*. The aim is not to write new interpretations of military history, but a critical analysis of the planning and conduct of operations to clarify the emergence of operational art.

One essential question in this study is whether operational art can exist without explicit terminology. “The surest sign that a society has entered into the secure possession of a new concept is that a new vocabulary will be developed, in terms of which the concept can be publicly articulated and discussed.”¹¹ This insight by Quentin Skinner implies that a phenomenon can exist as a concept, although it is not yet explicitly recognised and defined. It will, on the other hand, be difficult to “articulate and discuss” the phenomenon when it is

⁸ Walter Darnell Jacobs, "The Art of Operations," *Army Magazine*, November (1961), 64.

⁹ *Ibid.*, passim.

¹⁰ Richard W. Harrison, *The Russian Way of War: Operational Art, 1904-1940* (Lawrence, Kan.: University Press of Kansas, 2001), 62-71; Nick Lloyd, "Allied Operational Art in the Hundred Days, 1918," *The British Army Review* no. 156 (2012); William James Philpott, *War of Attrition: fighting the First World War* (London: Little, Brown, 2014), 306-339; David T. Zabecki, *The German 1918 offensives : a case study in the operational level of war* (London: Routledge 2006).

¹¹ Quentin Skinner, *The foundations of modern political thought*, 2 vols. Vol. 2, (Cambridge: Cambridge University Press, 1978), 352.

merely a form of practice. Is it possible for a practice to be consciously developed as a distinct concept without its own phraseology? The Prussian philosopher General Carl von Clausewitz also raised a similar concern: “Not until terms and concepts have been defined can one hope to make any progress in examining the question clearly and simply and expect the reader to share one’s views.”¹² This thesis will explore whether a new and unrecognised practice can exist and be further developed in the absence of a new vocabulary, at least until it is reconciled with existing terminology.

To answer the research question, the sources must be studied to identify operational elements that were not necessarily identified and recognised as such by the historical actors. At the same time, care must be taken to understand the historical meaning and content of the sources and avoid to interpret them in light of modern operational terminology. Historical actions and expressions that appear to represent operational elements viewed in hindsight were not necessarily that. On the other hand, nineteenth-century operational elements may not look like those in modern doctrines, keeping in mind how operational art is perceived in the twenty-first century. These methodical concerns lead to a supporting research question:

What is the nature and character of operational art?

This research question will serve as a framework for analysis to identify operational elements in warfare and writings before operational art was acknowledged and defined.

The term nature is used as in the English translation of the German term *Natur* in Clausewitz’ book *On War (Vom Kriege)*. Nature is the essence, the enduring characteristics of a phenomenon. Character, German *Charakter*, is, on the other hand, the expressions of a phenomenon that will vary according to circumstances.¹³ The character of operational art is reflected in the evolving and changing character of both warfare and military operations. The understanding of the character will illustrate how these operations were understood and conducted in different strategic circumstances and historical periods.

¹² Carl von Clausewitz, *On War: Indexed Edition* (Princeton N.J. : Princeton University Press, 1989), 132.

¹³ *Ibid.*, 61, 87-89, 220, 593-594; Svechin, *Strategy*, 67-70, 269-271; Carl von Clausewitz, *Vom Kriege* (Berlin: Ullstein, 1999), 23, 44-47, 206-207, 669-670.

This thesis will trace operational art's historical and theoretical origins and study the way operational elements, these single pieces of the puzzle that make up operational art, became part of warfare when modern operations began to emerge. The emphasis will be on the planning and conduct of operations in the last part of the First World War. Finally, the thesis will consider the way the strategic and operational experiences of the war were understood and expressed in theory and doctrine during the interwar years.

The relevance of this thesis is reflected in the academic and military debate of the past few decades, where operational art has been criticised for no longer being a useful concept after the prospects of large-scale conventional war declined:

Does the nature of strategy accommodate intervening concepts? Operational art, for all the good it did early on in enabling a reemphasis on the actual and skilful conduct of war, has perhaps run its course and should be folded back into those concepts which existed prior to its development.¹⁴

Thus, operational art is regarded by many no longer relevant or necessary as a military discipline alongside strategy and tactics. Several military practitioners and academics argue that the concept should be taken out of military nomenclature and relegated to history's junkyard. The critique is broad and ranges from the information technology optimism of the 1990s to contemporary counter-insurgencies and small wars advocates. Operational art is challenged from a technological basis by the claim that information technology and networking will make the operational level of command unnecessary. Some small wars proponents claim that operational art is ill-suited to small wars and counter-insurgencies. The critique is not uniform, but operational art also has its advocates. But what was regarded as an established element of military art a few decades ago is now receiving differentiated critique from several quarters.¹⁵

The above-mentioned critique of operational art in western militaries began before it was introduced as a doctrinal concept. There were critical voices from the outset. US Army Major Stephen T. Jordan recalls the professional debate in his US Army Command and General

¹⁴ Lukas Milevski, "Strategy and the Intervening Concept of Operational Art," *Infinity Journal* 4, no. 3 (Spring 2015), 22.

¹⁵ Yacov Bengo and Shay Shabtai, "The Post Operational Level Age: How to Properly Maintain the Interface between Policy, Strategy, and Tactics in Current Military Challenges," *ibid.*; Erik J. Dahl, "Network centric warfare and the death of operational art," *Defence Studies*, 2, no. 1 (2002); Kelly and Brennan, *Alien: How Operational Art Devoured Strategy*; Hew Strachan, "The lost meaning of strategy," *Survival* 47, no. 3 (2005).

Staff College monograph from 1991, *Operational Art: Modern Utility or Defunct Doctrinal Concept*:

Contemporary discussion on the subject relates operational art to levels of war, levels of command, levels of planning, sizes of forces involved, and even to geographical characteristics of the battlefield. This broadening of the doctrinal concept clouds the issue of its practical utility to warfighting. While certain characteristics similar to those above emerge in the practice of operational art on the modern battlefield, its utility as a concept must be derived from what it “is”, not what it “looks like.”¹⁶

Jordan highlights how vaguely operational art was understood and how imprecisely it has been applied in doctrine and operations, but he concludes that operational art still has a utility as a doctrinal concept. His monograph is a historical case study of two Second World War operations and Operation Desert Storm in 1991. It is also an example of the challenges involved in trying to bring clarity to an abstract concept to be used in a dynamic activity such as war. These challenges include how to interpret specific historical elements, such as force ratios, lack of operational doctrine, and planning processes in light of contemporary operational doctrine.¹⁷

He then underlines two distinct elements in the debate when he highlights the difference between what operational art “is” as opposed to what it “looks like”. Military operations may share many similarities, although they were conducted in different centuries, planned and executed for different purposes, and based on different doctrinal approaches. To find out what it “is”, operational art must be studied critically in its historical context. Facets that must be studied include the way it was expressed in doctrine, education, and in the planning and conduct of operations. The “is” question concerns the nature of operational art, its enduring characteristics that are independent of context. The “looks like” or “looked like” are, on the other hand, the context-determined practices: the character of operational art. An illustration is whether American operational art in the Second World War was “real” operational art, as Michael R. Matheny claims, or did it just “look like it”? Some historians have questioned whether operations by the Western Allies might even have succeeded better and with fewer casualties, had they known the theoretical foundations of operational art.¹⁸

¹⁶ Stephen T. Jordan, *Operational Art: Modern Utility or Defunct Doctrinal Concept* (Fort Leavenworth, KS: U.S. Army Command & General Staff College, 1991), 1.

¹⁷ *Ibid.*, 33-38.

¹⁸ Russel H. S. Stolfi, "A Critique of Pure Success: Inchon Revisited, Revised and Contrasted," *The Journal of Military History* 68, no. 2 (2004); Russell F. Weigley, "Normandy to Falaise A Critique of Allied Operational

The two military disciplines of strategy and tactics have been the framework for conceptualising war since the Revolutionary and Napoleonic Wars. Strategy provided the objectives to decide the war, while tactics determined how military engagements were conducted to achieve these objectives: “According to our classification, then, tactics teaches *the use of armed forces in the engagement; strategy, the use of engagements for the object of the war.*”¹⁹ This strategic-tactical dualism was challenged in the last part of the nineteenth century. Universal conscription, technology, and the industrial revolution increased the size and sustainability of armies to the point that victories in battles were often insufficient to decide wars. Battles became protracted in time and space, they often lasted for weeks and spanned hundreds of kilometres. The outcomes were no longer decisive in the sense that a definite outcome could be used by strategy for the object of the war. A widening gap developed between the strategic objectives of winning the war and the outcomes of engagements and battles.

This tectonic drift of the two military disciplines of strategy and tactics made it increasingly more difficult to decide wars by tactical victories. The idealised Napoleonic decisive battle would no longer lead to strategic decision and victory in war. Simultaneously, strategic leadership lacked the ability to manage the new complexity and sustain the enormous increase in forces and the subsequent enormous logistical demands in the field. General staffs and military science struggled to span the gap during the industrialised people’s wars from the 1860s onwards. There were several perceptions of war and different approaches to the conduct of modern war in the decades before the First World War.²⁰ This study will examine when and how operational art emerged as an approach to bridge this gap.

Operational art emerged as a practical response to the increased military complexity to bridge the strategic-tactical gap.²¹ The bridge consisted of consecutive operations planned and conducted by a dedicated operational command. The high command initially directed operations, such as the Prussian “mobile General Staff” in 1866. When complexity increased,

Planning in 1944,” in *Historical perspectives of the operational art*, ed. Michael D. Krause and R. Cody Phillips (Washington D.C.: Center of Military History, United States Army, 2005), 409-410.

¹⁹ Clausewitz, *On War: Indexed Edition*, 128. Italics in original.

²⁰ Antulio J. Echevarria, *After Clausewitz: German military thinkers before the Great War* (Lawrence, KS: University Press of Kansas, 2000); Azar Gat, *A history of military thought : from the Enlightenment to the Cold War* (Oxford: Oxford University Press, 2001), 269-516.

²¹ Bruce W. Menning, "Operational Art's Origins," in *Historical perspectives of the operational art*, ed. Michael D. Krause and R. Cody Phillips (Washington: Center of Military History, United States Army, 2005), 4-10.

separate commands, army groups, were formed to plan and conduct operations. The high command was to provide strategic direction of the operations towards the object of the war.²²

In principle, strategic aims and objectives would be developed in an “unequal dialogue”²³ between the political leadership and the military high command, which represents the strategic level of command. These aims and objectives were political in their nature and were to direct the armed forces to ensure the political dimension in the planning and execution of military campaigns. Modern operations consume enormous amounts of ammunition, fuel, and other supplies. Industrial production and prioritising civilian resources to sustain the war effort demanded close political-military cooperation. The strategic aims in the modern industrialised war came to depend on the societies’ ability to support the operations to reach those aims, which added a substantial domestic element to the “unequal dialogue”.

The operational commanders, subordinated to the high command, would plan and conduct military operations within the framework of the campaign to reach the given aims and objectives. Operational art was directly related to strategy and had to be fully aware of both the military aims of policy as well as the comprehensive political context. In a similar way, policy should be aware of the possibilities and limitations of strategy and the operations that strategy uses to reach its aims.²⁴ The operational commander would then direct and sustain the tactical forces throughout the operation, while the tactical commanders conduct the fighting. Any element of war, such as operational art, must, therefore, also be studied within war as a totality, since everything in war is connected to war’s political purpose.

²² Arden Bucholz, *Moltke and the German wars, 1864-1871*, European history in perspective (Basingstoke: Palgrave, 2001), 119-121; Nikolai N. Movchin, *Posledovatel'nye operatsii po opytu Marne i Visly* [Consecutive Operations According to the Experience of the Marne and the Vistula] (Moscow, Leningrad: Gosudarstvennoe Izdatel'stvo, 1928), 119-121; Svechin, *Strategy*, 68-70, 259-262.

²³ Elliot A. Cohen, *Supreme Command, Soldiers, Statesmen, and Leadership in Wartime* (New York NY: The Free Press, 2002), 12.

²⁴ “a politician who sets a political goal for military operations must have an idea of what is feasible for strategy given the resources available and how politics may affect the situation for better or for worse.” Svechin, *Strategy*, 74; Clausewitz, *On War: Indexed Edition*, 605-610.

Sources and methodology

The primary sources are published texts, plans, orders, and other sources that provide insights into how operational art originated and emerged. The chief sources are books, articles, and archival material that are grouped into three categories. The first category is military theoretical works that describe and discuss how military thinking and theory developed and how operational elements emerged explicitly or indirectly up to 1914. The next are texts and archival material that describe the planning and conduct of campaigns and operations. The third category is military theoretical works that analysed the First World War and discussed how to plan and prepare for the next war. The third category of sources is, on the one hand, comprised of Soviet post-1918 writings that identified a new military discipline focused on operational elements and operational art. On the other hand, texts and doctrines from western armies, some that developed operational art and others that maintained the pre-war strategic-tactical patterns.

Note on sources

The references contain both official histories and archived primary sources. The official histories serve both as secondary sources when their narrative is cited, but also as primary sources to understand how central military terms were perceived, especially those related to operational elements and operational art. The French army's official history is a particularly rich primary source.

Les armées françaises dans la Grande guerre (AFGG), the French official history of the First World War, was published in 11 *tomes* (main volumes). Each tome contains between one and four volumes, while each volume contains up to five books of annexes and maps. The annexes consists of primary sources, such as orders, protocols of conferences, and directives.

Der Weltkrieg 1914 bis 1918, the official German history of World War One, was published in 14 volumes from 1925 to 1944. Contrary to the AFGG, the *Weltkrieg* is a historical narrative without primary sources attached. However, there are some primary source

references and quotations by key commanders and other actors in the text. *Der Weltkrieg* is deliberately biased support the German army's narrative regarding its role in the war.²⁵

The British **Official History of the Great War** was published in 29 volumes between 1922 and 1948.²⁶ There are selected primary sources printed as appendices in each volume, while selected French and German sources are quoted in the chapters. In addition, some volumes have added books of annexes and maps. Volumes of the OGHW received criticism from various commentators and historians, but Andrew Green says of the OGHW that "one must conclude that the works were of substantial historical, military and literary value."²⁷

Methodological issues

A major concern is operational elements have to be extracted indirectly in texts that originated before the Soviets defined operational art in the 1920s. Another issue is that since operational art did not enter western military terminology until the 1980s, operational elements outside the Soviet sphere of influence will also have to be derived circuitously. These concerns are addressed by examining historical texts in search of descriptions, phrases, and terms, that may reveal operational elements. A strict methodology is observed that aims to understand the texts within their historical context and avoid interpreting historical content and meaning in light of twenty-first-century operational doctrine and terminology.

The study of warfare is primarily based on published historical studies of campaigns and operations and supplemented with official histories and primary sources for detailed studies of operational elements. This thesis does not aim to offer any alternative narratives, but will rather expand the knowledge of the planning and conduct of operations to identify operational elements and the emergence of operational art. Operational elements will contribute to

²⁵ *Der Weltkrieg 13*, unnumbered page 3-10 after hardcover; *Der Weltkrieg 14,1*, unnumbered pages 3-7 after hardcover, unnumbered page 5 after hardcover, note 6; "The German Official History of the War Vol. 5," *Journal of the Royal United Service Institution* 74, no. 2 (1929); Gustav Roloff, "Der Weltkrieg 1914 bis 1918. Bearbeitet im Reichsarchiv. Die militärischen Operationen zu Lande," *Historische Zeitschrift* 134, no. 2 (1926); "Der Weltkrieg 1914 bis 1918. Bearbeitet im Reichsarchiv. Die militärischen Operationen zu Lande. Bd. 3, 4, 5," *Historische Zeitschrift* 142, no. 2 (1930); "Reichsarchiv. Der Weltkrieg 1914-1918. 8. u. 9.," *Historische Zeitschrift* 2, no. 154 (1936).

²⁶ Andrew Green, *Writing the Great War Sir James Edmonds and the Official Histories 1915-1948* (London: Frank Cass, 2003), 1.

²⁷ *Ibid.*, 3-4, 207; David French, "'Official but not History'? Sir James Edmonds and the Official History of the Great War," *RUSI Journal* 131, no. 1 (1986), 58-63.

understanding how operational art emerged as practice before it was explicitly recognised and defined. The hypothesis is that operational art emerged as unconnected pieces of a puzzle that did not present those who were to solve it with any guide or template. On the contrary, the historical actors were not aware that there was a puzzle. The puzzle was only partly assembled at any time and all elements were not brought together until the Allied offensive from July to November 1918. Even then, few recognised the picture that the puzzle represented.

When studying operational art, one methodical challenge is that it emerged as practice before its specific terminology was developed. Military historical studies tend to assume that operational art has been present since, or even before, the Napoleonic Wars.²⁸ Warfare is a practical matter and military commanders may, therefore, as Monsieur Jourdain, “have been speaking prose without knowing anything about it”. The opposite approach is that a phenomenon cannot exist without a terminology. According to Ludwig Wittgenstein, “what we cannot speak about we must pass over in silence”. If there was no operational terminology at a given time, did operational art exist? Did military activities just share some visible similarities with a twenty-century’s perception of operational art, such as envelopments and deep manoeuvres? Is operational art dependent on the ability to articulate it in specific operational terms, or is it to a great extent just a matter of practice? The methodological approach to these questions will be discussed and established in the next chapter.

The thesis will follow three parallel paths in the study both of the conduct of war and of writings about warfare. The first is to discern when operational elements emerged in practice and military writings. The second path is a close examination of initial definitions and the discussions that lead to the original descriptions of operational art and the early conceptual explorations by Soviet theorists. Finally, the Soviet explicit expressions of operational art in the interwar period will be compared with French, German, and American understandings of contemporary war and military operations. This part will study whether operational art could be expressed without any explicit operational terminology.

²⁸ Michael D. Krause and R. Cody Phillips, *Historical perspectives of the operational art* (Washington D.C.: Center of Military History, United States Army, 2005); Claus Telp, *The Evolution of Operational Art, 1740-1813 : From Frederick the Great to Napoleon*, Military History and Policy (Hoboken: Taylor and Francis, 2005).

Along these paths, operational art will be studied in different phases; its origins, its emergence and materialisation, and finally its definition and initial theoretical developments. These phases are partly overlapping, partly parallel, and to a large extent influenced by the different countries' military organisations and institutional characteristics. The methodological challenges vary between and within these phases, especially where there was no operational terminology.

Outline

The first chapter will present the research status and provide an overview of the literature on operational art. It will cover literature about operational art, but also literature where operational art is a secondary subject or is just implicitly revealed as fragmented operational elements in a historical narrative. The chapter will also introduce and discuss theory and methodology that will be used in the study of warfare and texts.

Chapters two and three explore the origins of operational art by questioning the meta-narrative of the continuity of operational art from pre-industrial to present times. The chapter will follow two tracks. The first is the changes in land warfare from the Napoleonic wars to the First World War, emphasising campaigns and operations that have been used as examples of early operational art. The second track is the emergence and development of military thought and terminology that may have reflected operational art or operational elements.

The fourth chapter will study two modern operations in the First World War. Both the Russian Brusilov offensive in 1916 and the German Michael offensive in the spring of 1918 were spectacular operational successes by First World War standards. Still, they did not contribute to any positive strategic outcome. The conduct of these operations has since influenced tactical developments, operational art, and military doctrine.

The Allied offensive on the Western Front that led to the armistice in November 1918 is the object of study in the fifth chapter. This offensive was conducted as strategically directed successive operations that led to the Allied victory. The hypothesis is that the Allies won because they mastered operational art as a military discipline, although it was not recognised at the time. They were able to establish and maintain functional interactions between strategy, operational art, and tactics.

The purpose of these chapters is to deduce why, how, and for what purpose operational art emerged as a practical solution of how to manage the complexities in modern war.

The sixth chapter will study the definition and theoretical development of operational art in the Soviet Union in the 1920s and how operational art was outlined as a discrete part of war as a totality. The chapter is limited to the conceptual understanding of operational art and will not study in detail how operational art was later developed into doctrine. The Soviet case will be compared to French, German, and American understandings of modern war, to comprehend further operational art's emergence, nature, and character.

Level of analysis

The thesis will emphasise the theoretical and conceptual content and development of operational art. However, it will not study how it was developed into specific operational concepts, doctrines, and force structures, which has already been thoroughly examined in the past decades.²⁹ There are also numerous studies of military operations, with or without an operational framework, which span from descriptive narrative to critical analysis.³⁰ These works tend to base their analysis on an established doctrinal definition of operational art, which is usually derived from the 1986 US Army definition in *FM 100-5 Operations*. There are also theoretical studies that analyse operational processes and interactions. These are rare and often confined to War and Staff Colleges that teach and train students to manage processes and procedures in operational headquarters. Shimon Naveh's study is an atypical

²⁹ Robert M. Citino, *Blitzkrieg to Desert Storm* (Lawrence KS: The University Press of Kansas, 2004); John Erickson, *The Soviet high command : a military-political history, 1918-1941* (London: Frank Cass, 2001); Mary R. Habeck, *Storm of Steel : The Development of Armor Doctrine in Germany and the Soviet Union, 1919-1939* (London; Ithaca, N.Y.: Cornell University Press, 2003); Michael R. Matheny, *Carrying the war to the enemy : American operational art to 1945* (Norman OK: University of Oklahoma Press, 2011); Sally W. Stoecker, *Forging Stalin's Army: Marshal Tukhachevsky and the politics of military innovation* (Boulder, CO: Westview Press, 1998); David R. Stone, *Hammer and Rifle: The Militarization of the Soviet Union, 1926-1933* (Lawrence KS: University Press of Kansas, 2000).

³⁰ Karl-Heinz Frieser, *Blitzkrieg-Legende: der Westfeldzug 1940* (München: R. Oldenbourg, 1996); David M. Glantz, *August Storm. The Soviet 1945 Strategic Offensive in Manchuria* (Fort Leavenworth, KS: Combat Studies Institute, U.S. Army Command and General Staff College, 1983); *From the Don to the Dnepr : Soviet offensive operations December 1942-August 1943* (London: Frank Cass, 1991); Olaf Jessen, *Verdun 1916 Urschlacht des Jahrhunderts* (München: C. H. Beck, 2014); Sean Naylor, *Not a good day to die : the untold story of Operation Anaconda* (London: Penguin books, 2005); Craig L. Symonds, *Neptune : the Allied invasion of Europe and the D-Day landings* (Oxford: Oxford University Press, 2014); Telp, *The Evolution of Operational Art, 1740-1813 : From Frederick the Great to Napoleon*.

exception, where he aims to explain operational art and its development from the perspective of systems theory.³¹

There are some interactions between this thesis and studies of military innovation, such as studies of the British army's "learning curve", inventing modern warfare, or German stormtroop tactics.³² This thesis will study how the tactical results of these innovations were managed to reach objectives beyond the immediate outcome of the combination of tactical, organisational, and technological innovations, to explore operational art's emergence in light of its initial definition and purpose. Pitfalls to be avoided are those of teleology and projecting contemporary operational concepts and doctrine into the past. These theoretical and methodological issues will be further elaborated on in the theory and methodology chapter.

Operational art had a fragmented and piece-meal emergence. Operational elements, disparate pieces of an unknown puzzle, appeared and were lost again until a complete picture emerged in the final years of the First World War. The emergence was pragmatic responses to the changing character of land warfare that was caused by the increased range, volume, and precision of firepower, industrialised logistics, and armies of millions. Operational art as an integral part of military strategy that was harnessing tactics towards the strategic objective materialised itself for the first time in the 1918 Allied fall offensive operations. The Allied conduct of operations was in the 1920s defined as a new military discipline named operational art by the Soviet Red Army.

³¹ Shimon Naveh, *In pursuit of military excellence: the evolution of operational theory* (London: Frank Cass, 1997); Milan N. Vego, *Joint Operational Warfare : Theory and Practice* (Newport, RI: United States Naval War College, 2007).

³² Aimée Fox, *Learning to fight: military innovation and change in the British Army, 1914-1918* (Cambridge: Cambridge University Press, 2018); Michel Goya, *L'invention de la guerre moderne : du pantalon rouge au char d'assaut, 1871-1918* (Paris: Tallandier, 2019); Bruce I. Gudmundsson, *Stormtroop tactics : innovation in the German army, 1914-1918* (Westport, CT: Praeger, 1995).

Chapter 1. Theory and methodology

Many readers no doubt will consider it superfluous to make such a careful distinction between two things so closely related as tactics and strategy, because they do not directly affect the conduct of operations. Admittedly, only the rankest pedant would expect theoretical distinctions to show direct results on the battlefield.

The primary purpose of any theory is to clarify concepts and ideas that have become, as it were, confused and entangled. Not until terms and concepts have been defined can one hope to make any progress in examining the question clearly and simply and expect the reader to share one's views.

Carl von Clausewitz.³³

This chapter will initially present and discuss the literature on operational art. It will then clarify the theoretical and methodical framework for the study. The purpose is to establish a comprehensive structure to identify and understand the emergence of operational art in its three phases; its origin, its early and partly unrecognised emergence and materialisation, and when operational art was defined as a unique military discipline.

A central question is if operational art as a phenomenon can exist without a new vocabulary or clearly defined terms and concepts? Both the pragmatic and the theoretical-doctrinal lines in the development of operational art will be explored in parallel. The sources will be studied in light of what operational art “is”, as opposed to what it “looks like”. The purpose is to investigate whether operational art could exist without new and explicit terms, concepts, and vocabulary. Or, on the other hand, if operations that “looked like” operational art, but did not have the theoretical and doctrinal foundations, also were operational art.

The literature review will emphasise texts that have shaped contemporary western understandings of operational art. It will present the research status and the main lines of argument in the professional and academic debate over the past two decades. The literature will be presented thematically and also chronologically within each of the themes.

Operational art is not regarded as a military discipline or term in *The Oxford Companion to Military History* from 2004, but briefly noted *en passant* under “art, the military” and

³³ Clausewitz, *On War: Indexed Edition*, 132.

“operational level of war”.³⁴ Operational art is only mentioned as a Soviet term under “operations” in the 1986 *Dictionary of Military Terms*, although operational art had been an element in the professional and public military debate for several years.³⁵ On the other hand, operational art is exhaustively recounted in the *Great Soviet Encyclopaedia* of the 1970s, as well in the new online *Great Russian Encyclopaedia*.³⁶ These examples reflect both that operational art is an established element in the Russian military nomenclature, while its position in western academia and military is less prominent.

Soviet elaboration of operational art as a concept

The literature consists of books, academic studies and professional compilations, reports by academics, think-tanks, and professionals, journal articles and web pages. Several books and articles are in addition, indirectly concerned with operational art and operational elements. These are historical studies of military campaigns and operations and military institutions when operational art was emerging as a phenomenon. Memoirs and biographies of commanders and other central historical actors will contribute to enlightening the emergence of operational art and modern operations.³⁷ Studies of military innovation, technology, military education, doctrine, and command organisations will often if indirectly, provide valuable insights into operational elements.³⁸ Professional journals are excellent sources. Western journals first began to explicitly discuss operational art in the wake of the US Army doctrinal reform in the 1970s. Operational elements have been discussed indirectly and with different terminology back to the interwar years. Soviet military journals have been an arena for explicit operational discussions since the 1920s.

³⁴ Richard Holmes, Charles Singleton, and Dr Spencer Jones, *The Oxford Companion to Military History* (Oxford: Oxford University Press, 2004); Richard M. Swain, "The Written History of Operational Art," *Military Review* 70, no. 9 (1990); "Filling the Void."

³⁵ Trevor N. Dupuy, Grace P. Hayes, and Curt Johnson, *Dictionary of military terms* (New York: H.W. Wilson Co, 1986), 164.

³⁶ Jean Paradise, *Great Soviet encyclopedia*, vol. 18 (New York: Macmillan, 1978), 472-474; "Bol'shaya rossiyskaya entsiklopediya," https://bigenc.ru/military_science/text/2690325.

³⁷ Ferdinand Foch, *The Memoirs of Marshal Foch* (London: William Heinemann Ltd., 1931); Ulysses S. Grant, *Personal Memoirs of U. S. Grant* (New York, NY: Da Capo Press, 1982); Elizabeth Greenhalgh, *Foch in Command The Forging of a First World War General* (Cambridge: Cambridge University Press, 2013); Richard W. Harrison, *Architect of Soviet Victory in World War II : The Life and Theories of G.S. Isserson* (Jefferson NC: McFarland & Company, Inc., Publishers, 2010); Erich Ludendorff, *Meine Kriegserinnerungen* (Berlin: Ernst Siegfried Mittler und Sohn, 1919); Boris Sokolov, *Marshal K.K. Rokossovsky: The Red Army's Gentleman Commander* (Solihull: Helion & Company, 2015).

³⁸ Habeck, *Storm of Steel*; Matheny, *Carrying the war to the enemy*; Stoecker, *Forging Stalin's Army*; Stone, *Hammer and Rifle*.

In addition to the interwar years' Soviet writers, there are several scholarly studies on the development of Russian and Soviet military thought that provide essential contextual understanding for the study of operational art. Carl Van Dyke studied the development of Russian higher military education from the wake of the Napoleonic wars to the First World War in his *Russian Imperial Military Doctrine and Education, 1832-1914*.³⁹ The book is about the institutionalisation of education and the failed attempts to create a unified military doctrine.

Dyke's book parallels Bruce W. Menning's *Bayonets Before Bullets : The Imperial Russian Army, 1861-1914*,⁴⁰ where Menning presents the development of Russian warfare and strategic thinking. This process illustrates how some of their thinkers grasped the essence of what later was defined as operational art. Menning's book provides a good description of the interplay between war experience, foreign influence, and Russian indigenous thinking that laid some of the intellectual foundations for the Red Army's military theoretical developments in the 1920s. Both books are examples of historical studies that indirectly contribute to the study of operational art. Menning also wrote a short and concise article in *Military Review* on the development of operational art, especially the early Soviet theorists' role. This article was printed as an introductory chapter in the 2005 anthology *Historical perspectives of the operational art*, edited by Michael D. Krause and R. Cody Phillips.⁴¹

Several influential Soviet military theorists were translated into English by the US Armed Forces and later published with scholars' introductions and commentaries. Although the books were published after the 1990-1991 Gulf War, the texts were available to the US Army doctrine developers in the late 1970s and 1980s and arguably influenced the US Army's 1982 and 1986 FM 100-5 editions (the AirLand Battle doctrines).⁴²

Aleksandr Svechin is regarded as the first to define operational art and described it in a military theoretical text. His book, first published in Moscow in 1926, was followed by a

³⁹ Carl Van Dyke, *Russian Imperial Military Doctrine and Education, 1832-1914* (Wesport, CT: Greenwood Press, 1990).

⁴⁰ Bruce W. Menning, *Bayonets before bullets : the Imperial Russian Army, 1861-1914*, Indiana-Michigan series in Russian and East European studies (Bloomington, IN: Indiana University Press, 1992).

⁴¹ Ibid.; Bruce W. Menning, "Operational Art's Origins," *Military Review* LXXVII, no. 5 (1997); "Operational Art's Origins."

⁴² David M. Glantz, "Foreword," in *The Evolution of Soviet operational art 1927-1991 : the documentary basis : V.1 : Operational art, 1927-1964*, ed. Harold S. Orenstein (London: Frank Cass, 1995), vii-ix.

revised second edition in 1927 that was first published in English in 1991. Svechin was educated within a classic general staff tradition and was well versed in the teachings of Carl von Clausewitz. He also translated Clausewitz's *On War* into Russian and wrote a short biography of the Prussian philosopher general.⁴³ Svechin is of particular interest since he extracted the concept of operational art from classic military theory and the lessons of contemporary wars and military operations where the elements of operational art emerged.

The Cass/Routledge Series *Soviet Study of War* published several Soviet historical texts and sources on the development of operational art. In 1994 Cass published Vladimir Kiriakovitch Triandafillov's *The Nature of the Operations of Modern Armies*, first printed in the Soviet Union in 1929. The edition has a foreword by Jacob W. Kipp and an introduction by James J. Schneider. The book has two parts. The first, "The State of Modern Armies", was about land forces at the time of writing. It was about how armies have developed since the Great War and their current status in armaments, size, and organisation. The second part is the most interesting concerning operational art. Triandafillov developed an operational concept for conducting operational art in a modern environment.⁴⁴

The 1995 two-volume publication *The Evolution of Soviet Operational Art, 1927-1991 The Documentary Basis*, is a collection of selected Soviet texts on operational art. The first volume covers 1927 till 1965 and opens with some sections from Svechin's *Strategy*. Varfolomeyev's 1928 article on military theory development and two texts by Georgii Isserson are the next parts. The first is Isserson's 1932 article in the periodical *Voyna i revolyusia* (War and revolution), where he outlined the development of operational art. The next chapters cover Soviet analysis of operational experiences during the Second World War and the development of operational art in the immediate post-war years.⁴⁵

⁴³ Jacob W. Kipp, "General-Major A.A. Svechin and Modern Warfare: Military History and Military Theory," in *Alexandr A. Svechin: Strategy*, ed. Kent D. Lee (Minneapolis, MN.: Eastview, 2004), 23-25, 37-41, 51-52, 55; Olaf Rose, "Swetschin und Clausewitz. Geisterwandschaft und Schicksalparallelität," in *Clausewitz*, ed. Alexander Swetschin (Bonn: Ferd. Dümmler Verlag, 1997), 64-69; Svechin, *Strategy*, 67-71; Alexander Swetschin, *Clausewitz* (Bonn: Ferd. Dümmler Verlag, 1935; repr., 1997).

⁴⁴ V. K. Triandafillov, *The Nature of the Operations of Modern Armies* (Ilford, Essex: Frank Cass, 1929; repr., 1994).

⁴⁵ Harold S. Orenstein, *The Evolution of Soviet operational art 1927-1991 : the documetary basis : V.1 : Operational art, 1927-1964* (London: Frank Cass, 1995).

The second volume of *The Evolution of Soviet Operational Art, 1927-1991 The Documentary Basis*, covers 1965 to 1991. Its first two chapters contain texts on the theoretical development in the interwar years as operational art was established and how it was intended to be conducted in the 1970s and 1980s. The final chapter reflects the debate on the changed strategic direction in the Gorbachev years up to 1991.⁴⁶

Georgii Isserson's chapters in volume 2 of *The Evolution of Soviet Operational Art, 1927-1991* and other texts were issued in a revised edition of his book *The Evolution of Operational Art* in 1936 and published in a new translation by the US Army in 2013.⁴⁷ Much of Isserson's thinking is also available in Richard Harrison's biography from 2010 and translation of six of Isserson's military theoretical texts in 2016.⁴⁸ Stephen J. Main explored Isserson's views in *The Journal of Slavic Military Studies* in February 2016.⁴⁹ Isserson's writings include historical analysis, discussion of operational art in light of historical experiences, and operating concepts and doctrinal texts. He is credited with having had a significant influence on the development of Soviet operational art before he was demoted after his performance in the Winter War against Finland.

The US National Defense University published the three volumes series *The Voroshilov Lectures* between 1989 and 1992. These were the teaching in the years 1973-1975 at the Military Academy of the General staff of the Soviet Armed Forces Marshal K. E. Voroshilov, compiled by the Afghan colonel Ghulam Dastagir Wardak. The notes were translated and edited by American Russian language specialists. They are a valuable source on Soviet strategic and operational thinking and doctrine in the 1970s when the Soviet army reinvigorated operational art after emphasising nuclear war in the 1960s. The third volume is

⁴⁶ *The Evolution of Soviet operational art 1927-1991 : the documetary basis : V.2 : Operational art, 1965-1991* (London: Frank Cass, 1995).

⁴⁷ Georgii Samoilovich Isserson, *The Evolution of Operational Art* trans. Bruce W. Menning (Fort Leavenworth, KS: Combat Studies Institute, 1936; repr., 2013).

⁴⁸ Harrison, *Architect of Soviet Victory in World War II : The Life and Theories of G.S. Isserson*; G. S. Isserson and ibid., *G.S. Isserson and the War of the Future : Key Writings of a Soviet Military Theorist* (Jefferson, NC: McFarland & Company, Inc., Publishers, 2016).

⁴⁹ Steven J. Main, "'You Cannot Generate Ideas by Orders': The Continuing Importance of Studying Soviet Military History—G. S. Isserson and Russia's Current Geo-Political Stance," *The Journal of Slavic Military Studies* 29, no. 1 (2016).

about “Issues of Operational Art” and provides both an overview of and insights into Soviet operational thinking.⁵⁰

Use of the concept by military historians: problems

The terms “operational art” and “the operational level of war” entered western military terminology in the debate after the 1976 edition of the US Army’s *Field Manual 100-5 Operations* (Active Defense).⁵¹ These concepts were but small elements in the American debate, which was dominated by civilian reformers and the army establishment on the one hand and the “maneuver warfare” versus attrition debate on the other.⁵² The operational dimension was only partly linked to the assumed role of “maneuver warfare”, mostly as an argument favouring the latter.⁵³ This connection created the initial perception of mutual relation between operational art and “maneuverism”, which is reflected in recent critique of the operational level of war.⁵⁴

In his seminal critique of the 1976 *FM 100-5 Operations*, William S. Lind used “operational” as part of his argument and referred to the “operational level” without defining the term or specifying if he meant the operational level of war or command.⁵⁵ Edward Luttwak’s article

⁵⁰ Ghulam Dastagir Wardak, Graham Hall Turbiville, and Raymond L. Garthoff, *The Voroshilov lectures : materials from the Soviet General Staff Academy : 1 : Issues of Soviet military strategy* (Washington, DC: National Defense University Press, 1989); *The Voroshilov lectures : materials from the Soviet General Staff Academy : 2 : Issues of Soviet military strategy* (Washington, DC: National Defense University Press, 1990); Ghulam Dastagir Wardak, Graham Hall Turbiville, and David M. Glantz, *The Voroshilov lectures : materials from the Soviet General Staff Academy : 3 : Issues of Operational Art* (Washington, DC: National Defense University Press, 1992).

⁵¹ “FM 100-5 Operations,” ed. Department of the Army (Washington DC1976).

⁵² “Maneuver warfare” is bracketed since it was constructed with a specific meaning and function in the debate on US Army doctrine. See William S. Lind, *Maneuver Warfare Handbook* (New York: Westview Press, 1985). Lind used the term “maneuver doctrine” in his Military Review article: “Some Doctrinal Questions for the United States Army,” *Military Review* LVII, no. 3 (1977). See also Swain, “Filling the Void,” 154-155.

⁵³ An overview of the initial positions and arguments are well presented in Asa A. Clark, *The defense reform debate: issues and analysis* (London; Baltimore, Md: Johns Hopkins University Press, 1984). See also Saul Bronfeld, “Did TRADOC Outmanoeuvre the Manoeuvrists? A Comment,” *War & Society* 27, no. 2 (2008); Huba Wass de Czege, “Lessons from the Past: Making the Army’s Doctrine “Right Enough” Today,” <https://www.ausa.org/files/lessonsfromthepastmakingthearmysdoctrinerightenoughtodaypdf/download?token=iqGT0ma5>; Clayton R. Newell, “Exploring the Operational Perspective,” *Parameters* 16, no. 3 (1986); Richard Lock-Pullan, “Civilian Ideas and Military Innovation: Manœuvre Warfare and Organisational Change in the US Army,” *War & Society* 20, no. 1 (2002); “How to rethink war: Conceptual Innovation and AirLand Battle Doctrine,” *Journal of Strategic Studies* 28, no. 4 (2005).

⁵⁴ Hew Strachan, “Strategy or Alibi? Obama, McChrystal and the Operational Level of War,” *Survival* 52, no. 5 (2010); Kelly and Brennan, *Alien: How Operational Art Devoured Strategy*.

⁵⁵ Lind, “Some Doctrinal Questions for the United States Army,” 55,57.

“The Operational Level of War” is an early text that was also part of the US doctrinal debate after the Vietnam War.⁵⁶ The US Army’s concepts and doctrines in the 1980s describe the operational dimensions conceptually and doctrinally how the US Army understood them at the time.⁵⁷ The professional debate in the US Army’s professional journals *Military Review* and *Parameters* illustrates how the new concepts were understood primarily as campaigns and large scale operations, but several authors also criticised operational art. There were both whole issues dedicated to the new doctrine and articles on operational art and the operational level of war in numerous other matters.⁵⁸

In his chapter on the Battle of Jena in Michael D. Krause and R. Cody Phillips’ anthology *Historical perspectives of the operational art*, David G. Chandler presented an abbreviated description of Napoleon’s method of waging war.⁵⁹ In this chapter, Napoleon was credited with conducting operational art and operational level warfare. This interpretation is significantly at variance with the chapter of the Jena campaign in Chandler classic book *The campaigns of Napoleon*, first published 1966.⁶⁰ The difference between the two is the use of late-twentieth-century operational terminology in the 2005 chapter to analyse and explain the campaign, its battles, and pursuit.

The main argument in Claus Telp, *The Evolution of Operational Art, 1740-1813 From Frederick the Great to Napoleon*, is that operational art evolved due to a transformation of warfare from the Wars of Frederick the Great to the Napoleonic wars. The drivers were

“the interplay between military and non-military factors such as social, economic and political developments. The second is the interplay between military theory and practice. The third is the interplay between developments in military theory and practice in France and Prussia.”⁶¹

⁵⁶ Edward N. Luttwak, "The Operational Level of War," *International Security*, 5, no. 3 (1980).

⁵⁷ "FM 100-5 Operations 1982."; "FM 100-5 Operations 1986."; TRADOC, *TRADOC Pam 525-5 Operational Concepts for the AirLand Battle and Corps Operations -1986* (Fort Monroe, VA: TRADOC, 1981).

⁵⁸ C. N. Donnelly, "The Soviet Operational Maneuver Group: A New Challenge for NATO," *Military Review* LXIII, no. 3 (1983); L. D. Holder, "Maneuver in the Deep Battle," *ibid.* LXII, no. 5 (1982); James J. Schneider, "The Loose Marble--And the Origins of Operational Art," *Parameters*, no. 3 (1989); Newell, "Exploring the Operational Perspective." The 1982 December issue of *Military Review* was titled "FM 100-5" and discussed several elements in the 1982 doctrine, and the 1986 March issue discussed the 1986 *FM 100-5*.

⁵⁹ Michael D. Krause and R. Cody Phillips, eds., *Historical perspectives of the operational art* (Washington D.C.: Center of Military History, United States Army, 2005), 28-35.

⁶⁰ David G. Chandler, *The campaigns of Napoleon* (London: Weidenfeld & Nicolson, 1966), 443-506.

⁶¹ Telp, *The Evolution of Operational Art, 1740-1813 : From Frederick the Great to Napoleon*, 1.

Telp argues that the campaigns that involved France and Prussia in 1806 (Jena-Auerstedt) and 1813 (*Befreiungskriege*), illustrate how the conduct of battles was changing. These developments blurred the division between strategy and tactics. They created “a strategic-tactical continuum which suggests the introduction of the operational level in the analysis of warfare of this period.”⁶² Telp defines operational art as “the art of war at the operational level, concerned with the conduct of campaigns with the means provided by strategy,”⁶³ and argues that

though the terms ‘operational art’ and ‘operational level’ were used in neither the Frederician nor the Napoleonic period, they may be applied nonetheless since the concept of the third level of warfare was emerging in this time, particularly in the works of Guibert.⁶⁴

The American retired army officer and historian David T. Zabecki wrote a study in 2006 that “will likely prove to be the definitive account of the German 1918 ‘Peace Offensives’.”⁶⁵ Zabecki’s account is thorough and based on a vast number of primary sources, but is more an analysis of the German 1918 offensives than a study of operational art. His research draws on the US Army’s doctrinal understanding of operational art and a balance of military and academic source-based analysis. The British historian Nick Lloyd studied the Allied offensive in 1918 in light of operational art and argued that the Allied victory was more than pure attrition.⁶⁶ Lloyd and Zabecki base their analysis on US and British definitions of operational art, both of which include the strategic dimension of the campaign in their understandings of operational art. Thus the strategic and operational dimensions tend to become intermingled.

In *Carrying the War to the Enemy : American Operational Art to 1945*, Michael R. Matheny aims to rectify the common opinion that operational art was developed by the Germans and Soviets. He argues for a uniquely American approach, based on studying the US Army’s First World War experiences and developing campaign and operations planning in the military school system. These efforts led to the successful joint and combined campaigns and operations that won the Second World War. Matheny argues that despite the US military not using the term operational art until the 1986 *FM 100-5 Operations*, operational art was

⁶² Ibid.

⁶³ Ibid., 2.

⁶⁴ Ibid., note 5.

⁶⁵ Russell A. Hart, "The German 1918 Offensives: A Case Study in the Operational Level of War," *The Journal of Military History* 71, no. 4 (2007), 1263-1264; Zabecki, *The German 1918 offensives*.

⁶⁶ Lloyd, "Allied Operational Art in the Hundred Days, 1918."

studied and developed jointly by the US Army and Navy. It was the conceptual framework in the warfare against Nazi Germany and Japan.⁶⁷ Matheny's book presents an essential perspective on what operational art is and how it emerged and was expressed without any terminology of its own.

Many non-German authors have given German operations an essential role in the understanding of operational art. German studies of their operations and operational thinking are therefore often a necessary corrective. The Germans tend to bypass the term operational art because it is not a part of traditional German military terminology and concepts.

Karl-Heinz Frieser's study of the German campaign in France in 1940, *Blitzkrieg-Legende: der Westfeldzug 1940*, is very illustrative of the "German way of war" interpreted as a matter of expedients, where German excellence in combat leadership would gain the upper hand against perceived stronger enemies. Although the modern use of the term operation has a German origin, they did not use the term operational art, but operational leadership (*operative Führungskunst*, literally the art of operational leadership).⁶⁸

If *Blitzkrieg-Legende* is a case study of one operation, *Mythos und Wirklichkeit : Geschichte des operativen Denkens im deutschen Heer von Moltke d.Ä. bis Heusinger* by Gerhard P. Groß, is a thorough study of German operational thought and practice over a century.⁶⁹ In the Concluding Remarks Groß highlights how the

military leadership repeatedly attempted to address Germany's strategic dilemma with operational solutions, which would compensate for the vulnerability of the country's central geographic position and its relative inferiority in manpower and resources.⁷⁰

This observation underlines the German General Staff's credo that "strategy is a matter of expedients" and a counter case to any understanding of operational art and the primacy of strategy over operations. Another interesting observation is that the *Bundeswehr* first wrote an

⁶⁷ Matheny, *Carrying the war to the enemy*.

⁶⁸ Frieser, *Blitzkrieg-Legende: der Westfeldzug 1940*, 8-21. English translation: Karl-Heinz Frieser and John T. Greenwood, *The Blitzkrieg legend : the 1940 campaign in the West*, *Blitzkrieg-Legende* (Annapolis, MD: Naval Institute Press, 2005).

⁶⁹ Gerhard P. Groß, *Mythos und Wirklichkeit: Geschichte des operativen Denkens im deutschen Heer von Moltke d.Ä. bis Heusinger* (Paderborn: Ferdinand Schöningh, 2012). In English: Gerhard P. Gross and David T. Zabecki, *The myth and reality of German warfare: operational thinking from Moltke the Elder to Heusinger* (Lexington, KY: University Press of Kentucky, 2017). Quotations are from the English edition.

⁷⁰ *The myth and reality of German warfare*, 296.

authoritative definition of operation in 1977 (!). Groß thus points to the obvious that operational thinking is barely possible without a working definition. As a result, German operational thought “oscillates between tactics and strategy”.⁷¹

In his article “The Lost Meaning of Strategy” from 2005, Professor Hew Strachan argues that the operational level of war is what was known as strategy in the First World War and that “the operational level of war is a covert way of reintroducing the split between policy and strategy.”⁷² Strachan’s article is on strategy, but he assigns the operational level of war the inglorious role of undermining strategy. The argument is repeated and elaborated in 2006 and so is the argument about the operational level’s close relation to the notion of “manoeuvre”.⁷³ Strachan’s arguments are not so much about operational art as the operational level. But both are interconnected in doctrine and other texts. The operational level is part of operational art, so Strachan’s critique is just as much of operational art.

In this context, the third text by Hew Strachan is his 2010 article “Strategy or Alibi? Obama, McChrystal and the Operational Level of War”.⁷⁴ In this article, he develops his argument on the lost meaning of strategy into an argument of a lack of strategy. In this article, the operational level represented by the ISAF commander General Stanley McChrystal fills the strategic void, but without the formal or de facto strategic functions of a Chief of Defence or a Joint Chief of Staff. Strachan puts forward an example in the British public debate where “[the Army] was trumping the government and setting strategy.”⁷⁵ Strachan’s recent contribution is the *Journal of Strategic Studies*’ article “Strategy in theory; strategy in practice”, where he suggests that

Solutions to these challenges are not straightforward, but they need to begin with an awareness of the distinctions between operations and strategy, and between ‘military’ strategy and ‘grand’ strategy, however, confused those differences become in practice and even in planning.⁷⁶

⁷¹ Ibid., 15-16.

⁷² Strachan, "The lost meaning of strategy," 46-47.

⁷³ "Making Strategy: Civil-Military Relations after Iraq," *ibid.* 48 (2006), 60-63.

⁷⁴ "Strategy or Alibi? Obama, McChrystal and the Operational Level of War," 158-162.

⁷⁵ Ibid., 170.

⁷⁶ Hew Strachan, "Strategy in theory; strategy in practice," *Journal of Strategic Studies* 42, no. 2 (2019), 187.

These texts by Strachan illustrates the fundamental problem with the western understanding of operational art because it is understood and defined as campaigns and large-scale operations in a conventional war. Some definitions even include battles.⁷⁷ Instead of being the much-needed bridge between strategy and tactics, operational art has “devoured strategy” and encompasses all of warfare.⁷⁸

A new conceptual and methodological framework

The purpose of this section is to clarify and develop the theoretical basis for the methodical approach to the study of military thought and warfare and explain military terminology central to the research questions. The first part is a history of ideas approach to describe how historical texts will be studied to understand their meaning and content. This part will also explain the role of military theory in the thesis. The second part concerns itself with how to study warfare and the conduct of war. It will emphasise topical criticism to supplement philological criticism, to find and understand issues of military thought and practice that were not explicitly stated in the sources or narratives.

Ideas and concepts

In his influential 1969 article “Meaning and Understanding in the History of Ideas”, Quentin Skinner challenges the two “orthodox (though conflicting)” approaches to the study of past ideas.⁷⁹ He describes the first approach as “the *context* ‘of religious, political and economic factors’ which determines the meaning of any given text”. The second dismisses the contextual approach and “insists on the autonomy of the text itself as the sole necessary key to its own meaning”.⁸⁰ Several decades later, Skinner’s article and his form of criticism of the “orthodox thought approaches” to the history of ideas is still debated.⁸¹ One theme is the “view that it is not possible to write the history of any idea or concept has often been

⁷⁷ NATO, *AJP-01(E)VI: Allied Joint Doctrine* (Brussels: NATO Standardization Office, 2017), 4-5, LEX-7.

⁷⁸ Kelly and Brennan, *Alien: How Operational Art Devoured Strategy*.

⁷⁹ Skinner, "Meaning and Understanding in the History of Ideas," 3.

⁸⁰ Ibid.

⁸¹ A brief overview is presented in Anthony Burns, "Conceptual History and the Philosophy of the Later Wittgenstein: A Critique of Quentin Skinner's Contextualist Method," *Journal of the Philosophy of History*, no. 5 (2011), 54-58.

attributed to Skinner by his critics.”⁸² Anthony Burns discusses both the critique and Skinner’s different responses through the decades. He concludes that “even today Skinner continues to view the idea of writing the history of any concept with a considerable degree of scepticism.”⁸³ Given operational art’s ambiguous emergence and often vague and approximate understanding, a critical approach is crucial. This study will use Skinner’s approach to the study of past ideas and concepts. It will adapt his critique and methodology to operational thinking and study operational art as an idea or concept.

Skinner elaborates his criticism of the two above-mentioned approaches in the first two sections of the article. He begins with the ‘text itself’ approach and presents some dilemmas regarding “the observer’s mental *set*.” These dilemmas imply that our ways of managing our thoughts and perceptions tend to determine how we read a text and the way we perceive it, which will influence our interpretation. Skinner attempts to exploit the use of paradigms in the history of ideas to “uncover the extent to which the current historical study of ethical, political, religious, and other such ideas is contaminated by the unconscious application of paradigms whose familiarity to the historian disguises an essential inapplicability to the past.” He continues by insisting on the danger of “lapsing into various kinds of historical absurdity” in reading classical texts and discusses the outcomes of these ‘absurdities’ in the form of mythologies.⁸⁴

There is also “the danger of converting some scattered or quite incidental remarks by a classic theorist into his ‘doctrine’ on one of the mandatory themes.” A relevant topic for this study is that there might be “some chance similarity on terminology, on some subject to which he cannot in principle have meant to contribute.” In this sense, there will always be the danger of inflating “incidental remarks” in a text that support a contemporary subject.⁸⁵ This danger is present in the search for operational art’s origins since some of contemporary operational terminology was also used by eighteenth-and nineteenth centuries’ military writers. The writers used such terminology in a very different context and intellectual paradigm. The terms were usually used widely and with both a different meaning and another usage than today.

⁸² Ibid., 56.

⁸³ Ibid., 82.

⁸⁴ Skinner, "Meaning and Understanding in the History of Ideas," 6-7.

⁸⁵ Ibid., 7-8.

Furthermore, military historians have repeatedly cautioned about interpreting historical events based on contemporary doctrine or strategic preferences.⁸⁶

Skinner also elaborates on “two kinds of historical absurdity”. In the first, the historical writer is credited with a form of clairvoyance in his ability to anticipate future developments.⁸⁷ The other absurdity is “about whether a given idea may be said to have ‘really emerged’ at a given time, and whether it is ‘really there’ in the work of some given writer.” An “unargued assumption” is also that the historical writers were attempting to develop the doctrine contemporary scholars are trying to detect.⁸⁸ Both of these ‘historical absurdities’ must be considered in this study’s search for the emergence of operational art. One specific challenge is to read Clausewitz in search of operational art, which is easily done if the reader uses the standard Howard and Paret translation into English.⁸⁹

The second type of fallacy is that historians “will be unavoidably set in approaching the ideas of the past.” This implies that “it will become dangerously easy for the historian to conceive it as his task to supply or find in each of these texts the coherence which they may appear to lack”, a danger reinforced by the possibility that a classical writer is not consistent or does not provide “any systematic account of his beliefs.” Skinner contends that his danger is evident in the search for a “message” and constructing a “mythology of coherence.”⁹⁰ He is critical of any attempt to create coherence or explain away inconsistencies to claim coherence and resolve apparent contradictions to maintain the intended doctrine.⁹¹

In the second part of the article, Skinner develops his arguments and discusses specific problematic issues when studying past ideas. One such issue is also a critique of the “applicatory approach to military history”⁹² and concerns itself with “when the historian is

⁸⁶ Michael Howard, "The use and abuse of military history," *The RUSI Journal* 138, no. 1 (1993); Daniel J. Hughes, "Abuses of German Military History," *Military Review* LXVI, no. 12 (1986). Richard M. Swain, „Foreword“ in Alfred von Schlieffen, *Cannae* (Fort Leavenworth, KS: US Army Combat Studies Institute, 1931), ii.

⁸⁷ Skinner, "Meaning and Understanding in the History of Ideas," 11.

⁸⁸ *Ibid.*, 12.

⁸⁹ Hew Strachan, *The direction of war : contemporary strategy in historical perspective* (Cambridge: Cambridge University Press, 2013), 213.

⁹⁰ Skinner, "Meaning and Understanding in the History of Ideas," 16.

⁹¹ *Ibid.*, 19-22.

⁹² Eliot A. Cohen and John Gooch, *Military misfortunes: the anatomy of failure in war* (New York: Vintage Books, 2006), 36-40; Robert H. Larson, "Max Jähns and the Writing of Military History in Imperial Germany,"

more interested - as he may legitimately be - in the retrospective significance of a given historical work or action than in its meaning for the agent himself.”⁹³ This cautioning is not only about past ideas, but also events where the historian might deduce a greater significance of an action “and the meaning of that action itself.” Military theorists are often accused of cherry-picking operations and battles to reinforce their arguments and theories.⁹⁴ A related theme is what Skinner describes as “‘seeing’ far too readily the ‘modern’ elements which the commentator has thus programmed himself to find;” and implies a certain teleological element in the interpretation of past ideas, concepts or events.⁹⁵ In studies of operational art, there is a tendency to read modern operational concepts and understandings into historical events. However, early nineteenth-century actors did not have any late-twentieth-century military terms, knowledge, and professionalised military organisations and technology that a modern operational concept needs to function.

Skinner also cautions against “a mythology of parochialism” as a danger inherent in “any kind of attempt to understand an alien culture or an unfamiliar conceptual scheme.” He provides two examples. The first is the possibility of the historian’s “misuse [of] his vantage-point in describing the apparent *reference* of some given statement in a classic text.” This problem is related to supposed relations or intentions of a writer’s meaning in different texts at an early and late stage of his authorship, where “the historian may mistakenly come to suppose” any intended influence of earlier work upon later works.⁹⁶ In this study, such a warning against parochialism should caution anyone reading texts by historical authors who wrote over several decades in periods of significant changes in military thinking or practice, such as the influential thinkers Clausewitz, Jomini, and Helmuth von Moltke the Elder.

Skinner’s second example is that “the observer may unconsciously misuse his vantage-point in describing the sense of a given work.” In the study of military history and concepts, this example may be of particular relevance since it concerns “the danger that the very familiarity of the concepts the historian uses may mask some essential inapplicability to the historical

The Journal of Military History 72, no. 2 (2008), 351-355; Skinner, "Meaning and Understanding in the History of Ideas," 4-5.

⁹³ "Meaning and Understanding in the History of Ideas," 22.

⁹⁴ Roger A. Beaumont, "On the Wehrmacht Mystique," *Military Review* LXVI, no. 7 (1986); William F. Owen, "The Manoeuvre Warfare Fraud," *RUSI Journal* 153, no. 4 (2008); Richard M. Swain, "Preface," in *Cannae* (Fort Leavenworth, KS: The Command and General Staff School Press, 1931), ii.

⁹⁵ Skinner, "Meaning and Understanding in the History of Ideas," 23-24.

⁹⁶ *Ibid.*, 24-25.

material.”⁹⁷ This danger may be even more imminent when military theorists explore past texts, since contemporary operational concepts may bias their approach to historical texts and events. In this thesis, it is imperative to read the historical texts with an enhanced consciousness regarding searching for traces of operational thought. Operational terms in the modern sense of operational, usually had a different meaning in the past.

In the third part, Skinner discusses further consequences for the history of ideas. A number of these elements will support this thesis’s theoretical consistency. One such element is “the obvious difficulty that the literal meanings of key terms sometimes change over time”.⁹⁸ Both literal and implied meanings of key military terms have changed since military science emerged in the last part of the eighteenth-century. A related issue is when classical writers conveyed “their meaning with deliberate obliqueness.”⁹⁹ The military writers may also have used a term that was oblique in their time and without further definition. Still, both the utility and the precision in its meaning could also vary between different military scientific traditions. A basic word count of ‘operation’ in the major works by the contemporary classical military writers Clausewitz and Jomini reveals that the word was used just a dozen times by Clausewitz and about 600 times by Jomini.¹⁰⁰ This example indicates the need for a broad contextualisation of the classic sources, although Skinner raises some concerns with the utility of trying to understand the world of historical authors.¹⁰¹

Skinner continues his criticism in the fourth part and concludes that “it must be a mistake even to try either to write intellectual biographies concentrating on the works of a given writer or to write histories of ideas tracing the morphology of a given concept over time.”¹⁰² He then points to an alternative methodology that

presupposes the grasp both of what they were intended to mean, and how this meaning was intended to be taken. It follows from this that to understand a text must be to understand both the intention to be understood, and the intention that this intention should be understood, which the text itself as an intended act of communication must at least have embodied. The essential question which we therefore confront, in studying

⁹⁷ Ibid., 27-28.

⁹⁸ Ibid., 31.

⁹⁹ Ibid., 32.

¹⁰⁰ Clausewitz, *Vom Kriege*, 57, 165, 180, 351, 353, 355; Antoine Henri baron de Jomini, *Précis de l'art de la guerre* (Bruxelles: Meline, Cans et compagnie, 1837), passim. The English translation of Jomini is consistent in the use of the original ‘operation’ terms.

¹⁰¹ Skinner, "Meaning and Understanding in the History of Ideas," 35-39.

¹⁰² Ibid., 48.

any given text, is what the author, in writing at the time he did write for the audience he intended to address, could in practice have been intending to communicate by the utterance of this given utterance.¹⁰³

Regarding the role of the context, Skinner emphasises that “The ‘context’ [...] needs instead to be treated as an ultimate framework for helping to decide what conventionally recognisable meanings, in a society of *that* kind, it might in principle have been possible for someone to have intended to communicate.”¹⁰⁴ This approach implies a concern for the military communities the historical writers belonged to and similarly for their intended audiences.

The challenges in transcending the intended audiences are exemplified in the example mentioned above of translating Clausewitz’ *Vom Kriege* of early nineteenth-century Prussia into the post-Vietnam War western societies. The final point to highlight from Skinner’s methodology is that “Any statement, [...] is inescapably the embodiment of a particular intention, on a particular occasion, addressed to the solution of a particular problem, and thus specific to its situation in a way that it can only be naive to try to transcend.” This thesis is addressing the particular issue of operational art, which did transcend ‘its situation’ from the USSR to the western military sphere. Prussian and German military thinking and practice have crossed the Atlantic for two centuries and been interpreted by the US military. Usually, something has been lost in translation.¹⁰⁵ Daniel Hughes’ critique from the US doctrinal debate in the 1980s is indicative:

The first is a careless and superficial application of German terms and concepts to current practices. The second is a general failure to place individual German methods and experiences in their proper historical context. Hindered by superficial knowledge and dependent upon unreliable sources, too many writers have created false pictures of the German army’s doctrine and methods. Far too often, German military history has become a storehouse to be looted in search of examples to justify current doctrinal concepts.¹⁰⁶

¹⁰³ Ibid., 48-49.

¹⁰⁴ Ibid.

¹⁰⁵ William J. Astore, "The German War Machine: America’s Infatuation With Blitzkrieg, Warfighters, And Militarism," in *Arms and the man : military history essays in honor of Dennis Showalter*, ed. Michael S. Neiberg (Leiden, Boston: Brill, 2011); Hughes, "Abuses of German Military History.,"; Jörg Muth, *Command Culture : Officer Education in the U.S. Army and the German Armed Force, 1901-1940, and the Consequences for World War II* (Denton, TX: University of North Texas Press, 2011), 15-40.

¹⁰⁶ Hughes, "Abuses of German Military History," 67.

Military theory and doctrine

Military thinking is a term that encompasses all intellectual activity regarding the military, both within and outside military organisations. Jan Angstrom and Jerker Widén define military theory by initially distinguishing it from related fields. The first distinction is between military theory and military thought, that “while all theories constitute thought, not all thought amounts to theory. Theory is, therefore, a sub-set of thought. [...] A theory is more systematic than an idea and is consequently a more complex thought pattern that expresses links between different ideas.”¹⁰⁷ The next distinction is between theory and doctrine. Where doctrine is institutionalised, normative, and prescriptive theory can be normative, but without the formal authority of doctrine. The third distinction is between military theory and military history. Theory “deals with the general rather than the specific, the abstract rather than the tangible, and the timeless rather than the contextual.” The final distinction is between military theory and all other research that concerns military matters. The core of military theory is thus what war is and how to achieve victory.¹⁰⁸

In his book *Understanding Military Doctrine : A multidisciplinary approach*, Harald Høiback embarks on his project by discussing military doctrine as “*institutionalised beliefs about what works in war and military operations*”.¹⁰⁹ He also expounds how doctrine can vary between a “written and officially endorsed form” and being “unwritten and informal”.¹¹⁰ Its purpose is to provide authoritative guidance to military activities, primarily to combat.¹¹¹ Høiback’s definition of doctrine resembles NATO’s: “authoritative documents military forces use to guide their actions containing fundamental principles that require judgement in application.”¹¹² This thesis will study both formal and “unwritten and informal” doctrine and other expressions of the preferred way of conducting military operations and battles, such as field service regulations, plans and orders, and institutionalised customs.

¹⁰⁷ Jan Angstrom and Jerker Widén, *Contemporary military theory : the dynamics of war* (London ; New York: Routledge, 2015), 4.

¹⁰⁸ *Ibid.*, 5.

¹⁰⁹ Harald Høiback, *Understanding Military Doctrine : A multidisciplinary approach*, Cass Military Studies (Hoboken: Taylor and Francis, 2013), 1.

¹¹⁰ *Ibid.*

¹¹¹ *Ibid.*, 1-2.

¹¹² *Ibid.*, 22; NATO, *AAP-06, NATO Glossary of Terms and Definitions* (Brussels: NATO Standardization Office, 2018), 43.

This section will present and discuss some central terms that will be part of the thesis. The basic military terms of strategy and tactics were relatively consistently understood in the military literature and armed forces since the terms were defined in the late eighteenth and early nineteenth century until operational art were introduced in the 1920s.¹¹³ The term operation and its derivations were used in very general ways and are in itself not necessarily useful in a search for early indicators of operational art.

The two most influential military theorists in the decade before World War One were Carl von Clausewitz and Antoine de Jomini. Both were based in late eighteenth-century scientific and military theory and developed their understandings based on the historical tradition and the Revolutionary and Napoleonic Wars where both took part. Clausewitz' *On War* and Jomini's *The Art of War* are the classic military theory texts in the European and American tradition.¹¹⁴ Jomini was part of the scientific tradition of the enlightenment, while Clausewitz in addition was influenced by German romanticism and nationalism.¹¹⁵ Although both Clausewitz and Jomini confirmed or established the military terminology, the following enquiry into the central terms for this thesis will elucidate the need for reading each term in context, even within the same book.

Art

The word "art" in "operational art" has created an impression that there is something artistic about operational art, which is lacking in strategy and tactics.¹¹⁶ Tactics have its tacticians and strategy is conducted by strategists, but is operational art something done by operational

¹¹³ Clausewitz, *On War: Indexed Edition*, 128; Antoine Henri baron de Jomini, *The art of war* (London: Greenhill Books, 1992), 68-69; Oliver Prescott Robinson, *The fundamentals of military strategy* (Washington, D.C.: U.S. Infantry Association, 1928), 2; Svechin, *Strategy*, 69-70.

¹¹⁴ Clausewitz, *On War: Indexed Edition*; Jomini, *The art of war*.

¹¹⁵ Gat, *A history of military thought*; John Shy, "Jomini," in *Makers of Modern Strategy*, ed. Peter Paret (Oxford: Clarendon Press, 1986); Swetschin, *Clausewitz*.

¹¹⁶ Arthur V. Grant, "Operational Art and the Gettysburg Campaign," in *Historical perspectives of the operational art*, ed. Michael D. Krause and R. Cody Phillips (Washington: Center of Military History, United States Army, 2005), 380; David G. Chandler, "Napoleon, operational art, and the Jena campaign," *ibid.*, 64; Michael D. Krause and R. Cody Phillips, "Preface," *ibid.*, v, vi; Stanlis David Milkowski, "After Inch'on MacArthur's 1950 Campaign in North Korea," *ibid.*, 430; Sir Rupert Smith, "Epilogue," in *The Evolution of operational art : from Napoleon to the present*, ed. John Andreas Olsen and Martin Van Creveld (Oxford: Oxford University Press, 2011), 229, 232, 233, 243; Antulio J. Echevarria, "American Operational Art, 1917-2008," *ibid.*, 138, 145, 154. There might be an element of irony in Echevarria's use of operational artist in light of his line of argument regarding the American way of war: "For parts of the twentieth century, American operational art was little more than the relentless application of superior force; but it proved effective." *Ibid.*, 161.

artists? Svechin's initial choice of "the less elegant term 'operational art'" instead of an earlier Russian term, *operatika* (English: operatics), may have contributed to creating an impression of operational art as a creative and artistic approach to warfare.¹¹⁷ This impression may well have been underpinned by the English translation of Svechin, which has at least on one occasion translated as "operational artist" where the original used "operator" as the one conducting operational art.¹¹⁸ On the two other occasions Svechin used "operator" in this way, it is translated as "operations specialist" and "operator".¹¹⁹

The Oxford Dictionary has four definitions of art. The first three are about the arts, while the fourth is related to a practical skill: "A skill at doing a specified thing, typically one acquired through practice."¹²⁰ Svechin's use of the word art in relation to military terms was consistent with understanding art as a practical skill. On one occasion, he also referred to Clausewitz and Goethe in comparing war to trade or commerce.¹²¹ Art was also used about the practical conduct of war, such as the art of war.

On the other hand, science was about the theoretical knowledge that underpins practice. Ekaterina Smirnova supports this understanding of art in a Russian context in her discussion on the development of Russian scientific terminology. The meaning of art (*iskusstvo*) changed from its eighteenth century's use in scientific experiments to its modern content.

The words *iskus* and *iskushenie* retain only the meaning of experience lived through and are completely removed from the scientific field, and *iskusstvo* (apart from the creative work)⁵³ holds only the meaning of possession of certain skills and has lost its meaning as an element of research practice.¹²²

Strategy

Clausewitz acknowledged that the terms strategy and tactics were "almost universal, and everyone knows fairly well where each particular factor belongs without clearly

¹¹⁷ Menning, *Bayonets before bullets*, 208.

¹¹⁸ Aleksandr A. Svechin, *Strategiia*, (Moscow: Voennyi vestnik, 1927), http://swetschin.narod.ru/books/Svechin_AA_Strategy.pdf. 19; *Strategy*, 73.

¹¹⁹ *Strategiia*. 16, 215; *Strategy*, 70, 286.

¹²⁰ Jacques Deschamps, "La guerre moderne (1885)," *Revue historique des armées [Online]*, no. 243 (2006).

¹²¹ Svechin, *Strategy*, 257.

¹²² Ekaterina Smirnova, "Opyt in the Social Lexicon of Modernity The Experience/Experiment Dichotomy," in *Language as a Scientific Tool Shaping Scientific Language Across Time and National Tradition*, ed. Miles MacLeod, et al. (New York: Routledge, 2016), 121. The footnote 53 refers to art understood as the arts.

understanding why.” He then commented caustically on blind usage of categories before defining strategy as “the use of the engagement for the object of the war.”¹²³ Jomini was not as precise as Clausewitz but considered strategy within the context of his six parts of war. Strategy was “the art of properly directing masses upon the theater of war, either for defense or for invasion” and “the art of making war upon the map, and comprehends the whole theater of operations.”¹²⁴ Jomini used strategy in many ways and was not as explicit as Clausewitz in defining the term precisely. He later described strategy as “the art of posting troops upon the battlefield according to the accidents of the ground,” and “the art of making good combinations preliminary to battles, as well as during their progress”.¹²⁵ This way of using strategy was more related to Jomini’s term Grand Tactics. Still, he was elsewhere consistent that “in the most important operations in war, strategy fixes the direction of movements, and [...] we depend upon tactics for their execution.”¹²⁶ After the First World War, Clausewitz’ definition of strategy was redefined by the Americans and Soviets as “the use of the operations of war to gain the end of the war.”¹²⁷

Campaign

The campaign (German *Feldzug*, French: *campagne*) is the strategic conduct of war and the supreme commander’s orchestration of all military resources to achieve the war’s aims.¹²⁸ Neither Clausewitz nor Jomini gave any explicit definition of a campaign. Still, the context in which the term was used and its relations to battles and engagements, clearly indicate that the conduct of a campaign was the responsibility of the highest level of command. In contemporary military doctrine, the campaign is still the highest echelon of military activities, although the subordinated elements are different.¹²⁹

¹²³ Clausewitz, *On War: Indexed Edition*, 128.

¹²⁴ Jomini, *The art of war*, 13, 69.

¹²⁵ *Ibid.*, 69, 178.

¹²⁶ *Ibid.*, 175.

¹²⁷ Robinson, *The fundamentals of military strategy*, 2; Svechin, *Strategy*, 295; *Strategiia*. 172-173.

¹²⁸ Jomini, *The art of war*, 66, 114, 175; Clausewitz, *On War: Indexed Edition*, 111, 177, 182.

¹²⁹ “A set of military operations planned and conducted to achieve a strategic objective.” NATO, *AAP-06, NATO Glossary*, 23.

Tactics

Clausewitz defined tactics as “the use of armed forces in the engagement”.¹³⁰ This definition was in the same sentence as his initial definition of strategy. Jomini was more general in his definition, but tactics were consistently divided into two concepts; grand tactics on one hand, and tactics, minor tactics (*la tactique de detail*), or “Tactics of the different arms“ (*la tactique des armées*) on the other. The English edition translates *la tactique de detail* and *tactique* into tactics, minor tactics or “tactics of the different arms”, apparently arbitrarily.¹³¹ Since tactics for both Clausewitz and Jomini were about how to use forces in the engagement or battle, any variations in tactical terms are of no consequence for this study.¹³²

Grand tactics

Jomini outlined the term grand tactics (*la grande tactique [des bataillés et des combats]*).¹³³ Grand tactics may be considered an operational element that will reflect an operational understanding in armies that taught Jomini at their academies and staff colleges. But that depends on how that institution understood grand tactics. The English translation omits the reference to battles and combat in the introduction to grand tactics. Still, the text's use of grand tactics clearly related it to tactics (battles, combat), although the translation is not always consistent.¹³⁴ This is also a reminder that all terms must be studied in context and each interpretation of grand tactics and its role in the origins of operational art must be determined case by case.¹³⁵

Operation

Operational art is closely related to and originates from the term operation. Operation and operational (*operativ*) was used in German military literature during the second part of the

¹³⁰ Clausewitz, *On War: Indexed Edition*, 128.

¹³¹ See amongst other: Jomini, *Précis de l'art de la guerre*, 29-31, 98, 129; *The art of war*, 13-14, 42, 66.

¹³² The United States Department of Defense, *The DOD Dictionary of Military and Associated Terms* (Washington D.C.: The United States Department of Defense, 15 October 2016), 31; NATO, *AJP-01(E)VI: Allied Joint Doctrine*, LEX-3.

¹³³ Jomini, *Précis de l'art de la guerre*, 30; *The art of war*, 13.

¹³⁴ See for example: *Précis de l'art de la guerre*, 135-136; *The art of war*, 69-70.

¹³⁵ Joseph G. Dawson, “Jomini Meant “Grand Tactics,” Not “Operational Art”” in Stephen Badsey, Donald J. Stoker, and Joseph G. Dawson. "Confederate Military Strategy in the U.S. Civil War Revisited." *The Journal of military history* 73, no. 4 (2009), 1278-87.

nineteenth century and was given a more prominent position after the German Wars of Unification. Simultaneously, the term was used generally and not given any precise definition. It was an element of strategy concerned with bringing the army to the battlefield and the best-suited position for battle.¹³⁶ This use resembles Jomini's use of strategy in relation to battle.¹³⁷ The operation did not become a conscious and independent military discipline until after the First World War. Groß makes a point that operation was not given any official military definition in Germany until 1939 and the *Bundeswehr* did not define it until 1977.¹³⁸ Consequently, since the term operation does not have a universal definition, it needs to be studied in context to avoid misinterpretations.

Operational

Operational has two different meanings in a military context. Firstly, it is used generally as "in or ready for use", with two subordinate understandings: "the routine functioning and activities of an organisation" and "active operations of the armed forces, police, or emergency services"¹³⁹ Secondly, operational is related to operational art, the operational level, and other terms that relate to operational art as a military discipline. Topical criticism must be used to distinguish between operational art as a concept and the operational level of command, which inhibit a specific place in a military command hierarchy. This distinction is essential in studying when operational terminology entered western military thought, such as in the 1981 US Army *TRADOC Pam 525-5 Operational Concepts for the AirLand Battle and Corps Operations -1986*. Is it about operational art or about how to conduct AirLand Battle and Corps Operations?¹⁴⁰

Studying warfare

The German military historian Hans Delbrück was among the first professional historians that studied military history and applied rigorous source analysis and other historical, scientific methods. His critique of the German Great General Staff's applicatory historical approach,

¹³⁶ Groß, *Mythos und Wirklichkeit*, 7-17.

¹³⁷ Jomini, *The art of war*, 65, 178.

¹³⁸ Groß, *Mythos und Wirklichkeit*, 8, 15, footnote 47.

¹³⁹ "Oxford Dictionaries," <https://www.lexico.com/definition/operational>.

¹⁴⁰ TRADOC, *TRADOC Pam 525-5*.

where military history was used to validate contemporary doctrine, led him into the decades-long strategy struggle (*Strategiestreit*) with the German army's historians.¹⁴¹ The debate began as a discussion of the strategy of Frederick the Great, but a central theme was historical methodology. Delbrück's historical methodology was up against the General Staff's applicatory approach, where selected successful historical cases were used to prove contemporary doctrine.¹⁴²

Delbrück set up four requirements for a professional historian's perspective on military history. The tension between ideas and experience formed the basis of his approach. Arden Bucholz has studied these requirements in light of the historical context Delbrück lived and worked in and how his method was reflected in his writing and the historical debates.¹⁴³ According to Delbrück, the military historian should firstly "acquire and utilise detailed knowledge of the practical realities of military life." The military historian will need practical experience and technical knowledge of the topic, to be able "to describe the living phenomenon of the past".¹⁴⁴

Secondly, Delbrück maintained that "historians had to adopt the comparative approach." The comparison should be between "pure historical cross sections", "single time periods", and "chronological blocks." The longitudinal comparison should be between objects, where also the art of war belongs. In these fields of comparison, Delbrück also lists some practical military elements to consider. Since many important issues were not directly handed down through history, missing links must be sought through analogies and combinations to supplement what is lost. Delbrück meant that a proper knowledge of relevant parts of practical

¹⁴¹ Arden Bucholz, *Hans Delbrück & the German military establishment: war images in conflict* (Iowa City, IA: University of Iowa Press, 1985), xi-xiii, 19-30; Echevarria, *After Clausewitz: German military thinkers before the Great War*, 89-90, 182-188; Sven Lange, *Strategiestreit: Kriegführung und Kriegsgeschichte in der Kontroverse 1879-1914* (Freiburg in Breisgau: Rombach, 1995), 29-39.

¹⁴² Bucholz, *Hans Delbrück*, 55-72.

¹⁴³ *Ibid.*, 28-44; Hans Delbrück, *Die Strategie des Perikles, erläutert durch die Strategie Friedrichs des Großen: mit einem Anhang über Thucydides und Kleon* (Berlin: Georg Reimer, 1890), iii; *Geschichte der Kriegskunst im Rahmen der politischen Geschichte: I: Das Altertum*, 4 vols. (Berlin: Georg Stilke, 1920), VI-VII; "Etwas Kriegsgeschichtliches," in *Preussische Jahrbücher, Band 60*, ed. Heinrich von Treitschke and Hans Delbrück (Berlin: Georg Reimer, 1887). Note on source: Arden Bucholz has referred to volume 59 instead of volume 60 of the *Preussische Jahrbücher* regarding this passage, but the year and pages are correct. Both volumes were printed in 1887.

¹⁴⁴ Bucholz, *Hans Delbrück*, 22-24.

military life was essential to draw the right conclusions from fragmented and uncertain sources.¹⁴⁵

The third point was that the uniqueness of each military action should be given more attention. This element was where Delbrück criticised popular and prominent contemporary military authors for simplistic generalisations, errors, and misjudgements.¹⁴⁶ On the other hand, he discussed the positive role of experience and a military writer's ability to present and elaborate on his war experiences. He uses the "strategic letters" by Prince Kraft zu Hohenlohe as a good example of how a military practitioner could convey needed military knowledge and experience to other officers, military historians, and even laymen.¹⁴⁷ Finally, Delbrück "took a conservative, materialistic view of war" and an unromantic image of war as "hemorrhaging and exhaustion, not heroism and valor."¹⁴⁸

Delbrück's second and third requirements are central tools for the historian. As for the fourth, war's savage realities had already in his own time begun to challenge the militaristic war romanticism of "Pride, pomp, and circumstance of glorious war!"¹⁴⁹ Delbrück's first requirement, which implies that the historians need a practical understanding of the topic they are studying, will be emphasised in this thesis. For Delbrück, such understanding was necessary to complement the philological source criticism with criticism of the content in sources that are false traditions and involve physical impossibilities, such as inflated numbers of troops or casualties.¹⁵⁰ Delbrück used the terms *Sachkritik* and *Sach-Kritik*, which literally means topical criticism.¹⁵¹ The English translation used several terms: "critical analysis based on objective considerations", "objective approaches", "objective-type analysis", "objective-type interpretation", and "objective interpretation".¹⁵² For the sake of coherence and simplicity, this thesis will use "topical criticism" because it also reflects the necessity to understand the practical elements of the topic in question to criticise it. Delbrück's *Sachkritik*

¹⁴⁵ Delbrück, "Etwas Kriegsgeschichtliches," 610-611; Bucholz, *Hans Delbrück*, 29.

¹⁴⁶ *Hans Delbrück*, 26-44; Delbrück, "Etwas Kriegsgeschichtliches."

¹⁴⁷ "Etwas Kriegsgeschichtliches," 607-608.

¹⁴⁸ Bucholz, *Hans Delbrück*, 29.

¹⁴⁹ William Shakespeare, "Othello," http://www.shakespeare-online.com/plays/othello_3_3.html.

¹⁵⁰ Hans Delbrück, *Geschichte der Kriegskunst : 1 : Das Altertum*, 4 vols. (Berlin: Georg Stilke, 1920), XLVIII-XLIX, LII-LIII.

¹⁵¹ *Die Strategie des Perikles*, iii; *Geschichte der Kriegskunst : 1 : Das Altertum*, XLIX, LII-LIII, 1, 68, 71.

¹⁵² *History of the art of war within the framework of political history*, 4 vols., vol. 1, (Lincoln, NE: University of Nebraska Press, 1975), 12-13, 27, 84, 86.

also reflected Clausewitz' brief chapter "On Physical Effort in War", although Clausewitz did not regard that a lack of military or combat experience should prevent anyone from having reasoned opinions on war.¹⁵³

Delbrück developed topical criticism to sort out the historical realities from sources that were imprecise because they were traditional myths, legends, chronicles, or otherwise lacked reliable and detailed information of past events. Delbrück sought to circumvent inaccuracies in these sources by comparing the information they contained with professional knowledge of contemporary military realities, such as terrain, logistics, soldiers' stamina or carrying capacity.¹⁵⁴ Similarly, modern military historians that aim to legitimate contemporary doctrine by authoritative historical examples can be criticised by testing their conclusions against the physical military realities of their examples. Delbrück's argument during his strategy struggle (*Strategiestreit*) with the Great General Staff regarding Frederick the Great's strategy is a representative case at the strategic level.¹⁵⁵ Antulio Echevarria criticises Delbrück for confusing Clausewitz' statements about limited war with the kind of strategy to apply. Echevarria's critique is in itself an instructive example of topical criticism related to Delbrück's strategic arguments.¹⁵⁶

Delbrück's purpose with the double set of topical and philological criticism was to avoid a double pitfall. The historian could easily

restate a false set of facts, since he is not capable of perceiving their objective impossibility; the other runs the danger of attributing to the past certain events taken from the reality of the present, without paying sufficient attention to the differences in circumstances.¹⁵⁷

Both of these pitfalls must be avoided in the historical quest for the origins and emergence of operational art. The second pitfall also reflects Skinner's concerns with historians interpreting the past with their bias set on the modern world.¹⁵⁸ The way to avoid these pitfalls is to complement the established philological criticism with topical criticism:

¹⁵³ Clausewitz, *On War: Indexed Edition*, 115-116.

¹⁵⁴ Delbrück, *Geschichte der Kriegskunst : 1 : Das Altertum*, 52-73.

¹⁵⁵ Bucholz, *Hans Delbrück*, 35-39; Lange, *Strategiestreit*, 83-97.

¹⁵⁶ Echevarria, *After Clausewitz: German military thinkers before the Great War*, 183-188.

¹⁵⁷ Delbrück, *History of the art of war within the framework of political history*, 1, 12.

¹⁵⁸ Skinner, "Meaning and Understanding in the History of Ideas," 12, 23-24.

For the examination to progress, the philological and topical criticism go hand in hand in every step and ceaselessly educate and control each other. There is no true topical criticism without the source based precise philological criticism, and there is no true philological criticism without topical criticism.¹⁵⁹

Books on military history should be treated with great mistrust (*mit großem Mißtrauen zu betrachten*) if they did not reflect the practical conditions of the field in the specific context, or lacked critical assessments.¹⁶⁰

Finally, Delbrück warned indirectly that topical knowledge is not sufficient if it is not aided by an understanding of the past. As part of his polemics against his military opponents, he strongly criticises them for thinking that their peacetime knowledge of military matters makes them masters of the history of war as they quickly and with great self-confidence explain past events.¹⁶¹ This critique is especially valid in studies of operational art, where modern definitions are frequently used with almost doctrinal authority to explain historical events as operational art or warfare at the operational level.

The role of topical criticism in philological criticism is to discover emerging operational elements and their origins when the sources did not use operational terms. Operational elements must, therefore, on the one hand, be sought in the terms used by historical authors in light of their historical meaning and content. On the other hand, operational elements must be identified indirectly by studying the realities that faced commanders, their staffs and the troops involved in the planning and conduct of operations. These realities are both physical and cognitive. The physical ones relate to what tasks armies were capable of, given their organisation, equipment, and especially their logistics. The cognitive realities are the knowledge and staff capabilities that commanders and staff officers would have possessed, given their education, training, and experience. The historical meaning and content of terminology and of theoretical knowledge, are also elements in the cognitive part of topical criticism. This knowledge is also based on the military realities in the historical actors' environment and any views they might have had on future developments of warfare.

¹⁵⁹ Delbrück, *Geschichte der Kriegskunst : 1 : Das Altertum*, LII-LIII.

¹⁶⁰ "Etwas Kriegsgeschichtliches," 608; *Geschichte der Kriegskunst : 1 : Das Altertum*, 1, VI-VII.

¹⁶¹ *Geschichte der Kriegskunst : 1 : Das Altertum*, iii-v.

New interpretation of the emergence of operational art

Operational elements

Operational art is a new historical phenomenon, but since it evolved in different countries' armies at unrelated times, there are some challenges in comparing these diverse conditions. One task is to identify what constituted operational art and how well developed it possibly could become at any time in history. This question requires an understanding of the nature and the character of operational art, as well as of topical criticism to understand what kind of tasks and activities it was possible for armies to conduct. Topical criticism is also necessary to understand the specific conceptual framework where military action was conceived and executed; especially what an operation consisted of and how the term was understood.

Operational elements, the pieces of the puzzle that make up operational art, must be recognised and understood. These emerged and existed as discrete elements in warfare in the century before operational art was defined and described as a concept. Operational elements are indicators of a practice where operational art emerged as a new concept for the conduct of modern operations. This emergence was fragmented, as different elements appeared in different forms in separate wars. There were also continuities and discontinuities in whether the operational elements had any lasting influence on the understanding and conduct of war. This study's operational elements are derived from Alexandr A. Svechin's descriptions of operational art, its substance, and its interrelations to strategy and tactics.

In his book, *Russian and Soviet Way of War: Operational Art, 1904-1940*, Richard W. Harrison introduces a number of "operational indices", which are "quantitative indicators such as the number of forces engaged, the length of the front, the depth to which operations are conducted, and the duration of the particular operation."¹⁶² Harrison uses these indicators to declare the fighting at the Sha-ho River in Manchuria during the Russo-Japanese War in October 1904, as "the first modern operation." The forces involved were almost 400,000 troops, the fighting lasted two weeks over a manned front of 90 km reaching a depth of 20 km. Harrison's view is also supported by early Soviet analysis.¹⁶³

¹⁶² Harrison, *The Russian Way of War*, 16.

¹⁶³ *Ibid.*, 16-17.

In regard to the research questions, quantitative indicators like these will have to be critically analysed in relation to terms and texts, to assess their role and interaction with strategy and tactics, to be able to determine if they are elements of operational art as it “is”, or large scale tactics that just “looks like” operational art. Quantitative indicators may be useful elements as part of the operational elements but have to be balanced against other operational elements so that relevant findings are not excluded on a solely quantitative basis, or others included purely based on sizes and numbers.

Operational elements will be used to study the interactions between the strategic command, that is, between the supreme commander or the Chief of the General Staff and the tactical commanders on the battlefield. The tactical forces vary from armies (100,000+ troops) to divisions (approx. 10,000 troops). Warfare evolved and became more extensive in scope during the half-century before the First World War, ranging from a campaign decided by a single battle, to protracted campaigns consisting of several operations, each consisting of one or more battles or tactical engagements. Besides, there were increased logistical demands as armies grew in size. Furthermore, wars became more protracted, which implies that there were also logistically determined operational elements to search after.

As a norm, this thesis will emphasise qualitative over quantitative elements, especially those that will assist in determining an operation’s relation to other military disciplines and elements of warfare, such as strategy and logistics. Therefore, the operational elements emphasised in this study are the modern operation, the strategic-operational relations, the operational-tactical relations, logistics, and command and control.

The modern operation is both the framework and precondition for operational art. In the modern paradigm of operational art, an operation is an entity in itself that contains manoeuvre, logistics, and combat merged together in “a conglomerate of quite different actions”.¹⁶⁴ The understanding and purpose of an operation have changed over the centuries and so have the elements of which an operation consists. Therefore, the thesis will outline the understanding of the content and purpose of an operation in different historical contexts.

¹⁶⁴ Svechin, *Strategy*, 69.

Strategic-operational relations. The thesis will study the relations between strategy and operations to identify any operational elements that might indicate emerging operational art.

Operational-tactical relations. This is related to the previous element, but concerns the role of battles and engagements as integrated elements in modern operations, in contrast to the pre-industrial battle that had an independent action after an operation had brought the army to the battlefield.

Logistics. Svechin wrote that “tactics and logistics are the material of operational art” and that the success of the development of an operation also depended on “the provision of all the material they need to conduct an operation without interruption.”¹⁶⁵ Modern industrialised war is a war of resources. It is logistics that sustain military actions: “The great lesson of the operational art for Desert Storm [...] is in the extent to which logistics dominates the operational offensive.”¹⁶⁶ With the exception of the US Civil War, campaigns and operations in the century before the First World War were decided before lack of supplies caused offensives to halt, they were still wars of a few battles. The German offensive against France in 1914, on the other hand, came close to a halt because of an overstretched supply system.¹⁶⁷ Logistics is an operational element when it contributes to sustain a modern operation beyond what the tactical units carry themselves or can obtain by requisition and plunder.

Command and control in the form of leadership and staff work will include the command relations of the two first operational elements and will therefore be an indicator in itself.¹⁶⁸ A modern operation is characterised by its complexity and the command structure as a well-developed bureaucracy designed to manage military complexity. The modern general staff matured professionally in the same period as operational elements were beginning to make their mark on the character of warfare. When modern operations emerged, the demands of the

¹⁶⁵ Ibid.

¹⁶⁶ Richard M. Swain, *Lucky war : Third Army in Desert Storm* (Fort Leavenworth, KS: U.S. Army Command and General Staff College Press, 1994), 332.

¹⁶⁷ Martin Van Creveld, *Supplying war : logistics from Wallenstein to Patton* (Cambridge: Cambridge University Press 1977), 75-141.

¹⁶⁸ A NATO doctrinal term relating to the role of a military commander, often abbreviated C2 or C². The German tradition uses *führung*, which translates as leadership. Definitions: *Command* is “The authority vested in an individual of the armed forces for the direction, coordination, and control of military forces.” *Control* is “The authority exercised by a commander over part of the activities of subordinate organizations, or other organizations not normally under his command, that encompasses the responsibility for implementing orders or directives.” NATO, *AAP-06, NATO Glossary*, 28, 32.

headquarters were developed into specialised staff functions to manage large and resource-intensive armies and to command the armies in combat.

Operational elements are elements in warfare or military thought that indicate the emergence of operational art or are defining elements in the nature of operational art as a military discipline. These elements are often seen as unconnected pieces of a puzzle. The historical actors rarely had any idea of how what the complete puzzle would look like, or that the pieces were parts of a puzzle. Operational elements will be used in this thesis to identify stages in the emergence of operational art and to distinguish between elements that “are” elements of the nature of operational art from elements that just “look like” it.

Yet practice did precede the development of the concept: Jourdain.

Skinner discusses “the unconscious application of paradigms whose familiarity to the historian disguises an essential inapplicability to the past.”¹⁶⁹ The doctrinal definitions of operational art and the operational level of war that came out of the reform process in the US Army in the 1970s and 80s are part of such a paradigm. Historical studies of operational art based on this paradigm for analysis run the risk of imposing a modern operational paradigm upon pre-modern historical conditions. They also create the kind of historical absurdities in reading classical texts and discussing the outcomes of these absurdities in the form of mythologies.¹⁷⁰ Imposing theories of “maneuvre warfare” upon historical operations is just one such absurdity.¹⁷¹

This thesis will emphasise the need to study historical texts in light of the historical context in which they were written to reduce the danger that today’s military theoretical paradigms will distort historical texts. The framework for the study of operational art is twofold. First, to study it in light of its nature; as it “is” and secondly its character; what operational art “looks like” or resembles. The purpose is to understand when operational elements were present; the “is”, or whether historical military actions just shared some superficial similarities to modern

¹⁶⁹ Skinner, "Meaning and Understanding in the History of Ideas," 6-7.

¹⁷⁰ Ibid.

¹⁷¹ Hughes, "Abuses of German Military History."; Lind, "Some Doctrinal Questions for the United States Army."

operations; they only resembled modern operations. This appearance was usually in the form of distributed manoeuvres of large forces over a considerable distance, which resulted in successful combat with a decisive strategic outcome. Historical cases must therefore be studied in light of the historical strategic, doctrinal, and practical military realities.

Operational elements were rarely deliberately expressed in writing, nor were they dominating features in how warfare was perceived by the historical actors. This thesis's emphasis is to critically study theory and practice to identify and interpret operational elements. Military theory and doctrine will be studied in light of Skinner's critical approach to the meaning and content of historical terms. Delbrück's topical criticism will accompany the historian's philological source criticism to better understand past warfare and theory that are clouded by historical terms that in themselves do not disclose any origins or emergence of operational art. Operational art is understood the way it was originally defined by Svechin and is about operations, not strategy or tactics, although operational art is closely interrelated with both. Operational art, together with the other disciplines, is about warfare as a totality. The emphasis will be on understanding the difference between what operational art "is" and what it "looks like". Its nature and character will be used as analytical tools to overcome paradigms, oblique sources, and teleology.

Chapter 2: Origins of operational art

*Among other books, I had dabbled in Jomini's volumes on the Art of War, and I remember on one occasion when I was with Grant on the Tennessee River, asking him what he thought of Jomini. "Doctor," he said, "I have never read it carefully; the art of war is simple enough; find out where your enemy is, get at him as soon as you can, and strike him as hard as you can, and keep moving on."*¹⁷²

This chapter will study how military terminology originated in the European Enlightenment and was defined in the decades after the Napoleonic Wars. It will analyse Napoleon's celebrated Jena-Auerstedt campaign for evidence of operational art. Furthermore, it will study how the American Civil War changed its character to become the first industrialised people's war. It began as a blueprint of Napoleonic warfare and ended with extensive trench systems and operational manoeuvre. Military operations are at the centre of this study, specifically their relations to the strategic conduct of war (campaigns) and to tactics (battles and engagements). Logistics and command elements will be studied in terms of their role in the planning and conduct of operations. The role of command, commanders, and the means by which command is exercised are all key elements for research as they constitute the brain and nerve system that enables the entire military organisation to operate.

Terminology

Five central military terms related to operational elements emerged in the eighteenth century: strategy, campaign, operation, tactics, and grand tactics. The terms strategy, tactics, and grand tactics appeared in late eighteenth-century France and had their origins in classical Antiquity.¹⁷³ The military terms operation, operate, and campaign were used in the sixteenth and early seventeenth-century Italian and French military literature. Still, the meanings of these terms were different from contemporary use. The Italian term campaign (*campagna*, *campagne*) referred initially to the terrain (the field or countryside). However, it evolved to include the modern understanding of campaign as a "set of military operations planned and

¹⁷² John H. Brinton, *Personal memoirs of John H. Brinton, major and surgeon U.S.V., 1861-1865*, (New York, NY: Neale Publishing Company, 1914), 239.

¹⁷³ Gat, *A history of military thought*, 42-50.

conducted to achieve a strategic objective”.¹⁷⁴ The word *campagna* was also used as a technical term to distinguish field artillery (*artiglieria di campagna*) from stationary artillery used in fortresses.¹⁷⁵

Operate (*opere, operare*) and operation (*operazione*) referred to activities in general from the sixteenth century onwards.¹⁷⁶ By the early seventeenth century, the term was beginning to be applied in military texts. The term operate described military activities in general. At the same time, operation (*operazione*) to some extent resembled the modern use of the term operation and represented a range of military activities that served a purpose and were usually related to movements of troops.¹⁷⁷ The term operation was not described as a specific military discipline in the French *Encyclopédie, ou dictionnaire raisonné des sciences, des arts et des métiers*, which is the most notable documentation of the ideas and intellectual effort of the French Enlightenment.¹⁷⁸ In the *Encyclopédie*, operation was related to logic, theology, medicine etc., and frequently used as a general term for various activities.¹⁷⁹ Military use of the term operation in the chapter “War” (*Guerre*) described the major activities of a campaign, but it was not defined as a military term.¹⁸⁰

The military disciplines of strategy and tactics were developed during the French Enlightenment and the Napoleonic Wars. These terms were adapted from classical Greek texts by military writers. The meanings of the terms evolved in the last decades of the eighteenth century. The first term to emerge was tactics, which also was included in the

¹⁷⁴ Raimondo Montecucoli, "Aforismi dell'arte bellica," in *Operere Militari di Raimondo Montecucoli*, ed. Guisepe Grassi (Torino: Guisepe Favale, 1821), 69, 151, 160, 173, 197, 265, 319, 339; NATO, *AAP-06, NATO Glossary*, 23.

¹⁷⁵ Montecucoli, "Aforismi dell'arte bellica," 122.

¹⁷⁶ "operate" in Ernest Weekley, *An etymological dictionary of modern English* (London: John Murray, 1921), 1010.

¹⁷⁷ Giorgio Basta, *Il mastro di campo generale* (Venetia: Gio. Battista Ciotti senese all'Aurora, 1606); Ascanio Centorio degli Ortensi, *Il terzo discorso di guerra* (Gabriel Giolito de' Ferrari, 1558); Henri de Rohan, *Le parfait capitaine* (Paris 1648); Johann Jakob von Wallhausen, *L'art militaire pour l'infanterie* (Uldrik Balck, 1615); *Instruction des principes et fondements de la cavallerie* (Andre d'Aelst, 1621).

¹⁷⁸ Frederick B. Artz, *The Enlightenment in France* (Kent, OH: Kent State University Press, 1968), 104-111; Philipp Blom, *Encyclopédie: the triumph of reason in an unreasonable age* (London: Fourth Estate, 2004), xiii-xvi, passim; Gat, *A history of military thought*, 27-31; Milan Zafirovski, *The enlightenment and its effects on modern society* (New York: Springer, 2011), 160.

¹⁷⁹ See as an example Denis Diderot and Jean le Rond d'Alembert, eds., *Encyclopédie, ou dictionnaire raisonné des sciences, des arts et des métiers*, vol. 23 (Geneve: Jean-Léonard Pellet, 1778), 719-769, passim.

¹⁸⁰ *Encyclopédie, ou dictionnaire raisonné des sciences, des arts et des métiers*, vol. 7 (Geneve: Jean-Léonard Pellet, 1779), 763-764, 769, 771, 774.

Encyclopédie.¹⁸¹ The term tactics has references to Antiquity. The brief section on *tactique* was followed by a lengthy elaboration of Roman tactics.¹⁸²

The French colonel and *philosophe* Jacques-Antoine-Hippolyte de Guibert published his *Essai général de tactique* in 1770. This publication was among the most influential of its kind in the eighteenth century.¹⁸³ Guibert's writings were in line with the *Encyclopédie*. He used the term tactics as the general framework for the science of war. Guibert developed and divided tactics into elementary tactics, tactics for arms and branches, and grand tactics (*grande tactique*), which was the highest level of war and had a meaning comparable to the later term strategy.¹⁸⁴ Grand tactics was to become a recurring term in military theory until the Great War.

The term strategy was not included in the *Encyclopédie*, nor was "strategic". The *Strategos* (commander, general) in classical Greece was described in related terms from Antiquity, where stratagem and military ruse were associated with deception.¹⁸⁵ Strategy as a military term was first adapted from classical Greek and defined by the French lieutenant colonel Paul Gideon Joly de Maizeroy in 1773. De Maizeroy initially used the established term *tactique* about war as a whole. But, a few years later, he re-named this highest level of war *stratégie* and redefined tactics as "but a branch of this vast science".¹⁸⁶ Maizeroy also used the terms campaign and operation regarding warfare and the manoeuvres of forces.¹⁸⁷ The 1777 German translation of Maizeroy introduced *Strategie* for the German readers, an example of how military terminology was translated and adopted by different armies.¹⁸⁸

¹⁸¹ Ibid., 32: 503-508.

¹⁸² Ibid., 508-520; Gat, *A history of military thought*, 10-11.

¹⁸³ *A history of military thought*, 45-47.

¹⁸⁴ Ibid., 48; Jacques-Antoine-Hippolyte de Guibert, "Essai général de tactique," in *Ecrits militaires, 1772-1790* (Paris: Copernic, 1977), 85, 103, 108, 145-146; R. R. Palmer, "Frederick the Great, Guibert, Bülow: From Dynastic to National War," in *Makers of Modern Strategy*, ed. Peter Paret (Oxford: Clarendon Press, 1986), 107.

¹⁸⁵ Denis Diderot and Jean le Rond d'Alembert, eds., *Encyclopédie, ou dictionnaire raisonné des sciences, des arts et des métiers*, vol. 31 (Geneve: Jean-Léonard Pellet, 1778), 789-790; *Encyclopédie, ou dictionnaire raisonné des sciences, des arts et des métiers*, vol. 29 (Geneve: Jean-Léonard Pellet, 1779), 572-573.

¹⁸⁶ "PREMIÈRE INSTITUTION. De la tactique et du général" in Paul-Gédéon Joly de Maizeroy, *Institutions militaires de l'empereur Léon le philosophe* (Paris: Merlin, 1771)

http://remacle.org/bloodwolf/historiens/leonlesage/militaire.htm#_ftn1. Accessed January 4th 2018.

¹⁸⁷ Gat, *A history of military thought*, 42-45; Paul-Gédéon Joly de Maizeroy, *Mémoire sur les opinions qui partagent les militaires* (Paris: Claude-Antoine Jombert, 1773), 18-20.

¹⁸⁸ Lawrence Freedman, *Strategy: a history* (New York: Oxford university press, 2013), 73; Maizeroy, *Mémoire sur les opinions qui partagent les militaires*, 18-20; *Kaisers Leo des Philosophen Strategie und Taktik*, 5 vols., vol. 1 (Wien: J.T. Edlen v. Trattner, 1777), 98-104.

The French general Pierre-Joseph Bourcet wrote a treatise on mountain warfare in 1775, *Principes de la guerre de montagne*, which was not published until 1888. The manuscript was presented to the king in 1776. In the 1870s it was discovered in the library of the Ministry of War and edited for publication. Bourcet used the term operation as an activity within a campaign. He only used the term tactics once. He did not use the term strategy or strategic but was consistent in his use of campaign as the strategic element of warfare.¹⁸⁹ While writers such as Guibert and Mauvillon only wrote in general terms on distributed manoeuvre, Jean Colin credited Bourcet for devising specific rules of manoeuvre with dispersed forces and a practical approach concerning how to operate on different axes.¹⁹⁰ For Bourcet, an operation was a practical activity about manoeuvring forces, an activity that could be regulated with rules and regulations. However, he was also adamant that the unique conditions in the field held authority over rules.¹⁹¹ Colin stated that Bourcet's writings were representative of the opinions of other French generals and military authors at the time and that the divisional system was well known, a system that "divided the army into several corps on an extended front, [and] affirmed the necessity of concentrating it for the battle". According to Colin, this approach was the essence of eighteenth-century grand tactics.¹⁹²

The Prussian officer and writer Dietrich Heinrich von Bülow is an interesting source for uncovering attempts to define and develop military terminology.¹⁹³ Bülow wrote during the early Napoleonic wars and used the term operation concerning manoeuvres of armies or other large forces and the verb operate (*operiren*) when forces manoeuvre. Bülow distinguished between tactical operations, which had the enemy as the objective and strategic operations, where the enemy was the aim or purpose (*Zweck*) of the operation, but not its objective (*Gegenstand*).¹⁹⁴ Strategy was "the science of movements and so on, where the enemy is the aim or purpose (*Zweck*) of the operation but not its objective." and "consists of two key

¹⁸⁹ Pierre-Joseph Bourcet, *Principes de la guerre de montagnes* (Paris: Imprimerie nationale, 1888), iii-iv, 16, 20, 35, 87.

¹⁹⁰ Distributed manoeuvre is a professional term that describe a manoeuvre of military forces by subunits spread out along different axis of advance. See Justin Kelly and Mike Brennan, *Distributed manoeuvre : 21st century offensive tactics* (Canberra: Land Warfare Studies Centre, 2009).

¹⁹¹ Bourcet, *Principes de la guerre de montagnes*, 61-63; Jean-Lambert-Alphonse Colin, *L'éducation militaire de Napoléon* (Paris: R. Chapelot et Co, 1901), 60-61; Gat, *A history of military thought*, 670.

¹⁹² Colin, *L'éducation militaire de Napoléon*, 63-65.

¹⁹³ Gat, *A history of military thought*, 81-96, 178; Palmer, "Frederick the Great, Guibert, Bülow: From Dynastic to National War," 113-119.

¹⁹⁴ *Gegenstand* is a physical entity and the adjective *gegenständig* means opposite, as the opponent or enemy. Dietrich Heinrich von Bülow, *Neue Taktik der Neuern wie sie seyn sollte. Erster Theil* (Leipzig: J.A. Barth, 1805), 6-7.

elements, marching and bivouacs. Tactics consist of two key elements: development or deployment for battle, and combat (*Gefecht*) or attack and defence. All that together is war.”¹⁹⁵

After the Napoleonic wars, the Prussian general Carl von Clausewitz defined the pair: “tactics teaches *the use of armed forces in the engagement*; strategy, *the use of engagements for the object of the war*.”¹⁹⁶ The original German text uses *Zweck* where the English translation uses object. *Zweck* is better translated as purpose or aim, since it is more abstract term than the concrete understanding of object.¹⁹⁷ These nuances are essential to understand the characteristics of the two, where tactics covered the concrete and physical actions. At the same time, strategy was the use of these actions to fulfil the purpose of the war. The purpose of war was political. Therefore, strategy had to relate to both policy and combat. These terms and definitions did not have much impact outside small circles of military intellectuals before the terms were included in the curriculum of military institutions of higher education later in the nineteenth century. The evolution and changes in the meaning of these central military terms are a reminder of the necessity to understand the meaning and content of a term at a specific point in time and its context and the intended and defined use.¹⁹⁸

The Napoleonic heritage

The pre-Napoleonic military writers developed and used the term operations increasingly frequently at the end of the eighteenth century as military thought matured. Both the terminology and the content and meanings of terms evolved unevenly in different countries until the strategic-tactical relation was established at the beginning of the nineteenth century. The operation was not an independent element of war, but an element of strategy. It was an activity within the campaign and primarily concerned with strategic movement and manoeuvre of forces. Operation was not defined as a discipline in its own right, but the term was used uniformly, which indicates that both commanders, educated officers, writers, and readers understood its meaning and content. While the operation was an element of strategy

¹⁹⁵ Ibid., 17. Gat states that Bülow laid out tactics in its modern form in Gat, *A history of military thought*, 43-44.

¹⁹⁶ Clausewitz, *On War: Indexed Edition*, 128. Italics in original.

¹⁹⁷ *Vom Kriege*, 95. The definition of *Zweck* is “mit bewusster Absicht angestrebtes Ergebnis einer Handlung, eines Vorgangs” (deliberately intended result of an action, a process).

¹⁹⁸ Cfr. Skinner, “Meaning and Understanding in the History of Ideas,” 12-22.

and related to movements and manoeuvre of troops, fighting was a part of the battle, which was governed by tactics. Some writers used the term tactical operations regarding the manoeuvring of troops on the battlefield.

The Napoleonic wars were in general conducted by mounting a campaign to bring the army, or armies in coalitions, to the battlefield by strategic manoeuvres. Such a strategic manoeuvre was usually regarded as an operation. When the forces were concentrated, the campaign was to be decided through battle. A decisive battle did in some cases decide the campaign and occasionally the war. There was usually more than one battle in a campaign. The campaign might necessitate the pursuit of the remnants of the defeated enemy to bring the war to a final conclusion. The decisive 1805 campaign that culminated in the battle of Austerlitz is the ideal example, the indecisive and exhausting Peninsular War the antitype, and the remaining campaigns and battles fit somewhere in between.

Warfare

Napoleon Bonaparte was well-read and familiar with the leading military authors and their writings. He was also acquainted with the latest developments in warfare as well as recent developments in doctrine, organisation, and tactics.¹⁹⁹ In the popular compilation of Napoleon's maxims about war, the term operation was predominantly used regarding the movement of forces and thus consistent with the understanding of operations since the Enlightenment.²⁰⁰ Napoleon used the term grand tactics (*la grande tactique*) only on one occasion. It described a part of warfare that was different from tactics and had to be learned by experience and by studying the campaigns of great commanders.²⁰¹ The English 1831 edition of Napoleon's maxims translated *la grande tactique* as strategy, which may indicate that the translator interpreted the term the way British officers understood strategy, or, rather, that the term *grande tactique* was not yet familiar to an English military reader.²⁰²

¹⁹⁹ Robert B. Asprey, *The rise of Napoleon Bonaparte* (New York: Basic Books, 2000), 22-33; Michael Broers, *Napoleon* (London: Faber and Faber, 2014), 50-61; Colin, *L'éducation militaire de Napoléon*, 109-157.

²⁰⁰ Napoléon, *Maximes de guerre de Napoléon* (Paris: chez Anselin, 1830), 2-3, 7-8, 12-13, 24, 41, 43-44.

²⁰¹ *Ibid.*, 45-46.

²⁰² Napoleon, *The officer's manual. Napoleon's maxims of war* (Dublin: Richard Milliken & Son, 1831), 65-66.

Napoleon's campaign in Germany during the autumn of 1806 has been used as an argument that Napoleon mastered operational art and conducted operational-level warfare.²⁰³ Dennis Showalter is initially less certain and credits Napoleon "with being if not the father, certainly the facilitator of operational war as it is generally understood". Nevertheless, he concludes the chapter: "The Jena campaign stands as the first masterpiece of operational art."²⁰⁴ The Jena campaign involved the main components of pre-industrialised conduct of war; the strategic approach march, the battle, and the pursuit. It is therefore illustrative of Napoleonic warfare. It also illustrates the Enlightenment's military legacy that Napoleon brought with him and adapted to the various circumstances. This section will not delve into tactical details but emphasise the campaign perspective to critically study any similarity to modern operational art and twentieth-century operations.

In his chapter on the Battle of Jena in Michael D. Krause and R. Cody Phillips' anthology *Historical perspectives of the operational art*, David G. Chandler presented an abbreviated description of Napoleon's method of waging war.²⁰⁵ In this chapter, Chandler credited Napoleon with conducting operational art and operational level warfare, an interpretation that is greatly at variance with the chapter of the Jena campaign in his classic book *The campaigns of Napoleon* from 1966.²⁰⁶ The difference is the use of late-twentieth-century operational terminology in the 2005 chapter to analyse and explain the campaign, its battles, and its pursuit. There is a methodological risk when twenty-first-century operational terms or analytical framework are used to explain early nineteenth-century warfare and to see "far too readily the 'modern' elements which the commentator has thus programmed himself to find".²⁰⁷

As the probability of hostilities between French and Prussia increased during 1806, Prussia had secretly decided in early August to go to war and Napoleon only became aware of the fact in September. France had six *corps d'armée* (army corps) totalling 160,000 troops spread out in southern Germany, in addition to 32,000 cavalry and additional artillery. Napoleon's

²⁰³ Chandler, "Napoleon, operational art, and the Jena campaign."; Telp, *The Evolution of Operational Art, 1740-1813 : From Frederick the Great to Napoleon*.

²⁰⁴ Dennis E. Showalter, "The Jena Campaign: Apogee and Perihelion," in *Napoleon and the operational art of war : essays in honor of Donald D. Horward*, ed. Michael V. Leggiere (Leiden, Boston: Brill, 2016), 173, 197.

²⁰⁵ Krause and Phillips, *Historical perspectives of the operational art*, 28-35.

²⁰⁶ Chandler, *The campaigns of Napoleon*, 443-506.

²⁰⁷ Skinner, "Meaning and Understanding in the History of Ideas," 24.

Grande armée was the victor of the battles of Ulm and Austerlitz in 1805, it was experienced, seasoned, and in very good fighting condition, “probably the most integrated and best trained force that Napoleon ever commanded.”²⁰⁸

The Prussian army had maintained the reputation of Frederick the Great, but it had more to do with appearance than reality. Its shortcomings were evident and ranged from ageing commanders to soldiers’ muskets of similar vintage as the generals. The army staff was rudimentary. There were three competing chiefs of staff and no functional chain of command. The army fielded 171,000 troops but did not have the corps headquarters system that made the *Grande armée* such a flexible force. In addition, the Prussians were lumbered with a cumbersome logistics system based on magazines. As a consequence, the Prussian army was not capable of operating and fighting effectively outside its parade ground. In late September, the Prussians were deployed with their three field armies from Gotha to Dresden, in addition to numerous garrisons dispersed all over Prussia. The Prussian army was, in reality, a mid-eighteenth century museum’s piece, not at all ready to confront the most vigorous and victorious field force on the continent.²⁰⁹

While the Prussians argued among themselves and finally decided on a compromise war plan that failed to satisfy any of the commanders, Napoleon tried to discover what the Prussians were planning. When it became apparent that they would deploy their main forces west of the River Elbe, Napoleon knew precisely which course of action to choose. Even before the Prussian army had made any of its initial dispositions, Napoleon was on the march, causing further confusion among the Prussian commanders. New orders called for the Prussian armies to concentrate their efforts west of the Saale River to meet and defeat the French forces by “an oblique and rapid movement” against the enemy’s course of advance.²¹⁰ The “oblique and rapid movement” was a hallmark of Frederick the Great. But *Der Alte Fritz* was no longer in command of the Prussian army.²¹¹

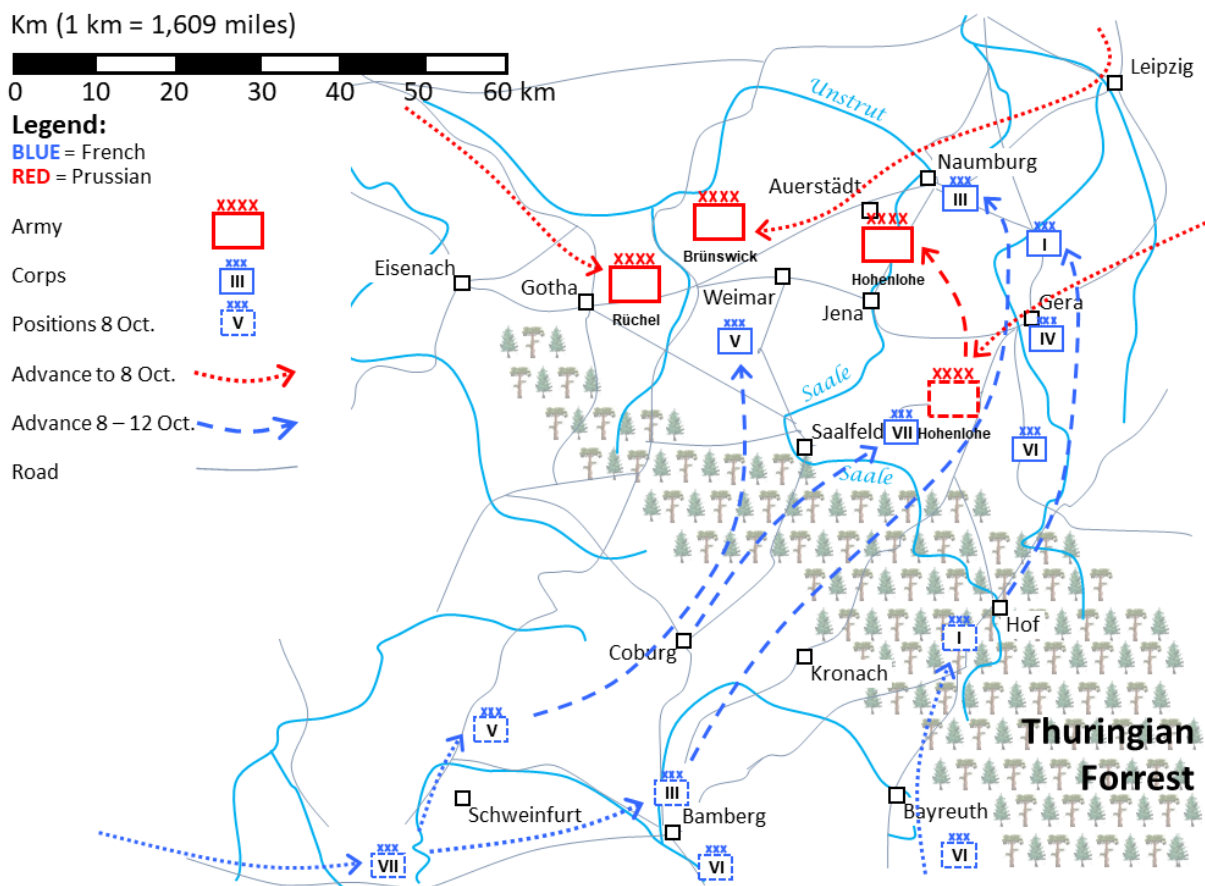
²⁰⁸ Chandler, *The campaigns of Napoleon*, 452-454.

²⁰⁹ *Ibid.*, 454-456.

²¹⁰ *Ibid.*, 456-459.

²¹¹ Albert Sidney Britt III et al., *The Dawn of Modern Warfare*, ed. Thomas E Griess (Wayne, NJ: Avery Publishing Group Inc., 1984), 121-124; Dennis E. Showalter, *The wars of Frederick the Great* (London; New York: Longman, 1996), 192-206.

Napoleon had considered three strategic options, all with the ultimate aim of crushing the Prussian army and seizing Berlin before an expected Russian intervention. Napoleon initiated strategic preparations that ranged from calling in recruits to secure the western parts of Germany and calling up the army's corps that were stationed all over southern Germany. He decided to move his main force from the Bamberg area in a strategic outflanking manoeuvre north-east through the Thuringian Forest and place the army between the Prussian armies and their capital. The *Grande Armée* was ready and organised in early October. On 8 October it moved into the Thuringian Forest on three axes by Coburg, Kronach, and Bayreuth.²¹²



Sketch 2.1. The Jena Campaign. Operations (marches) late September to 12 October.²¹³

The *Grande Armée* assembled for the campaign consisted of six army corps, Murat's cavalry corps, and the Guard Division. The army marched in the formation of a wedge-shaped *bataillon carré*, cavalry detachments in front followed by two corps on each of the three axes. Each corps was capable of fighting a larger enemy until reinforcements arrived. The formation was a refinement of the *Grande Armée's* strategic march from the Rhine to the

²¹² Chandler, *The campaigns of Napoleon*, 460-469.

²¹³ Thomas E. Griess, *Atlas for the Wars of Napoleon*, ed. Thomas E. Griess (Wayne NJ: Avery Publishing Group, 1986), maps 26, 27, 28.

Danube the previous year, where the allied armies were strategically out-manoeuvred. The *bataillon carré* formation gave Napoleon unprecedented flexibility to operate on a broad front, concentrate, disperse, march through rugged terrain, and engage an enemy of which Napoleon had only a rudimentary understanding.²¹⁴

When he understood that the Prussians' main body had deployed west of the Saale, Napoleon took his army along a straight line towards Naumburg and placed it behind the enemy, cutting the Prussian lines of communication, and forced them to fight on a reversed front. When the French corps deployed for battle, Napoleon had lost control of the situation. However, the Prussians were equally lost in the fog and friction of war. Napoleon acted with vigour and had his advanced forces deployed for combat during the night of 13 October, while the other corps were ordered to assemble at Jena. Two battles were actually fought the next day; Napoleon, with his main force against the smaller Prussian force at Jena and Marshal Davout's IIIrd corps at Auerstädt facing the bulk of the enemy. Despite the usual uncertainty and chaos in war, French aggressiveness and superior leadership prevailed.²¹⁵

The next two weeks saw a relentless pursuit through Berlin to the Baltic coast and eastwards across the River Oder. The pursuit was a combination of direct pressure and outflanking movements to capture crossing points and cut off the retreating Prussian forces. The Prussian army was given no respite and was literally annihilated in the process, but Napoleon needed another six months to bring the Prussians to terms.²¹⁶

The campaign consisted of three distinct stages. The initial stage was the strategic operation to bring the *Grande Armée* across the Thuringian Forest and into the strategic flank and rear of the Prussian army. When Napoleon became aware of the location of the enemy, he had to regroup his forces to the area north of Jena. This action was an addition to the initial stage in order to rearrange and concentrate the corps on the battlefield, a manoeuvre Jean Colin states was the manifestation of grand tactics.²¹⁷ The next stage was the battle itself, or, rather, the

²¹⁴ Chandler, *The campaigns of Napoleon*, 390-402, 433-435, 468-470; Colin, *L'éducation militaire de Napoléon*, 53-54; *The Transformations of War* (London: Hugh Rees, Ltd, 1912), 241-242, 258.

²¹⁵ Chandler, *The campaigns of Napoleon*, 470-497; Showalter, "The Jena Campaign: Apogee and Perihelion," 188-193.

²¹⁶ Chandler, *The campaigns of Napoleon*, 497-502; Showalter, "The Jena Campaign: Apogee and Perihelion," 194-196.

²¹⁷ Colin, *The Transformations of War*, 261-262. 265-269.

two battles, of Jena and Auerstedt. The final stage was the pursuit leading to the capture of the remnants of the defeated Prussian army. The campaign was conducted according to contemporary doctrine; the strategic advance (*opération* by contemporary French terms) to gain a positional advantage and concentration *before* the battle, then the battle(s), and finally the pursuit to obliterate the remnants of the enemy forces.²¹⁸

Napoleon's strategic approach in the Jena campaign was, to a large extent similar to the ideas of the theorists of the *ancien regime*, which were developed a generation earlier and closely studied by the young Bonaparte. The most notable difference from Frederick the Great at the strategic echelon was the dispersion of the army for the approach march, utilising the flexibility of the *bataillon carré*, and the subsequent concentration before engaging in battle. These adaptations were made possible by the division of the army into sub-units (army corps), a system developed in the 1770s and already in use before Napoleon took command.²¹⁹ The key to success was the strategic concentration of the dispersed corps before the battle commenced, which needed a commander of Napoleon's character, as his marshals, with few exceptions, were incapable of independent command.²²⁰

Napoleonic warfare was not constricted by the conditions that caused operational art to emerge a century later. Important incitements for the emergence of operational art, such as the massive increase in volume, range, and precision of fire, the subsequent expansion of the battlefield, and a highly specialised military staff system to manage multiple armies and industrial logistics, did not exist in 1806. None of these elements was present at Jena. Even Auerstedt was a traditional, if accidental battle, not a deliberate attempt to widen the front. Napoleon's inability to even know about, or control, Davout's lone battle less than 20 km away, demonstrates the limitation of command beyond visual range without a general staff and modern communications. Napoleonic warfare must be understood within the practical and theoretical framework it took place. To ascribe any visual similarities with twentieth-century warfare, such as dispersed marches or distributed manoeuvre with large forces, to some kind of military clairvoyance, would be unhistorical and fall into the trap of "'seeing' far too

²¹⁸ Bourcet, *Principes de la guerre de montagnes*, 61-63; Colin, *L'éducation militaire de Napoléon*, 57-59; *ibid.*, 60-61; Gat, *A history of military thought*, 670.

²¹⁹ Colin, *L'éducation militaire de Napoléon*, 63-65.

²²⁰ Albert Sidney Britt, *The wars of Napoleon*, ed. Thomas E. Griess, The West Point military history series (Wayne, NJ: Avery publishing group, 1985), 33-34.

readily the ‘modern’ elements”²²¹ which were not present at the time. There were elements in the Jena campaign that “looked like” the most celebrated forms of operational art, especially large-scale deep armoured thrusts. However, a detailed examination indicates that it did not constitute a paradigm shift in the conduct of war.

Thinking and theory

The two formative thinkers of modern military thought are Baron Antoine Henry de Jomini and Carl von Clausewitz. Both applied the scientific methods of the Enlightenment to their analysis of decades of the Revolutionary and Napoleonic wars. German romantic ideals further influenced Clausewitz. Clausewitz is the most familiar name among the classic military theorists. However, Jomini has had the most significant influence, especially in military terminology, which is bound to frame and influence thinking.²²² This section will briefly study their use of operational terms and operations and their relations to operational art.

Carl von Clausewitz

Carl von Clausewitz was a Prussian officer born in 1780 and participated in his first campaign in the winter of 1793 against revolutionary France. He was educated at the *Kriegsakademie* (the Military Academy) in Berlin and was influenced by Gerhard von Scharnhorst. Clausewitz fought in the Napoleonic Wars from 1806 to 1815. He resigned in protest against Prussia’s benign policy towards Napoleon and entered Russian service in 1812. Clausewitz wrote his first military article in 1805. His main work is *On War (Vom Kriege)*, published posthumously by his widow in 1832. The eight-volume work was still under revision when Clausewitz died in 1831. *On War* is both a philosophical exploration of war as a phenomenon and a text-book on the conduct of war.²²³

²²¹ Skinner, "Meaning and Understanding in the History of Ideas," 24.

²²² Hans Rothfels, "Clausewitz," in *Makers of Modern Strategy*, ed. Edward Mead Earle (Princeton, NJ: Princeton University Press, 1948), 93; Shy, "Jomini," 176-185; Hew Strachan, *Clausewitz's On war : a biography* (New York: Atlantic Monthly Press, 2007), 7-9.

²²³ Gat, *A history of military thought*, 168-169, 173-173-175; Peter Paret, "Clausewitz," in *Makers of Modern Strategy*, ed. Peter Paret (Oxford: Clarendon Press, 1986), 186-213; Strachan, *Clausewitz's On war : a biography*, 30-67.

In 1976 *On War* was published in a new English translation by the renowned historians Michael Howard and Peter Paret, with new editions in 1984 and 1989. The translation is acknowledged for making Clausewitz's complicated German text available for a twentieth-century audience but also criticised for its rationalistic interpretation and for imposing modern military terminology on a 150 years old text.²²⁴ Sibylle Scheipers sums up this tendency:

Throughout the two centuries of Clausewitz reception, there has been a tendency to interpret his writings with a view to the interpreters' strategic context. This resulted in a selective and sometimes manifestly erroneous reading of his thought.²²⁵

This critique reflects Skinner's concerns regarding the meaning and content of historical texts and is especially of concern in this chapter in regard to operational elements.²²⁶ Modern terms, such as operation and operational, were used over 330 times in the Howard-Paret translation, while Clausewitz used the German word *Operation* only 14 times. Eleven of those were composite terms similar to Bülow, such as lines of operation (*Operationslinien*) and base of operation (*Operationsbasis*). The twelfth term was "an operation of the mind" (*Verstandesoperation*). Clausewitz never used the adjective *operativ* (operational).²²⁷ The operational terms in the English translation span the entire field from the strategic conduct of war to (tactical) combat and imply a twentieth-century western doctrinal understanding that does not reflect the original text.

An illustrative example is where Clausewitz wrote of separated engagements intended as one battle but ended up as two geographically separate engagements. In Clausewitz' views

It does frequently happen in war, however, that forces meant to fight in concert have to be placed in so far apart that, while their conjunction in battle remains the primary intention, the possibility of separate action has also to be considered. Such a deployment is therefore strategic.

Dispositions of this type include marches by separate columns and divisions, advance guards and flanking corps, [...], and so forth. It is obvious that this is a constant recurring type of operation—the small change, so to speak, of the strategic budget, while

²²⁴ Peter Dennis, "On War , by Carl von Clausewitz, translated and edited by Michael Howard and Peter Paret (Book review)," *Canadian Journal of History* 12, no. 1 (1977), 114-115; Mark M. Lowenthal, "Carl Von Clausewitz. On War Edited and Translated by Michael Howard and Peter Paret. (Book review)," *The American Historical Review* 82, no. 3 (1977), 608-609; Sibylle Scheipers, *On small war: Carl Von Clausewitz and people's war*, First ed. (Oxford: Oxford University Press, 2018), 7-8, 147; Strachan, "Strategy or Alibi? Obama, McChrystal and the Operational Level of War," 160-161; *Clausewitz's On war : a biography*, 1-2, 109-110.

²²⁵ Scheipers, *On small war: Carl Von Clausewitz and people's war*, 14.

²²⁶ Skinner, "Meaning and Understanding in the History of Ideas," 4-7, 23-24.

²²⁷ Christopher Bassford, "Word Index to On War"; Clausewitz, *Vom Kriege; On War: Indexed Edition; Vom Kriege*.

important battles and other operations comparable in scale may be considered its gold and silver.²²⁸

Clausewitz regarded this “constant recurring type of operation” as “small change [...] of the strategic budget” while it was the “important battles and other operations comparable in scale” that make up the main currency. There are some significant translation issues here. The term operation was not used in the original German paragraph. The Howard-Paret translation first inserted “type of operation” instead of the German pronoun *sie* (they), which refers to the activities in the previous sentence. Secondly, the original text *auf gleicher Linie steht* (standing on the same line) was translated as “other operations comparable in scale”.²²⁹ These insertions of the twentieth century military term operation into the early nineteenth-century text highlights two issues.

Firstly, Clausewitz acknowledged only two distinct military disciplines: strategy and tactics, while operation was just a general term for military activities, mainly related to movements. Secondly, if the two separated forces that aimed to concentrate for a combined battle failed to unify, the result was just two separate battles. Still, the framework for those separate actions was strategic. It was not, for Clausewitz, an operational framework, as it may well have been in a twentieth-century context. The translation of “*auf gleicher Linie steht*” with operations, in this case, is problematic because it implies that operations were of equal standing as battles and thus that operations were significant in Clausewitz understanding of war. Such use of modern terms in the interpretation of classical texts may well unintentionally influence “the observer’s mental *set*” to expect that operational art was an element of warfare in the time when these texts were written.²³⁰ It was not. It only began to appear, piecemeal, a generation after Clausewitz’ death.

In the tradition of the German translation of Maizeroy’s *L’empereur Léon*²³¹ and the writings by Bülow, Clausewitz wrote in the paradigm of the two military disciplines of strategy and tactics. He hardly used anything that resembled twentieth-century operational terms. Quentin Skinner cautions us “of mistaking some scattered or incidental remarks by the classic theorists for his “doctrine” on one of the subjects which the historian is *set* to expect.” He further warns

²²⁸ *On War: Indexed Edition*, 244.

²²⁹ *Ibid.*; Clausewitz, *Vom Kriege*, 173-174.

²³⁰ Skinner, “Meaning and Understanding in the History of Ideas,” 6.

²³¹ Maizeroy, *Kaisers Leo des Philosophen Strategie und Taktik*, 1.

of “supplying the classic theorists with doctrines which are agreed to be proper to their subject, but which they have unaccountably failed to discuss.”²³² Contrary to the impression the reader may get from the Howard-Paret translation, Clausewitz was not familiar with the twentieth-century operational terminology or operational art. Svechin makes the same points in his discussion of the relevance of studying the classics that

even Clausewitz, for whom the duration of a battle was only a strategic instant and the extent of the battlefield was only a strategic point, has undoubtedly become obsolete in many respects. He had no knowledge of operational art, because for him an operation did not present either spatial or temporal dimensions.²³³

Antoine Henry de Jomini

For us, Jomini stands above all the other military writers of the nineteenth century, just as much as Napoleon is above the other generals, and it is with good reason that we have been able to say that *if Napoleon is the god of war, Jomini is his prophet*; for no one has understood the teacher’s doctrines so well and so easily, and no one has brought them to light in such a precise manner.²³⁴

In the nineteenth century, European and American military terminology was primarily influenced by Antoine Henry de Jomini and his interpretation of the Napoleonic Wars. Jomini was a Swiss banker who entered service in the French revolutionary administration and later became part of the *Grande Armée* as a member of Marshal Ney’s staff. Jomini read the military classics of the Enlightenment and wrote his first military text in 1803. He served as a staff officer, rose to the position as chief of staff in Marshal Ney’s corps, and took part in Napoleon’s campaigns from 1805 until he entered Russian service in 1813. He rose to the rank of general in the Russian army and wrote extensively.²³⁵

Jomini’s major military work, his *Précis de l’art de la guerre* became the standard text-book in the education of higher officers and influenced thinking and teaching of war.²³⁶ He merged the scientific thinking of the Enlightenment, the writings of predecessors such as Guibert, Lloyd, and Bülow, with his analysis of Napoleonic warfare. Jomini assembled a set of

²³² Skinner, "Meaning and Understanding in the History of Ideas," 11-12.

²³³ Svechin, *Strategy*, 80.

²³⁴ Auguste Antoine Grouard, *Le critique de la campagne de 1815: Réponse à M. Houssaye* (Paris: Librairie Militaire R. Chapelot et C, 1907), 60-61.

²³⁵ Gat, *A history of military thought*, 108-110; Shy, "Jomini," 143-185.

²³⁶ Gat, *A history of military thought*, 286-292; Shy, "Jomini," 160-164, 176-185.

terminology that have influenced military thinking and doctrine to this day.²³⁷ According to Jomini, warfare (the art of war) “consists of five purely military branches,—viz. : Strategy, Grand Tactics, Logistics, Engineering, and Tactics.” This introductory sentence was followed by a discussion of diplomacy and a summary:

To recapitulate, the art of war consists of six distinct parts :—

1. Statesmanship in its relation to war.
2. Strategy, or the art of properly directing masses upon the theater of war, either for defense or for invasion.
3. Grand Tactics.
4. Logistics, or the art of moving armies.
5. Engineering,—the attack and defense of fortifications.
6. Minor Tactics.²³⁸

Grand tactics is the term used by Jomini that is often related to the development of operational art.²³⁹ He defined grand tactics as “the art of posting troops upon the battlefield according to the accidents of the ground, of bringing them into action, and the art of fighting upon the ground.”²⁴⁰ Jomini further asserted that grand tactics was “the art of making good combinations preliminary to battles, as well as during their progress.”²⁴¹ Jomini elaborated on the principles of grand tactics “which consist in this, viz. : in knowing how to direct the great mass of the troops at the proper moment upon the decisive point of the battlefield, and in employing for this purpose the simultaneous action of the three arms.”²⁴² This paragraph also included Jomini’s emphasis on “the decisive point” and combined arms action, “the simultaneous action of the three arms” of infantry, cavalry, and artillery.²⁴³

Jomini’s definition of grand tactics is an illustrating example of how the meaning of the term had changed since its introduction by Guibert in the early 1770s when grand tactics held the meaning that strategy had for Jomini and his contemporaries. Contrary to Clausewitz, Jomini

²³⁷ Gat, *A history of military thought*, 108-121.

²³⁸ Antoine Henri baron de Jomini, *Summary of the Art of War* (Philadelphia: J. B. Lippincott & Co., 1862), 2.

²³⁹ *Ibid.*, 178. See for example Menning, "Operational Art's Origins," 7-8; Robert A. Doughty, "French Operational Art: 1888–1940," *ibid.*, ed. Michael D. Krause and R. Cody Phillips (Washington DC), 69-71; Menning, *The Imperial Russian Legacy of Operational Art, 1878–1914*, 70-89-1, 200-201.

²⁴⁰ Jomini, *Summary of the Art of War*, 69.

²⁴¹ *Ibid.*, 178.

²⁴² *Ibid.*, 360.

²⁴³ NATO, *AAP-39 NATO Handbook of Land Operations Terminology* (Brussels: NATO Standardization Office, 2015), 2-27. For an explanation of combined arms, see Jonathan M. House, *Toward Combined Arms Warfare: A Survey of 20th-Century Tactics, Doctrine, and Organization* (Fort Leavenworth, KS: U.S. Army Command and General Staff College, 1984), 1-6.

used the term operation more than 600 times, with similar meaning and content as his Enlightenment predecessors. The meanings of operations varied from strategic to tactical and offensive and defensive operations. Operation was used in combined terms such as lines of operations, base of operations, and zone of operations. Jomini's widespread use of the term operation indicates the very general meaning of the term and its utility. In line with Clausewitz, Jomini's *Précis* does not introduce any operational terminology in the way we understand it today.

The Wars of Napoleon did not change the dualism of strategy and tactics from the way they were developed during the Enlightenment. Napoleon conducted campaigns that were to be decided by battles. Despite visual similarities between Napoleons dispersed strategic marches and twentieth century's deep operations, Napoleon's thinking and conduct of war constituted a continuum, not a break with the thought and practice of the Enlightenment. His corps commanders, the marshals, were tactical executors of Napoleon's will and, with a few exceptions, incapable of independent command. Berthier, Napoleon's chief of staff, was also an executor of the commander's will and intentions and did not preside over a modern general staff apparatus capable of planning war years ahead. The two leading interpreters of Napoleon, Jomini and Clausewitz, were both consistent in terminology. The meaning and purpose of the terms they used were developed in the Enlightenment and through the Napoleonic Wars. Neither wrote about operational art as a third military discipline simply because it did not exist. Nor were the institutional and physical preconditions for operational art present in pre-industrial wars.

The American Civil War

The American Civil War was the most devastating war between modern states before the world wars. Several operational elements emerged during this war, but this development was cut short when the Union army demobilised and resumed the frontier wars in the American West. Some of the observations and lessons were captured in text-books for officers' education.

In 1947 Brigadier General J. D. Hittle wrote: "It has been said with good reason that many a Civil War general went into battle with a sword in one hand and Jomini's Summary of the Art

of War in the other.”²⁴⁴ Given the prominence of Jomini and Napoleon’s way of war in the curriculum at the US Military Academy West Point, this statement was valid for both sides, since West Pointers filled the majority of senior positions in both the Union and Confederate armies. Hittle also asserted “that Jomini’s writings were how Napoleonic technique was transfused into the military thought of the Civil War”.²⁴⁵ Major General Henry W. Halleck’s book from 1846, *Elements of Military Art and Science*, which was reprinted in 1862, is a representative example.²⁴⁶ Russell F. Weigley further highlighted the dominance of the Napoleonic ideal regarding the development of pre-Civil War American strategic thought. Weigley was critical of the lack of operational art among the Civil War armies, as he compared them to his reading of Prussian practice in the Wars of German Unification.²⁴⁷ To some extent, this critique is valid, but it takes nineteenth-century Americans to task for not knowing twentieth-century operational art.

Commanders on both sides initially followed the Napoleonic quest for the decisive battle, but the decision proved elusive. Victories were at best decisive only in a tactical sense. There was always another fort or another army.²⁴⁸ US General Ulysses S. Grant acknowledged after the Battle of Shilo on 6-7 April 1862 that the war would not be won by decisive military victory on the battlefield, but by the destruction of the Confederacy “by complete conquest.” This resulted in a war where the resources of an entire society became an objective, aimed at blocking the supplies of the Confederate forces, an effect “causing the same outcome as if the army was annihilated.”²⁴⁹

The two divergent political objectives of the Union and the Confederacy would dictate two different strategic approaches. The North had to subdue the South by strategic offensive,

²⁴⁴ J.D. Hittle, ""Introduction," to Jomini and His Summary of The Art of War, A Condensed Version," in *Roots of Strategy Book 2*, ed. J.D. Hittle (Mechanicsburg, PA: Stackpole Books, 1987), 396.

²⁴⁵ Gat, *A history of military thought*, 284-292; Edward Hagerman, *The American Civil War and the Origins of Modern Warfare* (Bloomington & Indianapolis: Indiana University Press, 1992), 3-27; Hittle, ""Introduction," to Jomini and His Summary of The Art of War, A Condensed Version," 396.

²⁴⁶ Henry Wager Halleck, *Elements of Military Art and Science* (New York: D. Appleton & company, 1862).

²⁴⁷ Russell F. Weigley, *The American way of war: a history of United States military strategy and policy* (New York, N.Y: Macmillan, 1973), 81-91; *A great Civil War; a military and political history, 1861-1865* (Bloomington, IN: Indiana University Press, 2000), 29-32.

²⁴⁸ Hagerman, *The American Civil War and the Origins of Modern Warfare*, xi-xviii; Weigley, *The American way of war: a history of United States military strategy and policy*, 91-152.

²⁴⁹ H. W. Brands, *The Man who Saved the Union* (New York, NY: Anchor Books, 2013), 187-188; Grant, *Personal Memoirs*, 191-192; William S. McFeely, *Grant A Biography* (New York, NY: Norton & Company, 1981), 115.

while the South could choose to act defensively. It merely had to avoid losing. The Union initially opted for a strategy of gradual pressure along the entire Confederacy to force it to spread their fewer forces along their entire perimeter. The build-up of Union land and naval forces would then gain superior strength to invade the South on a broad front. Such a strategy demanded patience that was in short supply in the North. The perception of a short Napoleonic war of decisive battles prevailed. The result was humiliation in the opening battles and three years of indecisive action in the east.²⁵⁰ The large territory and navigable rivers in the west, conversely, allowed for Union forces slowly but surely to penetrate the Confederacy, river by river and fort by fort.²⁵¹

Strategy depended on steam and steel. Railways allowed for strategic movement of large forces, which could be sustained by those same railways. Similarly, steamships could navigate oceans and rivers independent of wind and currents and maintain an effective naval blockade. Naval forces could provide force projection, combat power, and logistics in support of land forces. Strategic manoeuvre was thus dependent on steam and steel and made Jomini's doctrine of interior lines strategically irrelevant. The more extensive and superior railway system of the Union facilitated a more rapid movement of troops around the Confederacy compared to the movement of forces within the Confederacy.²⁵²

Two campaigns will be examined and compared to illustrate how operational elements were emerging in the American Civil War. The first is the Confederate invasion of Pennsylvania, culminating with the battle of Gettysburg. The second is the Union efforts to gain control over the Mississippi. Both campaigns have been introduced as examples of early operational art. Furthermore, operational elements will be considered to assess this claim.²⁵³

²⁵⁰ Weigley, *The American way of war: a history of United States military strategy and policy*, 92-97.

²⁵¹ *Ibid.*, 118-125.

²⁵² Christopher R. Gabel, *Railroad Generalship: Foundations of Civil War Strategy* (Fort Leavenworth, KS: U.S. Army Command and General Staff College, 1997), 6-7.

²⁵³ Grant, "Operational Art and the Gettysburg Campaign."; Paul L. Schmelzer, "Politics, Policy, and General Grant: Clausewitz on the Operational Art as Practiced in the Vicksburg Campaign," in *The Vicksburg Campaign, March 29-May 18, 1863*, ed. Steven E. Woodworth and Charles D. Gear (Carbondale, IL: Southern Illinois University Press, 2013).

Gettysburg

The battle of Gettysburg from 1 to the 3 July 1863 is the most iconic battle of the Civil War and a source of controversies over why the South lost the war.²⁵⁴ The campaign leading up to the battle has, on the one hand, been presented as an example of early American operational art and on the other, been criticised for failing to meet the criteria for operational art.²⁵⁵ The Confederate Army of Northern Virginia had inflicted a severe defensive defeat on the Union Army of the Potomac at Fredericksburg in December 1862 and, despite being outmanned and out-maneuvred at Chancellorsville in early May 1863, counter-attacked and forced the Union forces to retreat.²⁵⁶ General Robert E. Lee, commander of the Army of Northern Virginia, was again victorious against a stronger enemy. The army itself was as confident as Napoleon's *Grande armée* had been before Jena-Auerstedt in 1806.

The strategic rationale for the Confederate offensive in the eastern theatre the summer of 1863 was to manoeuvre the Army of Northern Virginia deep into Union territory and defeat the Union Army of the Potomac on northern soil. The assumption was that a Union defeat on northern territory would cause a political shift that would force the U. S. Government into peace negotiations. There were even ambitions to destroy the Army of the Potomac, the Union's main army in the east. The strategic aims were ambitious on a political scale, while the mean was the Napoleonic decisive victory. One of the controversies is over the alleged assumption that the battle was to be tactically defensive and forcing the Army of the Potomac to attack the Confederates in prepared positions. The outcome would be considerable Union casualties and a weakened army vulnerable to a determined counter-attack.²⁵⁷ This risky strategic option was also necessitated by the precarious supply situation, since the Confederate resource base was approaching exhaustion. The South could not sustain a long war.²⁵⁸ Lee was seeking to end the war by a decisive battle that would secure acceptable peace

²⁵⁴ See Alan T. Noland, *Lee Considered* (Chapel Hill NC: The University of North Carolina Press, 1991), 169-170; William Garrett Piston, *Lee's Tarnished Lieutenant* (Athens, GA: University of Georgia Press, 1987), 62-65, 104-136; Jeffrey D. Wert, *General James Longstreet* (New York: Simon & Schuster, 1993), 293-297, 422-423.

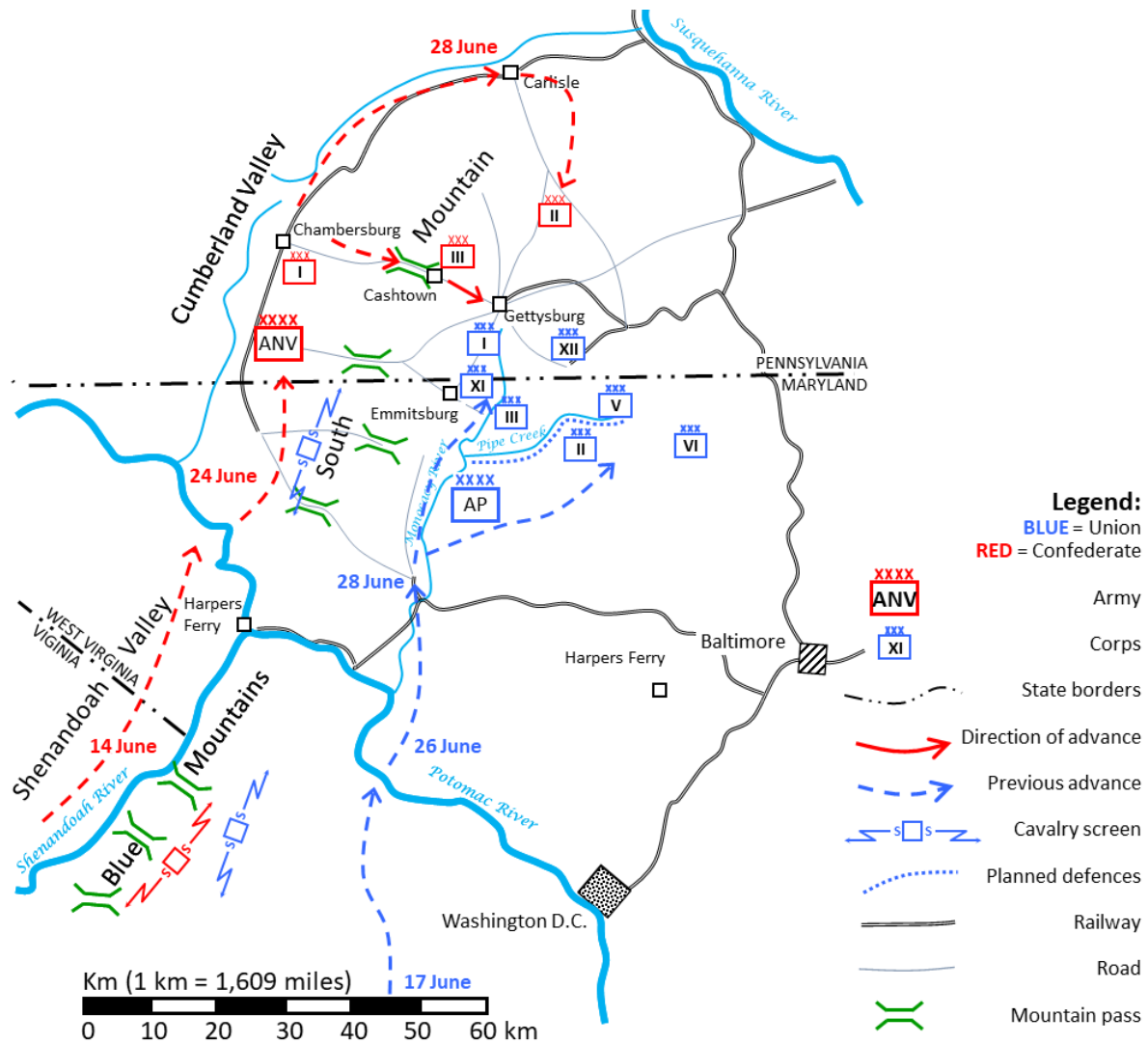
²⁵⁵ Grant, "Operational Art and the Gettysburg Campaign."; Kevin B. Marcus, *The Gettysburg Campaign: Birth of the Operational Art?* (Fort Leavenworth, KS: U.S. Army Command & General Staff College, 2001).

²⁵⁶ Weigley, *A great Civil War*, 194, 224-230.

²⁵⁷ Wert, *General James Longstreet*, 244-247, 257-261, 283.

²⁵⁸ Timothy H. Donovan Jr. et al., *The American Civil War*, ed. Thomas E. Griess, The West Point military history series (Wayne NJ: Avery publishing group, 1987), 145-148; Hagerman, *The American Civil War and the Origins of Modern Warfare*, 135-137; Emory M. Thomas, *Robert E. Lee A Biography* (New York, NY: W. W.

terms for the Confederacy. Such a strategy might have succeeded against an *ancien régime* autocrat. However, when faced with an elected president backed by popular assemblies and an industrialised society, it stood far less of a chance.²⁵⁹



Sketch 2.2. The Gettysburg Campaign. Operations (marches) late June and dispositions on 30 June, the day before the battle began and intended Union defences along Pipe Creek.²⁶⁰

Lee's first units left their fortifications around Fredericksburg on 3 June. Within a week the entire army entered the Shenandoah Valley by dispersed corps columns, foraging as it went to ease the logistical burden. Confederate cavalry screened the movement for the first two weeks while Lee slipped behind the mountains that shield the valley from the east. The Union Army

Norton & Company, 1995), 288-289; Weigley, *A great Civil War*, 229-230, 236-237; Wert, *General James Longstreet*, 243-247.

²⁵⁹ Weigley, *A great Civil War*, 255-256.

²⁶⁰ Thomas E. Griess and Edward J. Krasnoborski, *Atlas for the American Civil War*, ed. Thomas E. Griess, The West Point military history series (Wayne NJ: Avery publishing group, 1986), map 34a, 34b; Donovan Jr. et al., *The American Civil War*.

of the Potomac hesitated until it became apparent what Lee was up to and began to move north on 14 June in parallel with the Confederates, while protecting Washington D.C. as it marched. While Confederate cavalry left the army on a raid around the Union army, Union cavalry protected the advance and conducted reconnaissance. After the Army of Northern Virginia entered Pennsylvania, the three corps moved on diverging axes towards the east to gather supplies and forage. Union corps followed suit and when Lee became aware of the Union pursuit on 28 June, he ordered the scattered units to concentrate at the strong defensive terrain around Cashtown. Gordon Meade, the newly appointed commander of the Army of the Potomac, on 30 June ordered a defensive position along Pike Creek to be reconnoitred and to advance on 1 July on Gettysburg with two corps and proceed with one corps to Emmitsburg. The next day Confederate units searching for shoes clashed with Union cavalry just northwest of Gettysburg and initiated the battle by chance.²⁶¹

The first day of the Battle of Gettysburg began as a meeting engagement that expanded as more forces entered the field. The Confederate corps were already marching towards Gettysburg to concentrate and were within supporting distance of one another, while the Union corps arrived piecemeal as the fighting escalated. Lee won the battle on 1 July by default, since he forced the Union forces to retire. The lead Union corps established itself and built fortifications on the hills and ridges southeast of the town. Lee had seized Gettysburg by nightfall and had occupied the fields to the west, but did not press the attack to prevent the enemy from entrenching. Lee discussed further options with his corps and division commanders. Nevertheless, and despite opposition, he decided to attack the Union left the next day. Meade arrived late in the evening to find two of his corps occupying strong defensive positions and the other five corps on the road. Lee may have won the day but lost the battle when he allowed the Army of the Potomac to fortify the high ground. The Yankees out-generaled Lee and turned his strategy upside down by adopting the tactically defensive and forcing the Rebels to attack prepared positions.²⁶²

During the night and the early morning on 2 July, the Army of the Potomac had six out of its seven corps deployed along the hills and ridges southeast of Gettysburg and Meade

²⁶¹ *The American Civil War*, 148-157; Hagerman, *The American Civil War and the Origins of Modern Warfare*, 135-137; Thomas, *Robert E. Lee A Biography*, 290-294; Weigley, *A great Civil War*, 236-241; Wert, *General James Longstreet*, 250-256.

²⁶² Donovan Jr. et al., *The American Civil War*, 157-159; Thomas, *Robert E. Lee A Biography*, 294-296; Weigley, *A great Civil War*, 241-247; Wert, *General James Longstreet*, 256-259.

outnumbered Lee 85,500 to 75,000 troops. Over the next two days, Lee launched two main corps size attacks against the entrenched Union troops but failed to dislodge the defenders. The outcome was nothing but mounting Confederate casualties. By 3 July, the Army of Northern Virginia had lost more than one-third of its soldiers. It had depleted its ammunition and other supplies, leaving Lee with no other option than to call off the offensive and return south.²⁶³

The Confederate invasion of the North, the conduct of the battles around Gettysburg and especially the roles of the different southern commanders have been subjected to criticism. Also, Meade's reluctant pursuit attracted its share of critique.²⁶⁴ The invasion of Pennsylvania displayed the features of a high-risk enterprise moulded on Napoleon's great campaigns. The Confederate attacks were executed with the same determination and drive that had made Lee the master of the eastern battlefields the previous year. The strategic conduct of the offensive was according to the text-book: the purpose of the campaign, its political implications, and the role of operations and battles. Operations were conducted according to American interpretations of Jomini's theories. They were elements of a campaign and were about moving an army, or another large force, to out-manoeuve the enemy and bring him to battle.²⁶⁵

Lee's Gettysburg campaign was strategically sound according to doctrine, but the doctrine based on Napoleon was overtaken by the societies that waged war, especially the industrialised North. Superb tactical conduct might have given Lee a battlefield victory, but probably a pyrrhic victory, which the Confederacy would not have been able to exploit for purely logistical reasons. In any case, any Confederate victory in the east would have been outweighed by the surrender of Vicksburg on the Mississippi River on 4 July.

²⁶³ Donovan Jr. et al., *The American Civil War*, 159-164; Thomas, *Robert E. Lee A Biography*, 297-301; Weigley, *A great Civil War*, 246-253; Wert, *General James Longstreet*, 260-293.

²⁶⁴ Donovan Jr. et al., *The American Civil War*, 164-165; Hagerman, *The American Civil War and the Origins of Modern Warfare*, 141-148; Weigley, *A great Civil War*, 253-256.

²⁶⁵ Halleck, *Elements of Military Art and Science*, 37-45, 56-57.

Vicksburg

Vicksburg was the final obstacle in an almost two-year-long struggle to control the Mississippi River and its hinterland. By early June 1862, Union forces had secured the Tennessee and Cumberland Rivers, gained control over Memphis and New Orleans, and destroyed Confederate naval forces in the west in the process. Vicksburg was the only remaining Confederate fortified site that prevented Union control over the Mississippi, which would have divided the Confederacy and prevented supplies from its western parts from reaching its heartland. The struggle over the next 12 months to capture the fortress of Vicksburg is a revealing example of the interaction between technology, terrain, infrastructure, and armed forces. The Union commander was Ulysses S. Grant; a West Point educated general that had never spent much time reading Jomini.²⁶⁶

Grant grew up in Ohio and was in 1839 told by his father that he had been appointed as a cadet to the US Military Academy West Point. He was commissioned in the infantry and fought in the Mexican War from 1846-1848.²⁶⁷ He later left the army and struggled in civilian life until he was appointed a colonel and regimental commander in 1861. His first major actions were at Fort Henry and Donaldson on the Tennessee and Cumberland Rivers. He was surprised as an army commander at Shiloh on 6 April 1862 but managed to halt the Confederate assault and counter-attack the next day. He was criticised after the battle, partly set aside and granted a month's leave. He was convinced by his friend General William T. Sherman to stay. When there were demands for Grant's removal, President Lincoln reportedly said: "I can't spare this man; he fights". Grant was reinstated as commander of the Army of Tennessee in the autumn 1862 and Vicksburg on the Mississippi gradually became an objective.²⁶⁸

The Mississippi and the adjacent land areas were challenging environments in which to sustain and operate large forces. The river itself was capricious; consequently, its frequent

²⁶⁶ Brands, *The Man who Saved the Union*, 221-222; Brinton, *Personal Memoirs*, 239; F. C. Fuller, *The generalship of Ulysses S. Grant* (New York: Da Capo Press; repr., 1991), 185-186; Christopher R. Gabel, *The Vicksburg Campaign - November 1862–July 1863*, *The U.S. Army Campaigns of the Civil War* (Washington, D.C.: Center of Military History United States Army, 2013), 9-12; Gat, *A history of military thought*, 292; Weigley, *A great Civil War*, 169, 175, 259-260. See also Grant's own comments on the study of tactics: Grant, *Personal Memoirs*, 128-129.

²⁶⁷ Brands, *The Man who Saved the Union*, 7-54, ; McFeely, *Grant A Biography*, 6-40.

²⁶⁸ Brands, *The Man who Saved the Union*, 158-192; McFeely, *Grant A Biography*, 97-123.

flooding made operations on or near the river unpredictable. Several attempts to dig canals to bypass enemy fortifications failed because of changes in the water level. The adjacent terrain was almost impassable through intersecting rivers, streams, bayous, and swamps. The overland manoeuvre was very challenging, so land forces operating along the river were dependent on river transport for supplies. When armies moved inland, they risked outrunning their logistical support and being intercepted by enemy cavalry. On the other hand, the area of operations also allowed for close cooperation between land and naval forces and would permit commanders to cooperate in joint operations. When the Confederacy lost its entire fleet of warships on the Mississippi, it had only land forces and fortifications to counter the joint operations of the Union Army and Navy.²⁶⁹

During the Vicksburg campaign, Grant was in command of the Army of Tennessee numbering more than 60,000 troops organised in three corps.²⁷⁰ Rear Admiral David D. Porter commanded the Mississippi River Squadron of about 60 steam-powered armoured warships designed for riverine operations, in addition to troop transports and auxiliary vessels. The Confederate Lt. Gen. John C. Pemberton commanded the Department of Mississippi and East Louisiana. He had five divisions totalling 43,000 troops at the most, but no corps headquarters to lead the troops in the field and no naval forces to navigate the rivers.²⁷¹

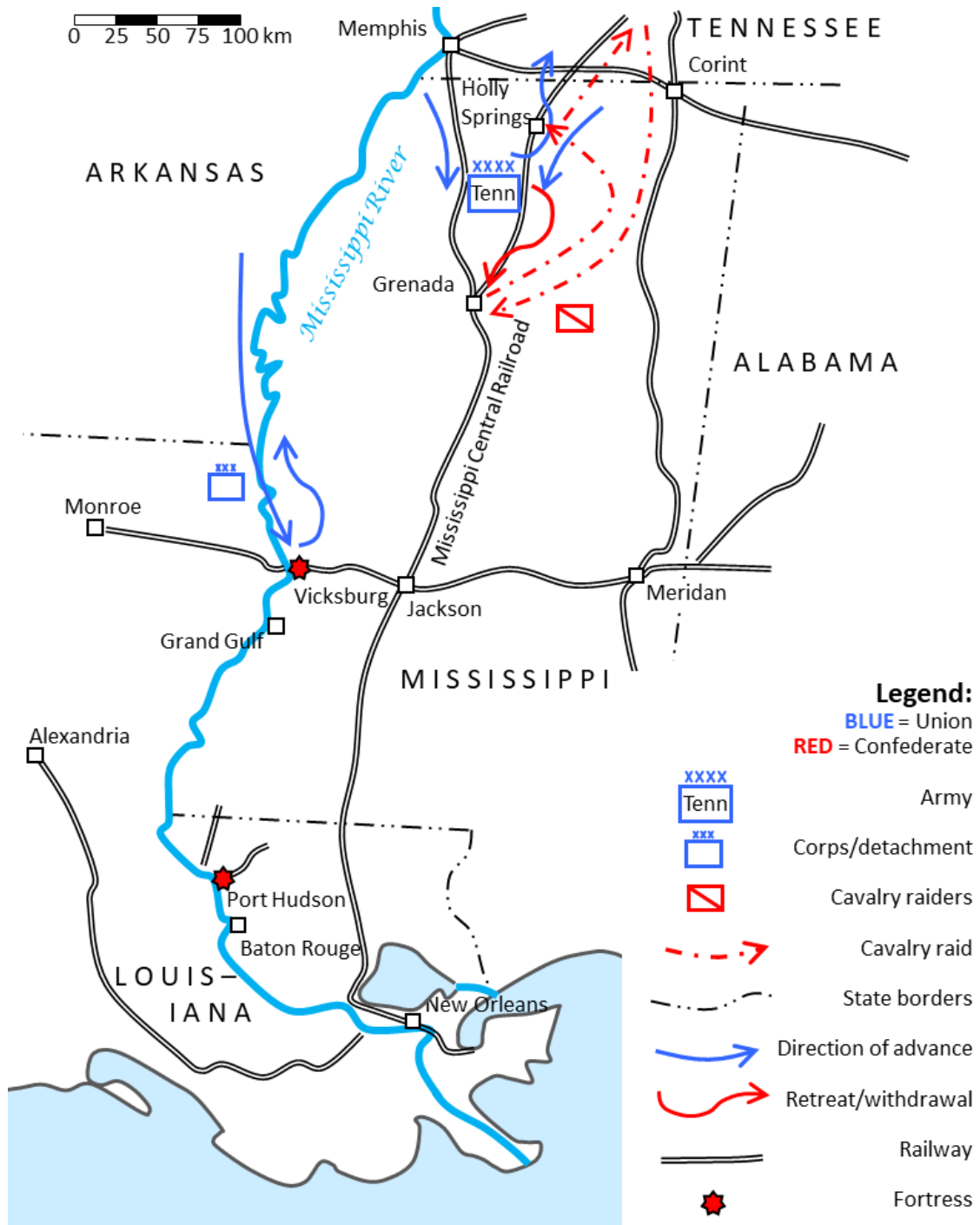
The first attempt made against Vicksburg moved out from Western Tennessee on 26 November 1862 along the Mississippi Central Railroad. The aim was to outflank the Vicksburg river fortifications and attack them from the rear over land, an approach that had been successful along other rivers the previous year. The overland advance was supplemented by an expedition down the Mississippi to make a two-pronged assault. The overland manoeuvre was cut short when Confederate cavalry raided railways and supply depots in the Union rear. Furthermore, the river expedition made no headway against enemy defences north of Vicksburg. Grant pulled out most of his land force from Tennessee on 30 January 1863 and assembled his army in a staging area upstream from Vicksburg. He also took advice from

²⁶⁹ Michael B. Ballard, *Vicksburg : the Campaign That Opened the Mississippi* (Chapel Hill N.C.: The University of North Carolina Press, 2004), 1-5; Kendall D. Gott, *Where the South Lost the War* (Mechanicsburg PA: Stackpole Books, 2003), 21-33; Weigley, *A great Civil War*, 151-157, 165-166.

²⁷⁰ The literature varies from 48,000 with “substantial reinforcements” underway (Donovan Jr. et al. 71) to “recruit swollen army of 72,000 men” (Hagerman, 189).

²⁷¹ Donovan Jr. et al., *The American Civil War*, 63-65, 70-71; Gabel, *The Vicksburg Campaign - November 1862–July 1863*, 14-18; Hagerman, *The American Civil War and the Origins of Modern Warfare*, 185-189; Weigley, *The American way of war*, 259-261.

trusted subordinates to personally lead the entire campaign himself, instead of having a separate commander for the river advance.²⁷²

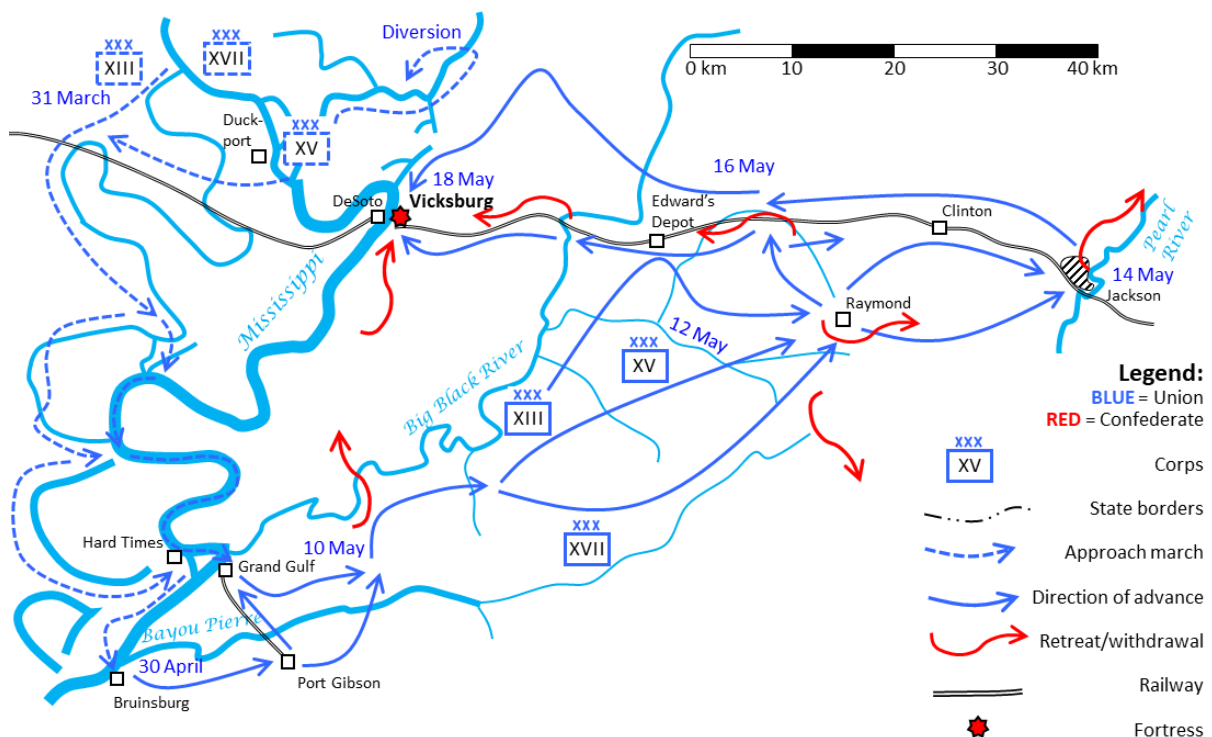


Sketch 2.3. The Mississippi River. The theatre of operations, the central infrastructure of the Vicksburg Campaign, and initial operations from November 1862 to January 1863.²⁷³

²⁷² Ballard, *Vicksburg : the Campaign That Opened the Mississippi*, 79-158; Brands, *The Man who Saved the Union*, 223-225; Donovan Jr. et al., *The American Civil War*, 71-74; Gabel, *The Vicksburg Campaign - November 1862–July 1863*, 18-26; Hagerman, *The American Civil War and the Origins of Modern Warfare*, 189-192; Weigley, *A great Civil War*, 261-263.

²⁷³ Ballard, *Vicksburg : the Campaign That Opened the Mississippi*, 2; Griess and Krasnoborski, *Atlas for the American Civil War*, map 19a, 19b.

Grant made five more attempts to circumvent Vicksburg by land and water during the three winter months of rain and flooding, but none made any progress in the face of a capricious river and enemy actions. Disease and poor sanitary conditions increased the number of casualties. Grant pressed on to escape the deadlock. When the flooding season was over by mid-April, Grant's forces were making their way southwards overland on the western bank, out of range of Vicksburg's observation and artillery. Admiral Porter managed to force a passage of the Vicksburg defences with enough naval forces to allow the transport of Grant's army across the Mississippi River and provide fire support. Grant staged diversions directly against Vicksburg and by a cavalry raid through Mississippi and into Louisiana, all to keep the Confederates' attention away from the advance by his main force. The first units were landed on the eastern bank on 30 April and fought off the Confederate forces sent to oppose them. Grant's army was consolidated and resupplied on 9 May, ready to move out of the bridgehead.²⁷⁴



Sketch 2.4. The Vicksburg Campaign. Operations from late March to 4 July 1863.²⁷⁵

²⁷⁴ Ballard, *Vicksburg: the Campaign That Opened the Mississippi*, 156-250; Brands, *The Man who Saved the Union*, 226-234; Donovan Jr. et al., *The American Civil War*, 74-104; Gabel, *The Vicksburg Campaign - November 1862-July 1863*, 26-41; Hagerman, *The American Civil War and the Origins of Modern Warfare*, 199-200; Weigley, *A great Civil War*, 263-267.

²⁷⁵ Ballard, *Vicksburg: the Campaign That Opened the Mississippi*, 222; Gabel, *The Vicksburg Campaign - November 1862-July 1863*, map 4, 32-33; Griess and Krasnoborski, *Atlas for the American Civil War*, map 20, 21a.

Within the next week and a half, Grant had moved his three corps towards Jackson, captured the city, and isolated the Vicksburg garrison from the rest of the Confederacy. He then outmanoeuvred and fought off Confederate reinforcements that in total outnumbered his own forces. By the third week after breaking out of the bridgehead, Grant had surrounded Vicksburg and launched two failed assaults against its land-side fortifications. After a month and a half of siege and constant artillery bombardment from land and the river, Vicksburg surrendered on 4 July 1863. Soon after, Port Hudson just north of New Orleans surrendered. The entire Mississippi was in Union hands, dividing the Confederacy.²⁷⁶

Grant's operations against Vicksburg can be reviewed in the framework of operational art for some telling reasons. Grant was commander of the Union Army of the Tennessee in the west and responsible for a part of the Western Theatre. The campaign was directed towards an intermediate strategic objective, both for the USA and the Western Theatre: to open the Mississippi and divide the Confederacy. The Vicksburg campaign was not to win the war by itself but was a deliberate step towards the intermediate objective of splitting the western states from the Confederate centre. The close cooperation between the army and the Navy resembled a twentieth-century joint operation and also "looks like" modern operational art.²⁷⁷ Similarly, to quote Svechin, the final operation combined manoeuvre, battles, and sustainment into "a whole series of tactical missions and a number of logistical requirements."²⁷⁸ Ballard's comment that the Vicksburg campaign "is, in a sense, a victim of its length, scope and complexity" indicates how modern the campaign was compared to the relatively straightforward and Napoleonic campaigns and battles in the east.²⁷⁹

The Gettysburg campaign was, by contrast, almost pre-modern in its origin and execution. Lee's deception and screened strategic invasion of Pennsylvania mirror Napoleon's *Grande Armée* at its best. The Army of Northern Virginia manoeuvred as a *bataillon carré* ready to concentrate when called upon. The purpose of the campaign was to conclude the war on terms that would keep the Confederacy independent. Its means was the decisive battle. Grant had

²⁷⁶ Ballard, *Vicksburg : the Campaign That Opened the Mississippi*, 251-413; Brands, *The Man who Saved the Union*, 234-245; Donovan Jr. et al., *The American Civil War*, 105-119; Hagerman, *The American Civil War and the Origins of Modern Warfare*, 200-207; Weigley, *A great Civil War*, 266-270.

²⁷⁷ A joint operation is an operation "in which elements of at least two services participate." NATO, *AJP-01(E)VI: Allied Joint Doctrine*, LEX-5.

²⁷⁸ Ballard, *Vicksburg : the Campaign That Opened the Mississippi*, 72-73; Svechin, *Strategy*, 69; Weigley, *A great Civil War*, 167.

²⁷⁹ Ballard, *Vicksburg : the Campaign That Opened the Mississippi*, 430.

already discarded any thought of decisive victory by battle the previous year. Instead, he conducted parallel and sequenced operations to bring the superior resources of the Union to bear and destroy the Confederate armies and the society that sustained them.

The Vicksburg campaign and its operations were modern in their role in the overall strategy of how to conduct industrialised war. The operations utilised the means provided by technology and industry to accumulate the “series of tactical missions” into operational objectives as steps towards the purpose of the campaign. Despite Weigley’s criticism, the Union army in the west demonstrated a series of pragmatic adaptations that were better suited to the character of industrialised people’s war than those of their enemies. The campaign and operations also contained operational elements that distinguished them from the contemporary Napoleonic ideal.

War on enemy morale and resources

Grant was made Commander in Chief of the Union Army in 1864. Sherman was appointed commander of the western theatre, which mirrored a twentieth-century army group and included several armies. The command relations were stated in two letters, which were

all the orders [Grant] ever made on this particular subject, and these, it will be seen, devolved on me the details both as to the plan and execution of the campaign by the armies under my immediate command.²⁸⁰

Sherman also had been delegated some strategic functions within “the Military Division of the Mississippi” as part of his territorial responsibilities. However, Grant, as Commander in Chief of the Union Army, provided him with the strategic direction for the conduct of operations:

You I propose to move against Johnston’s army, to break it up, and to get into the interior of the enemy’s country as far as you can, inflicting all the damage you can against their war resources.

I do not propose to lay down for you a plan of campaign, but simply to lay down the work it is desirable to have done, and leave you free to execute it in your own way. Submit to me, however, as early as you can, your plan of operations.²⁸¹

²⁸⁰ William Tecumseh Sherman, *Memoirs of General William T. Sherman*, 2 vols., vol. 2 (New York: Da Capo, 1984), Vol. 2, 25.

²⁸¹ *Ibid.*, 26-27.

In early May 1864, Sherman moved towards the Confederate industrial centre of Atlanta. After two months of manoeuvres, counter-manoevres, and a few battles against the Confederate Army of Tennessee commanded by General Joseph E. Johnston, Sherman's three armies were positioned to attack Atlanta. Johnson had tried to force Sherman to attack him in strong positions, while Sherman manoeuvred to turn the enemy's defences. Confederate cavalry was a constant menace to the rail-road, which forced Sherman to deploy security detachments at vital bridges and other crucial stretches of the line. Repair crews were continually working to keep the rail-road open and managed to secure a sufficient flow of supplies to the front.²⁸²

The Union armies began to isolate Atlanta while fighting off fierce counter-attacks from the defenders, from 18 July led by the aggressive General John Bell Hood. Hood wore down his army in the attacks and could not prevent Atlanta from falling on 3 September. Hood and Confederate cavalry moved to attack the rail-road and forced Sherman to fight along large stretches of the line to keep it open. Sherman sent General Thomas with parts of the armies back to secure Memphis and Tennessee and departed Atlanta with the rest of the army on 15 November. The famous "March to the sea" not only destroyed critical resources desperately needed to continue the war, but it was a devastating blow to Confederate morale. On 22 December Sherman occupied Savannah after Confederate forces had evacuated the city. During the winter of 1865, Sherman continued his destructive campaign through the Carolinas before receiving Johnston's surrender at Raleigh on 9 April.²⁸³

Legacy

Like Moltke in the Wars of German Unification, Grant combined strategic and operational functions in his direction and supervision of operations. As theatre commander in the east in 1864 and 1865, Grant directed the operations of Meade and the Army of the Potomac and the other armies in the eastern theatre.²⁸⁴ Sherman, on the other hand, had more freedom of action

²⁸² Donovan Jr. et al., *The American Civil War*, 206-210; Hagerman, *The American Civil War and the Origins of Modern Warfare*, 275-282; Weigley, *A great Civil War*, 358-387.

²⁸³ Burke Davis, *Sherman's March* (New York: Random House, 1988); Donovan Jr. et al., *The American Civil War*, 224-225; Hagerman, *The American Civil War and the Origins of Modern Warfare*; Weigley, *A great Civil War*, 386-396, 416-422.

²⁸⁴ Albert E. Castel, *Decision in the West : the Atlanta Campaign of 1864* (Lawrence: University Press of Kansas, 1992), 62-69; Donovan Jr. et al., *The American Civil War*, 191-197; Hagerman, *The American Civil War and the Origins of Modern Warfare*, 243-253, 275-293; Weigley, *A great Civil War*, 324-330, 358-363.

and did not need close supervision from higher headquarters. Nevertheless, he was operating under Grant and received instructions from and reported to the Commander in Chief.

In 1864 and 1865, Sherman was an operational commander that directed the armies under his command towards intermediate objectives. These objectives were within the strategic direction from Grant, or more precise, the strategic direction Sherman had contributed to develop. Sherman conducted operational art in his operation towards Atlanta and marches through Georgia and the Carolinas. On the other hand, Grant combined the strategic function of directing the entire military effort in the war and the strategic direction of operations in all theatres. In the east Grant also conducted operational art when he oversaw and directed tactical actions by the armies.

Hagerman suggests that while there were lessons from the war that were absorbed, it had limited influence on “European—and, arguably, American—military thought”.²⁸⁵ Given that the US Army spent the next generation in a completely different kind of low-intensity war, fighting Indians in the American West, such an assumption makes sense. What was absorbed was “The Strategic Tradition of U. S. Grant”, which qualified as a chapter title in Russell F. Weigley’s *The American Way of War*. European armies did not, to a large extent, regard the war as relevant. Moltke’s well-known comment that the American armies were only “two armed mobs chasing each other around the country, from which nothing could be learned” is illustrative.²⁸⁶

The American Civil War, in many ways, represents the evolution of warfare in the long century from the French Revolution to the First World War compressed into four years. It started with the quest for the decisive battle to win the war according to the Napoleonic ideal but ended four years later as an industrialised people’s war of exhaustion. There was no Austerlitz on the American continent, but exhaustion, attrition, and extended trench systems. The war was finally won by campaigns that consisted of sequenced operations led by embryonic operational commands. The operations were able to harness tactics to the operational direction, while industrialised logistical system as a norm sustained the armies. The exception was Sherman’s march through Georgia and the Carolinas, where the armies lived off the land. The purpose of the march was at the same time to devastate the interior of

²⁸⁵ Hagerman, *The American Civil War and the Origins of Modern Warfare*, xiv.

²⁸⁶ Groß, *Mythos und Wirklichkeit*, 66; Weigley, *The American way of war*, 312-359.

the enemy to undermine his morale and destroy the resources that sustained the war. The industrial people's war had reached the people that supported it.

Chapter 3: Experience and interpretations of industrialised war

For there can be no question that the histories of different intellectual pursuits are marked by the employment of some "fairly stable vocabulary" of characteristic concepts. Even if we hold to the fashionably loose-textured theory that it is only in virtue of certain "family resemblances" that we are able to define and delineate such different activities, we are still committed to accepting some criteria and rules of usage such that certain performances can be correctly instanced, and others excluded, as examples of a given activity.

Quentin Skinner²⁸⁷

The purpose of this chapter is to illustrate the way operational elements emerged in the mid-nineteenth century and how operational thinking became part of military thought. Operational thinking began piecemeal to complement the established duality of strategy and tactics by exploring the interrelationships between the two. The term operational (German *operativ*) is derived from operation and operate; a term that was used in late nineteenth-century analysis of the Wars for German Unification. For the Germans, an operation was a subordinate element of strategy and was about the movement of forces.²⁸⁸ Nineteenth-century commanders were usually practical and not overly concerned with the nuances of military terminology. Their orders and instructions were normally short and directly related to the task at hand. The sources must be understood in that context and used carefully in the search for meaning in military terms, so as not to end up with “converting some scattered or quite incidental remarks by a classic theorist into his ‘doctrine’ on one of the mandatory themes.”²⁸⁹ The mandatory theme to be aware of in this regard is operational art.

The European and Japanese armies and wars between states are the objects for the analysis of the emergence of operational thought and operational art. The term operation will be the focal point for this chapter, comparable to Gerhard P. Groß’ discussion of the German term *Operation* in relation to strategy and tactics in his book on German operational thought.²⁹⁰ Other terms that may indirectly reveal any operational elements, such as manoeuvre and grand tactics, will be studied to recognise indirectly operational content and context in

²⁸⁷ Skinner, "Meaning and Understanding in the History of Ideas," 5-6.

²⁸⁸ Groß, *Mythos und Wirklichkeit*, 7-11.

²⁸⁹ Skinner, "Meaning and Understanding in the History of Ideas," 7.

²⁹⁰ Groß, *Mythos und Wirklichkeit*, 7-17.

military thought and operations. The sources will be analysed to identify any operational elements in campaigns and operations to validate any assertions of the emergence of operational art.²⁹¹ The interplay between theory and practice will be studied in search of evidence of evolution, continuity, and discontinuity in military thought and practice. The objective is to establish an understanding how the notion of the operational and its practical implications were recognised and developed.

The mass armies that were equipped by the industrialised production of arms and ammunition had changed the physical conditions for warfare that prevailed during the Napoleonic wars. Military bureaucracies of general staffs were established to command and administer the increased complexity of expanding armies. The tactical defence had become stronger than the offence due to the massive increase in firepower. By the end of the century, the breech-loaded rifle had an effective range and rate of fire more than ten times greater than the smoothbore musket of the Napoleonic wars. The extended range exposed the attacking troops to larger volumes of precise fire over a much more extended period. Steel barrelled artillery and high explosives increased even further the lethality of the battlefield. The romantic image of the decisive bayonet charge was still very much alive, even when bayonet charges on the battlefield evaporated in a storm of lead and shrapnel. Attacks required superior firepower to succeed, which demanded much closer cooperation between artillery and infantry. This cooperation needed field headquarters capable of detailed planning and coordination of combined arms combat. Both sides could replace losses in a matter of weeks to restore an army that had lost a battle. Even a victorious army had to replace losses in men and equipment before being able to re-engage. When the tactical defence was reinforced by the increased use of field fortifications and ready-made obstacles, such as barbed wire, the task of the attacker became even more difficult and costly.²⁹²

The capacity for strategic manoeuvre, which in this context meant to manoeuvre the defender's army out of his entrenchments, had to overcome the logistical challenges of sustaining armies more than 100,000 strong. Beyond the railheads, supplies were pulled by

²⁹¹ Echevarria, *After Clausewitz: German military thinkers before the Great War, 188-197*, 208-211; Groß, *Mythos und Wirklichkeit*, 7-17, 85-104; Lloyd, "Allied Operational Art in the Hundred Days, 1918."; Menning, *Bayonets before bullets*, 211-217.

²⁹² Hagerman, *The American Civil War and the Origins of Modern Warfare*, 3-27; Dennis E. Showalter, *The wars of German unification*, Second ed. (London: Bloomsbury Academic, 2015), 45-46, 60-62; Weigley, *A great Civil War*, 32-35.

horses or carried by men, as in the previous centuries. By the end of the American Civil War, field fortifications had become complex trench systems that preceded the Western Front in the First World War by half a century.²⁹³ This section will not delve into details of the wars or campaigns, but rather emphasise elements in warfare that reveal emerging operational elements. Some selected campaigns and operations will be studied to illustrate both change and continuity and how the formative developments that led to operational art became more dominant as the character of warfare developed.

The Wars of German Unification

The Wars of German Unification were limited in scope and size, occasionally described as cabinet wars or modern cabinet wars, but the operations and combat were extensive and intense.²⁹⁴ Nevertheless, the Franco-Prussian War began in the final months to take on the character of an industrialised people's war. These developments signalled how warfare was changing in an age of rising nationalism, technological developments, and industrial development. The armies that fought these wars continued their emphasis on interstate war and analysed the wars to fight future wars. Central themes were the changed tactical conduct that was caused by the massive increase of firepower and the consequences for strategy.

Helmuth von Moltke the Elder was chief of the Prussian Great General Staff. He had never held a field command, but had served in several general staffs in field units. Moltke was educated at the *Kriegsakademie* (Military Academy) when Clausewitz served as director of the General War School. Moltke's interest was geography and he experienced war when he served in the Ottoman army as a captain. He became chief of the Great General Staff in 1857, its first chief with professional general staff training.²⁹⁵

²⁹³ Hagerman, *The American Civil War and the Origins of Modern Warfare*, xi-xiii; Showalter, *The wars of German unification*, 263-273.

²⁹⁴ Stig Förster, "Der deutsche Generalstab und die Illusion des kurzen Krieges, 1871-1914. Metakritik eines Mythos," *Militärgeschichtliche Zeitschrift* 54, no. 1 (1995), 61-72.

²⁹⁵ Arden Bucholz, *Moltke, Schlieffen, and Prussian War Planning*. (New York: Berg, 1991), 31-43; Antulio J. Echevarria, "Helmuth Carl Bernard Graf von Moltke" in David Zabecki, ed. *Chief of Staff: The Principal Officers Behind History's Great Commanders, Napoleonic Wars to World War I* Vol. 1. Annapolis, MD: Naval Institute Press, 2013, 89-94; Groß, *Mythos und Wirklichkeit*, 31-34.

The Austro-Prussian War

The Austro-Prussian war in 1866 followed two years after Austria and Prussia formed the coalition that defeated Denmark. Diplomatic manoeuvring had tied up substantial Austrian forces on the Italian front, leaving Italy to declare war on Austria on 20 July. Prussian strategic planning led by Moltke developed a five-phased war plan that was partly tested during the 1865 fall manoeuvre and in staff rides.²⁹⁶ Moltke adjusted force composition and dispositions as both Austria and Prussia mobilised in the spring of 1866. The railway network was an essential factor in determining the strategic deployment that would provide the three Prussian armies with a head start against their opponent. Prussia had a 9:1 superiority in railways and could mobilise and deploy its army faster than Austria.²⁹⁷

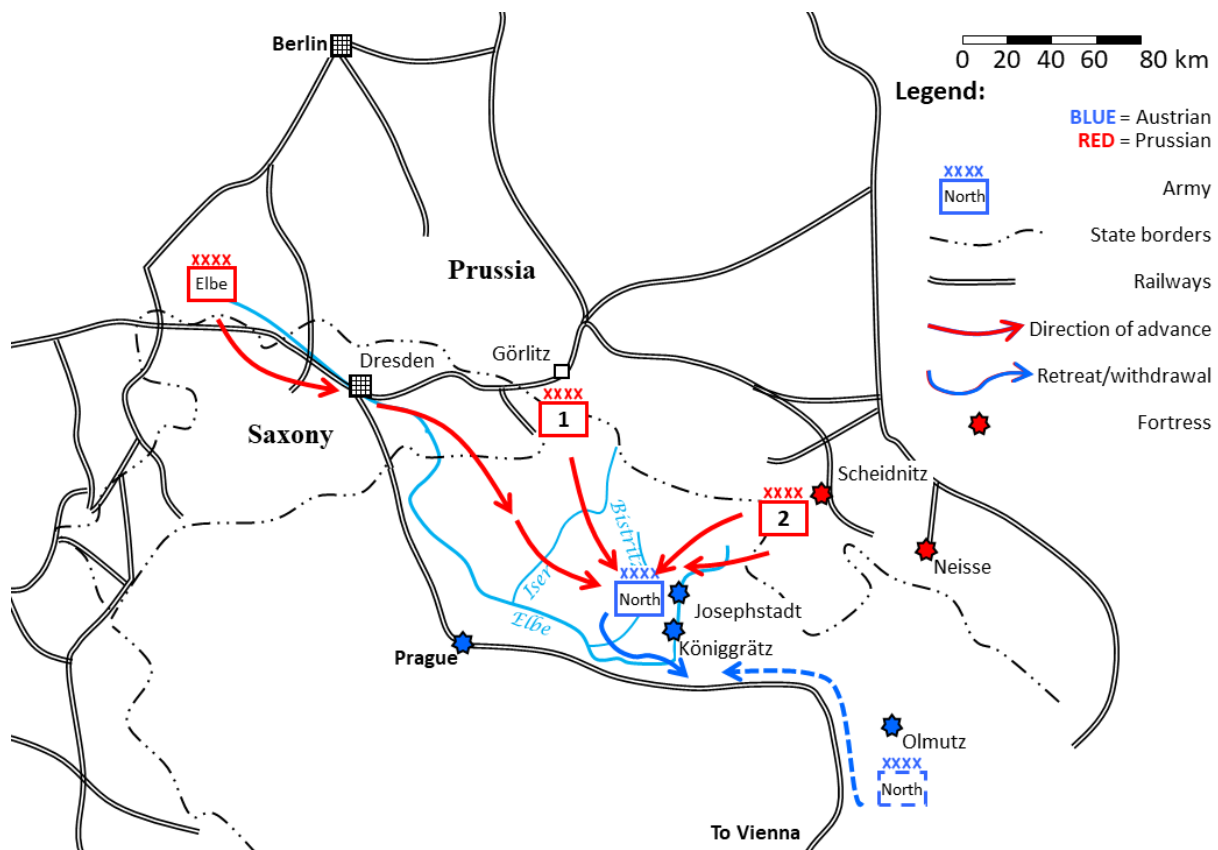
In late July, the Austrian North Army marched along a single railway line towards Saxony, while the three smaller Prussian armies were on the march from their separate railheads. When the Prussian armies moved along a semi-circle towards the Austrian front and flanks, the Austrians established themselves in the defensive terrain northwest of Königgrätz. The Austrian army was defeated on the battlefield on 3 July, but avoided annihilation and retreated from the field. This victory allowed Prussia to secure its political and strategic gains.²⁹⁸

As its chief, Moltke developed and educated the General Staff after he took command. The key task was to plan and prepare future wars well in advance and test the plans in war-games, staff rides, and field exercises (manoeuvres). The idea of pre-planned wars was a fundamentally new way of thinking and gave Prussia a significant advantage during the Wars of German unification. In the decades prior to the First World War, other nations copied the Prussian model and caught up with Imperial Germany.

²⁹⁶ A staff ride was a military exercise by commanders and staff officers where future plans and scenarios were tested in the terrain. A staff ride was often preceded by a map exercise of the same plan or scenario.

²⁹⁷ Bucholz, *Moltke and the German wars, 1864-1871*, 112-121; Groß, *Mythos und Wirklichkeit*, 48-50; Showalter, *The wars of German unification*, 142-148, 152, 160-161; Michael D. Krause, "Moltke and the origins of the operational level of War," in *Historical perspectives of the operational art*, ed. Michael D. Krause and R. Cody Phillips (Washington: Center of Military History, United States Army, 2005), 119-123.

²⁹⁸ Bucholz, *Moltke and the German wars, 1864-1871*, 131-137; Groß, *Mythos und Wirklichkeit*, 48-50.



Sketch 3.1. The Prussian operations against Austria's North Army. Railways and prominent features in the theatre of operations. Operations (marches and advances) by the armies.²⁹⁹

The Prussian campaign consisted of an initial mobilisation and strategic deployments by rail to three jumping-off positions along a 250 km stretch of railway, followed by operations (marches) to bring the armies to converge at the field of battle.³⁰⁰ The campaign and operations were directed by Moltke and supported by the “mobile General Staff”, a nucleus of key senior officers. Orders to the subordinated forces were transmitted by telegraph to field commanders, who were already familiar with the planning and preparations of the previous years’ war games and staff rides.³⁰¹ Moltke directed the Battle of Königgrätz from a small hill approximately 3 km from the actual fighting and aimed to encircle the Austrian army. As the third of the Prussian armies arrived on the Austrian right flank at 14:00 hours, the Prussian concentration was complete. The Austrians were forced to fight simultaneously on both flanks and as well at the front. Nevertheless, Moltke failed to drive his forces to enforce the encirclement. Chaotic battle conditions, insubordinate commanders, communication errors,

²⁹⁹ *Mythos und Wirklichkeit*, 38; Showalter, *The wars of German unification*, 164, 177.

³⁰⁰ Groß, *Mythos und Wirklichkeit*, 58.

³⁰¹ Bucholz, *Moltke and the German wars, 1864-1871*, 112-121; Krause, “Moltke and the origins of the operational level of War,” 121-123; Aleksandr A. Svechin, *Evolyuiciya voennogo iskusstva* [The evolution of the art of war], 2 vols., vol. 2 (Moscow: Vosotk Vestnik, 1927), 164.

and the intermingling of different units made it impossible to direct the fighting from the top.³⁰²

The major divergence from the Napoleonic strategic pattern was first and foremost that the entire Prussian campaign was pre-planned, analysed by the General Staff, and tested in war games and staff rides.³⁰³ Another notable difference was the deliberate concentration of the converging armies during the battle and not before. The norm of the Napoleonic wars was to concentrate the army before the battle, although there were exceptions. This issue of concentration before or during the fighting became an important matter in the post-war German military debate. The critical tactical point is that the battle was decided solely by superior Prussian firepower, so there was no need for a final bayonet charge to drive home the victory. The Prussian breach-loaded Dreyse rifles outclassed the Austrian muzzle-loaders in rate of fire, precision, and range.³⁰⁴ The Austrian's insistence on shock tactics relegated them to "an "obliging enemy"—an enemy who not only makes errors, but of his own volition makes the kind of errors that maximise his opponent's advantages."³⁰⁵

The role of the railways and Moltke's command arrangements were both operational elements that signalled a different way of waging war. The introduction of command by directive increased subordinate commanders' responsibility and their need to know the overall picture to understand the commander's intent. This combination allowed, to a certain degree, commanders to act on their own initiative as long the direction of the action was within the overall intent. The railways played an increasingly important role in the US Civil War, but the Prussian use of railways both to mobilise the armies and then move them to widely separated assembly areas for a coordinated approach march towards the enemy, gave the railways a direct role in the conduct of operations. The railways increased not only the speed and volume of the mobilisation and initial deployments but also the speed of the operations themselves.

³⁰² Bucholz, *Moltke and the German wars, 1864-1871*, 131-137; Krause, "Moltke and the origins of the operational level of War," 123; Showalter, *The wars of German unification*, 157-192.

³⁰³ Bucholz, *Moltke and the German wars, 1864-1871*, 54-61, 69-71, 106-113.

³⁰⁴ Ibid., 24; Michael Eliot Howard, *The Franco-Prussian War: the German invasion of France, 1870-1871* (London: Rupert Hart-Davis, 1961), 57-76; Showalter, *The wars of German unification*, 165-166; Aleksandr A. Svechin, "Voyennoye iskusstvo " in *Postizheniye voyennogo iskusstva: Ideynoye naslediyeye A. Svechina* [Comprehension of the art of war: the Ideological heritage of A. Svechin], ed. A.E. Savinkin (Moscow: Russkiy put', 2000), 59.

³⁰⁵ Showalter, *The wars of German unification*, 195.

Operations were about manoeuvring the armies to the battlefield. The net result was that the Prussians could concentrate their armies and bring superior firepower to bear on the field of battle to enforce a decision. The plan was then to supply the armies by rail, but the war ended before the already strained logistical system was put to the test.³⁰⁶ Königgrätz turned out to be the decisive event in the theatre and shared many characteristics of a pre-industrial battle. However, the events on the Prussian side that were leading up to the battle reveals some operational elements that, at least in hindsight, brings to light how industrialised warfare was taking shape.

The Franco-Prussian war

By early August 1870, the Prussians had won the mobilisation race in the Franco-Prussian War, just over two weeks after the French declaration of war. Moltke had three armies totalling 320,000 battle-ready troops on the French border, while more were on their way. While Prussia had to mobilise its reserves, France had a regular army that in principle, could mount a campaign without a lengthy mobilisation. Such an immediate invasion was also what the Prussians feared the most. However, there was no French campaign plan, no plan to assemble the army at the border, and no planning preceding the declaration of war. By the end of July, there were about 150,000 French troops in one army and two separate army corps, all in some state of disorganisation, confronting the growing number of well organised Prussians.

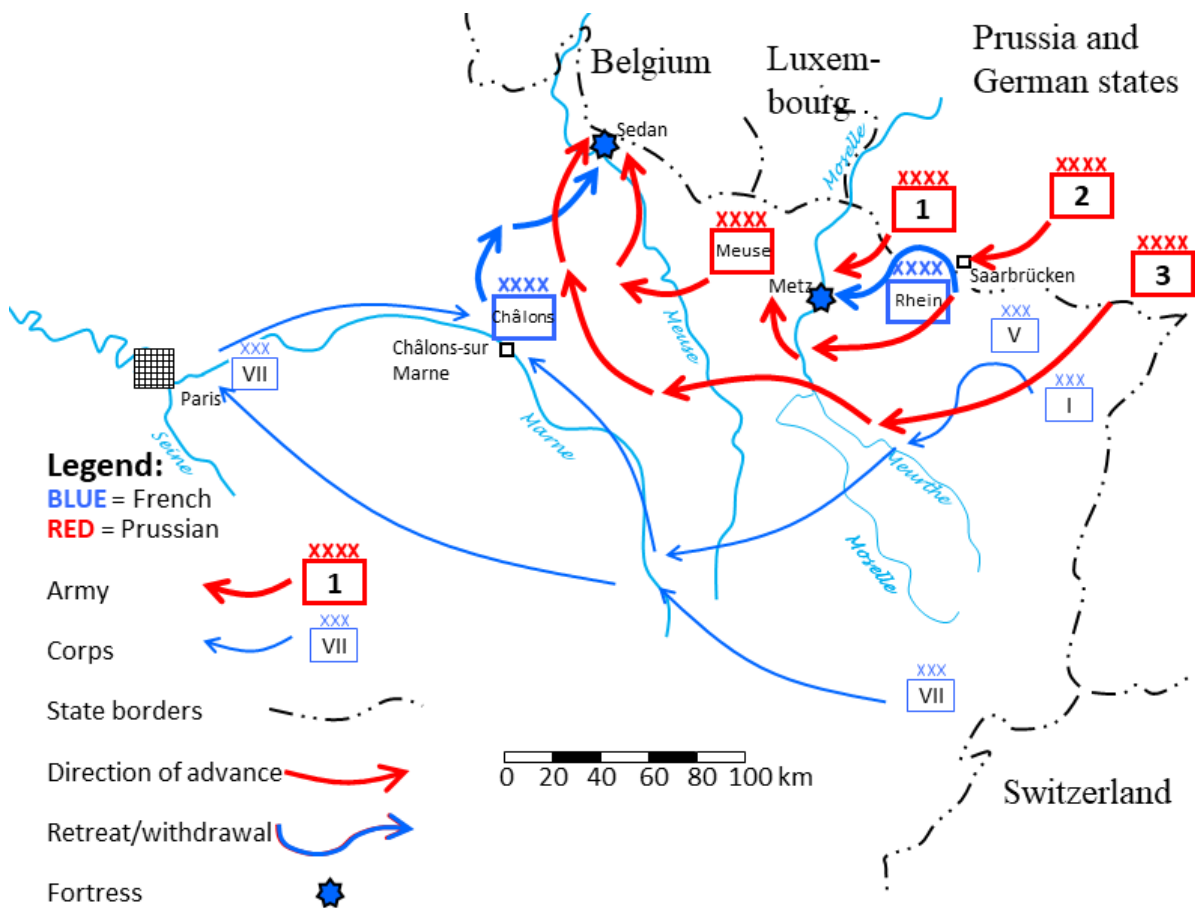
³⁰⁷

If there was no proper planning in the French army, the Prussians had planned, war-gamed, and made preparations well in advance. Moltke began planning for war against France as soon as Austria was defeated four years earlier. The initial preparations were related to different scenarios and wargaming of these in staff rides. Mobilisation plans and the railway travel plans were developed in detail. The plans were based on worst-case scenarios, which would include Austrian participation and would subsequently be adjusted according to the development of the situation. There was no plan for strategic manoeuvre, but a plan for mobilisation and initial deployment. The purpose was to defeat the French army in battle, to

³⁰⁶ Groß, *Mythos und Wirklichkeit*, 37-44; Showalter, *The wars of German unification*, 162.

³⁰⁷ Bucholz, *Moltke and the German wars, 1864-1871*, 156-171; Showalter, *The wars of German unification*, 235-239, 244-245; Geoffrey Wawro, *The Franco-Prussian War : the German conquest of France in 1870-1871* (Cambridge: Cambridge University Press, 2003), 65-84.

break the enemy's will to fight. Victory would be secured by the destruction of the French army, not by the conquest of territory.³⁰⁸



Sketch 3.2. The Franco-Prussian War from July to early August 1870. The main operations and the sieges of Metz and Sedan. The French Army of Châlons was formed on 16 August by reinforcing the strategic reserve. The Prussian Army of the Meuse was formed as a response by detaching three corps from the 1st and 2nd Armies.³⁰⁹

France took the initiative and advanced into Saarbrücken, just across the border, with six divisions on 2 August but retreated two days later under the threat of the Prussian advance. Moltke had deployed the Prussian armies in separate staging areas for logistical reasons and to provide space for manoeuvre. As the armies crossed the border, they were confronted by isolated French army corps that made good use of their superior *Chassepot* rifles, but they were left alone and unsupported. Without reinforcements, the individual French forces were driven off the field by aggressive infantry action supported by superior Prussian artillery. The Prussians adapted and made good use of their artillery to counter the French superiority in

³⁰⁸ Bucholz, *Moltke and the German wars, 1864-1871*, 145-159; Howard, *The Franco-Prussian War*, 41-48; Showalter, *The wars of German unification*, 240-245.

³⁰⁹ Groß, *Mythos und Wirklichkeit*, 50-53; Showalter, *The wars of German unification*, 251, 267-268.

small arms.³¹⁰ The ineptness at the higher French command allowed the Prussians to maintain the initiative and exploit the enemy's weaknesses in command and leadership. As the French disengaged and retired, they allowed Moltke to push his armies into the strategic depth and encircle the main French forces at the fortresses of Metz and Sedan. The Prussian operations were audacious and risky, but the French were unable to exploit the weaknesses exposed by Prussian armies manoeuvring in a dispersed fashion in enemy territory, with open flanks as well as long and vulnerable supply lines open to attack.³¹¹

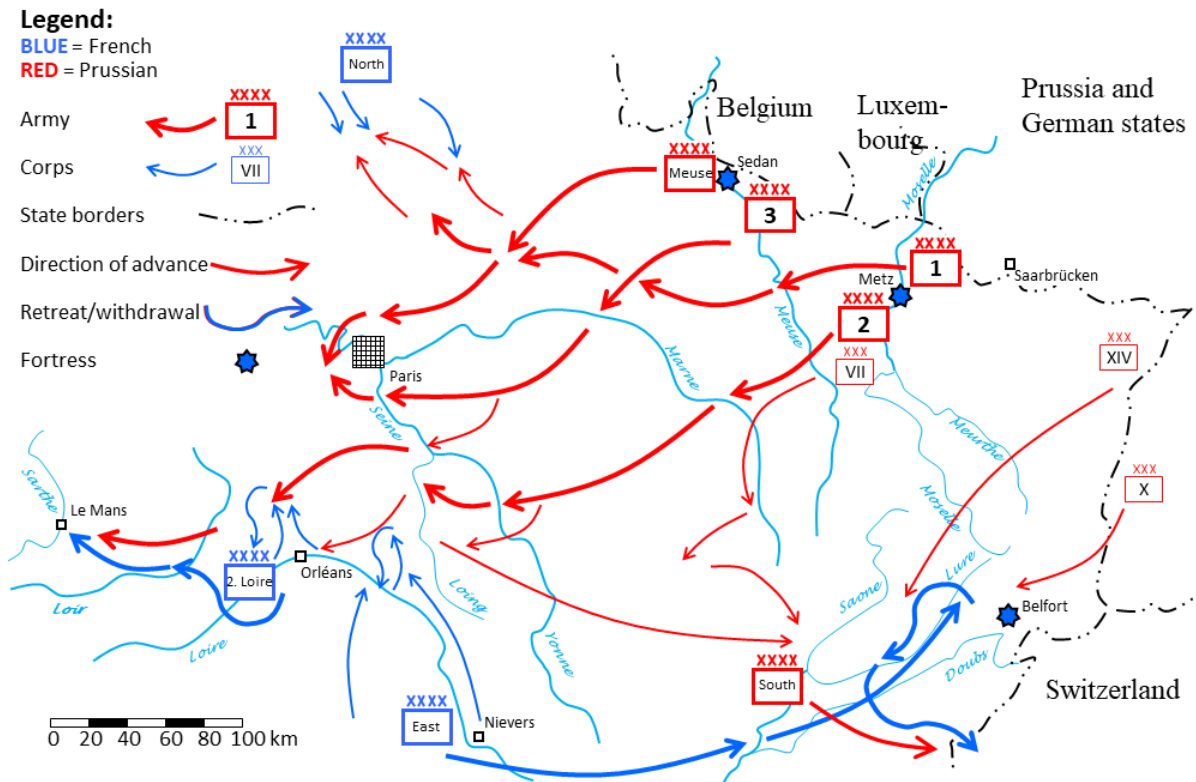
While one French army was surrounded in Metz, the other, together with Emperor Napoleon III, allowed itself to be encircled at Sedan, where it surrendered on 1 September. But in contrast to the battle of Königgrätz, the Prussian victory at Sedan did not decide the war.³¹² Paris received the news the following day. The Emperor was subsequently replaced by a republican government that would continue the war. Paris and its 2 million inhabitants, 400,000 troops, fortifications, and 1300 artillery pieces, made preparations to defend their capital. Negotiations between Prussia and the new French government stalled, so Moltke marched his forces from Sedan to besiege Paris. When Metz surrendered on 29 October almost all of the Empire's army and its hardware were in Prussian hands. The Prussians had achieved their strategic goal of destroying the French armies, but France would not accept defeat. The Republic raised new formations in the provinces, but they lacked experienced officers and veteran soldiers. Besides, due to popular revolts, armed civilians took part in combat alongside the soldiers, which blurred the distinction between soldiers and civilians.³¹³ The character of the war changed from an industrialised cabinet war to an industrialised people's war.

³¹⁰ Wawro, *The Franco-Prussian War*, 306-307.

³¹¹ Howard, *The Franco-Prussian War*, 127-143; Showalter, *The wars of German unification*, 245-267; Wawro, *The Franco-Prussian War*, 195-210.

³¹² Groß, *Mythos und Wirklichkeit*, 50-52; Howard, *The Franco-Prussian War*, 217-225; Showalter, *The wars of German unification*, 267-279; Wawro, *The Franco-Prussian War*, 186-229.

³¹³ Howard, *The Franco-Prussian War*, 224-256; Showalter, *The wars of German unification*, 290-307; Wawro, *The Franco-Prussian War*, 231-256.



Sketch 3.3. The Franco-Prussian War from September 1870 to January 1871. The main operations and the siege of Paris. The new republican government raised new armies. The Prussians responded partly with existing forces and created the Army of the South to deal with the French Army of the East's advance to relieve Belfort.³¹⁴

Moltke kept to his strategic aim of the destruction of the French armies, whether imperial or republican. The surrender of Metz freed up two Prussian armies that were rushed south. Due to the worsening conditions for the besieged Paris, the Republic was forced to use its newly raised forces to relieve the capital instead of severing the exposed Prussian lines of communication, resulting in conventional combat against the battle-hardened regular Prussian armies. There were some raids by irregular forces against railways and supplies, but with negligible effect.³¹⁵ Despite some initial success, the republican forces were defeated as they attempted to relieve Paris and engaged and defeated by renewed Prussian offensives. The rest of the French armies melted away in January 1871. When Paris' defences were destroyed fort by fort by Prussian siege artillery, few French military means were left to continue the war. The capital was also within days of starvation and rebellion. With neither civilian nor military means to continue, the Republic asked for peace terms.³¹⁶ In the end, Moltke had destroyed

³¹⁴ Showalter, *The wars of German unification*, 281-321; Wawro, *The Franco-Prussian War*, 257-298.

³¹⁵ *The Franco-Prussian War*, 257-280; Showalter, *The wars of German unification*, 313-314.

³¹⁶ Howard, *The Franco-Prussian War*, 357-431; Showalter, *The wars of German unification*, 309-331; Wawro, *The Franco-Prussian War*, 230-298.

the French armies and their will to resist but escaped a war of conquest like the one Union Armies had fought in the previous decade. France was spared a Prussian Sherman that would have waged a destructive scorched earth campaign.

The superiority of infantry fire that the Prussians had benefitted from in the war against Denmark and Austria was reversed against France. The Prussian responses were adaptations in infantry attack tactics and a closer infantry-artillery cooperation. Prussian attacks proved the most successful when the defenders were locked in a gradual frontal assault and enveloped on one or both flanks, similar to Königgrätz. This approach culminated in the complete encircling of the remaining French forces at Sedan.

The French Empire was in dire straits strategically a few days after the declaration of war. The Prussians had planned, war-gamed, and rehearsed war against France since 1866 and mobilisation and deployment went according to plan. The actual conduct of the campaign was not planned. It was conducted according to the strategic aim of defeating the French armies and render France defenceless. The Prussian operations were therefore aimed at the French armies. Moltke aimed to manoeuvre against the enemy's flanks and rear and destroy them in battle. Prussian strategic aggressiveness and risk-taking were assisted by French ineptness and lethargy. When the war became a protracted siege of Paris, the strategic aim remained intact although tactics had been adapted.

In their writings on the German Wars of Unification, Bucholz, Krause, and Showalter discuss Moltke's role in the development of operational art, which Showalter describes as "the shadowy level between strategy and tactics". He further asserts that Moltke's role "is controversial." Moltke was the pragmatist who integrated the current understanding of the nature of war with all the new innovations that modernity had to offer in terms of technology, professionalism, and the bureaucracy of the Great General Staff. Moltke's other contribution to the development of warfare was his clear distinction between war and policy.³¹⁷ Bucholz claims that Moltke, with his mobile General Staff, command apparatus, and supported by the telegraph-based information system, "was forging a new chapter in military history, by defining and illustrating 'operational warfare'."³¹⁸ Krause uses the term operational level in

³¹⁷ Showalter, *The wars of German unification*, 240.

³¹⁸ Bucholz, *Moltke and the German wars, 1864-1871*, 119-121.

his chapter on Moltke, not operational art. He concludes that warfare consists of three levels, “the strategic and tactical levels [...] and the operational level that Moltke conceptualised and situated between the conduct of war and battle.”³¹⁹ Richard Harrison notes that just as in the American Civil War, battles were fought continually in both time and space. One battle would start while another was still being fought. Due to the size of the armies and the substantial space it occupied, an army might enter one battle while simultaneously concluding another.³²⁰

Gerhard P. Groß has a different perspective. He explains that

it was hardly possible during Moltke’s era to make a distinction between operations and tactics, and it was probably not even yet necessary for his contemporaries. This explains the existing confusion of terms, and at the same time makes it clear why it was so difficult to define the new phenomenon precisely.³²¹

Groß underlines that Moltke’s “operational warfare” had its limitations: “Thus, people’s war illustrated that even excellently conducted operational warfare did not guarantee a quick decision of the war.” According to Groß, it is challenging to separate operations from tactics in the German context since the latter was not explicitly defined. Besides, operations were disconnected from strategy and emphasised encirclement and destruction in a short war. This disconnect was made possible because strategic issues related to policy were the realm of the Military cabinet or War Ministry.³²²

To quote Svechin, these “series of tactical missions”³²³ within the same operation were changing the character of the operation. The operation changed from its pre-modern role of being a strategic activity concerned with manoeuvring forces, to include continuous manoeuvring *and* fighting. Continuous battles with modern rapid firing rifles and artillery consumed large amounts of ammunition, which in turn significantly increased logistical demands.³²⁴ The Wars of German Unification were short and limited to the initial campaign, except for the Franco-Prussian War when the Republic replaced the Empire. But even that war ended before its character changed from industrialised cabinet war to industrialised people’s war, comparable to the American Civil War. The Prussian strategic command in the

³¹⁹ Krause, "Moltke and the origins of the operational level of War," 114.

³²⁰ Harrison, *The Russian Way of War*, 10-11.

³²¹ Gross and Zabecki, *The myth and reality of German warfare*, 53.

³²² *Ibid.*, 54-55.

³²³ Svechin, *Strategy*, 69.

³²⁴ *Ibid.*

wars was based on the General Staff and its mobile field headquarters. The limited theatres of war did not necessitate an operational command that was subordinated and strategically coordinated by the Commander in Chief, such as Sherman's in the west during the final year of the American Civil War. The complexity of the German Wars of Unification did not reach such a level where Moltke could not lead the armies himself from his mobile general staff.

The Russo-Japanese War

The Russo-Japanese War was a disaster for Russia and generated a thorough review by the Russian General Staff. One central issue in the analysis was that Russian General Staff officers identified operational art as a third military discipline. It was only partly developed before the reformers were ousted in internal power struggles. The emerging operational thought did not influence the Russian army's approach to modern war.

Years of tension between Russia and Japan erupted on 8 to 9 February 1904. Japanese torpedo armed destroyers attacked the Russian Pacific Squadron inside the Port Arthur naval base, where three capital ships were damaged. Both countries declared war two days later. Japan had planned the war in advance and had clear strategic aims for the war, while Russia had no contingency war plan for its possessions in Manchuria and had to improvise when the war began.³²⁵ Russia was concerned with a possible war with China. Its neglect of the looming Japanese threat "was to prove one of the most significant intelligence failures of the Russian General Staff," despite a growing Russian understanding of Japanese intentions and capabilities. Nevertheless, valuable intelligence collection and analysis were more often than not either disregarded and overlooked by the "arrogance and lethargy that had gathered at the very highest levels of the Russian government."³²⁶ The war was the last great power conflict before the First World War. Many of the characteristics of modern warfare revealed themselves at sea and among the hills of Manchuria.

³²⁵ Richard Connaughton, *Rising Sun and Tumbling Bear - Russias war with Japan* (London: Cassel, 2003), 11-24, 44-51; David Schimmelpenninck van der Oye, "The Immediate Origins of the War," in *The Russo-Japanese War in global perspective: world war zero*, ed. John W. Steinberg and Books Dawson (Leiden: Brill, 2005); John W. Steinberg, "The Operational Overview," in *The Russo-Japanese war in global perspective : World War Zero*, ed. John W. Steinberg, et al. (Leiden, Boston: Brill, 2005), 105-110.

³²⁶ Alex Marshall, *The Russian General Staff and Asia, 1800-1917* (London: Routledge, 2006), 85-93.

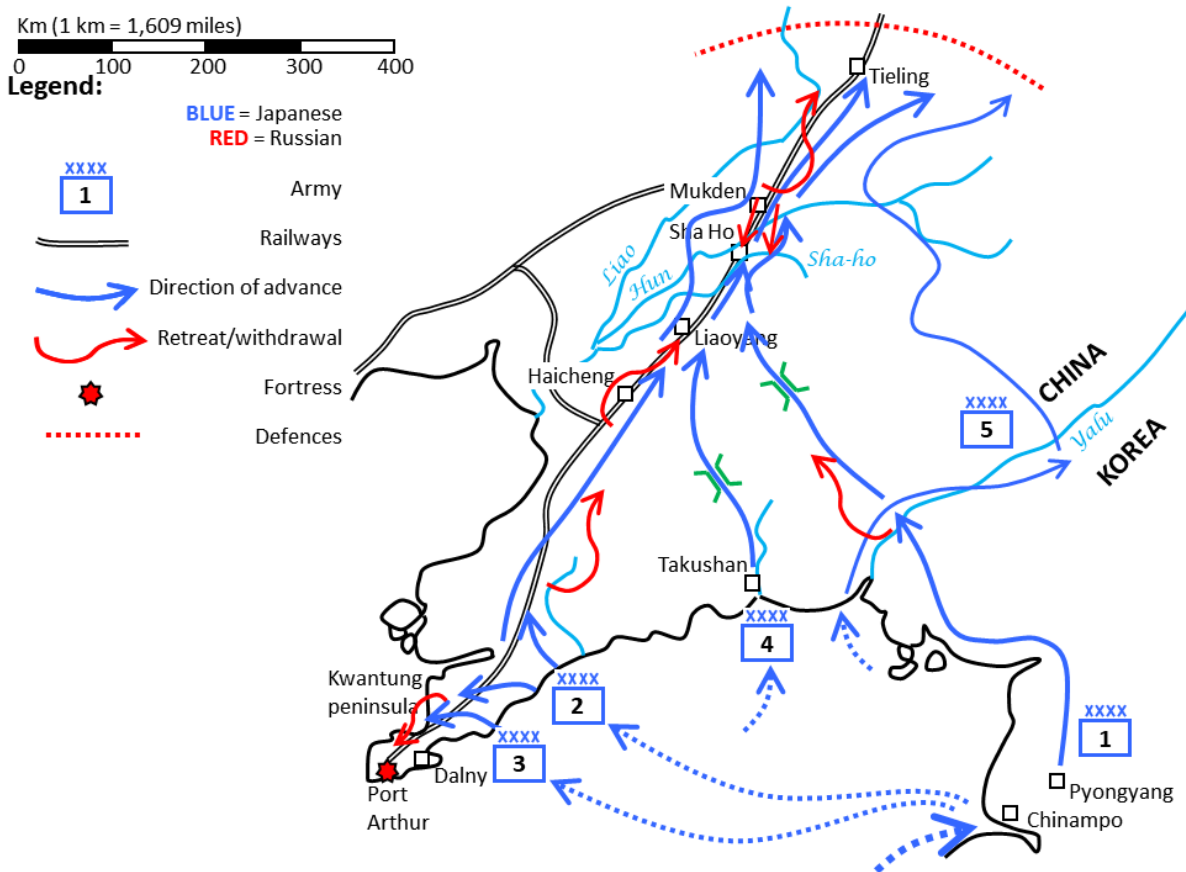
Japan was constrained financially and diplomatically and had to win by a short and decisive war before Russia could mobilise and reinforce its forces in Manchuria from Europe. The plans were to first remove the Russian naval presence in the region and then land armies to capture Port Arthur and Liaoyang, both central to Russian control over Manchuria. On the other hand, Russia was hampered by incomplete war plans and logistical challenges that forced them to stay on the defensive until reinforcements could arrive by the yet unfinished Trans-Siberian Railway. The Russian plans were also hostage to the assumption that Russia would maintain sea control and that there would be sufficient time to mobilise and transfer forces to the theatre of war.³²⁷ Japan's initial strike against Port Arthur and subsequent force transfer to Korea and the Kwantung peninsula nullified both preconditions.³²⁸

Both armies were armed with modern small calibre magazine rifles and modern field artillery. Still, there were marked differences in training, where the Japanese were the better practitioners of modern warfare. Machine guns were not used in the beginning, but in larger numbers by both armies as the war dragged on. Cavalry was mainly used for reconnaissance and fought both mounted and dismounted. The Russian logistical system depended on the 8,000 km single track Trans-Siberian Railway, where trains had to be ferried across Lake Baikal until a circumventing route was opened in September 1904. The capacity was low, so it took from two to nearly six weeks to reach Manchuria from Moscow. From the railheads, supplies were carried by carts or porters over poor roads to the forward positions.³²⁹

³²⁷ Sea control is "when one has freedom of action within an area of the sea for one's own purposes for a period of time". NATO, *AAP-06, NATO Glossary*, 111.

³²⁸ Menning, *Bayonets before bullets*, 152-153.

³²⁹ Connaughton, *Rising Sun and Tumbling Bear - Russias war with Japan*, 29-30; Felix Patrikeeff and Harold Shukman, *Railways and the Russo-Japanese War: transporting war* (London: Routledge, 2007), 42-49, 80; Yigal Sheffy, "A model not to follow The European armies and the lessons of the war," in *The impact of the Russo-Japanese War*, ed. Rotem Kowner (Oxon: Routledge, 2007), 259-260.



Sketch 3.4. The Russo-Japanese War. The main operations and retreats.³³⁰

As soon as the Japanese forces had disembarked, they pushed rapidly to isolate Port Arthur and capture critical cities along the railway. The Russian army units first encountered the Japanese lead elements in northern Korea. Still, they could not block their advance or prevent them from crossing the Yalu River and enter Manchuria. The Japanese had isolated the Kwantung peninsula and Port Arthur by mid-May 1904, they then turned north with their main forces and left one division to secure the peninsula. These initial actions had been with relatively small forces. The Yalu River was forced by 42,500 Japanese against 20,000 Russian troops. Nevertheless, to continue the war, both sides had to transfer substantial reinforcements to the theatre. General Oyama was given command over the Japanese armies and was directly subordinated to the high command in Tokyo. Oyama was thus *de facto* an army group commander. The Russian general Kuropatkin arrived in March to take command over the land forces, while admiral Alekseev was the formal commander of all Russian forces in the theatre. Neither was particularly competent nor suited for independent command. The dual command

³³⁰ Rotem Kowner and Ben-Ami Shillony, Rethinking the Russo-Japanese war, 1904-05, (Folkestone: Global Oriental, 2007). xxvi map 2; Connaughton, *Rising Sun and Tumbling Bear - Russias war with Japan*, 129.

setup required both commanders to report to St. Petersburg. The fact that the two commanders failed to co-operate was made even worse by direct interference by telegraph from the capital.³³¹

The Japanese armies had advanced along the railway, forced the Russians back to Haicheng, and simultaneously opened the mountain passes from Takushan and the Yalu River. By early July, the Japanese had built up four small field armies totalling 125,000 troops and 170 pieces of artillery. Oyama used three armies for the offensive north towards Liaoyang, while one army besieged Port Arthur. The main effort of the offensive was to be launched by the First Army from the southwest. The Russians had almost 160,000 troops organised in one army of seven corps with 483 guns. By late July, the Japanese armies were threatening the communications hub of Liaoyang. Kuropatkin was under pressure from St. Petersburg to give battle, although his forces were not yet ready. The Russians organised the defences in three lines in semi-circles stretching from the southeast to the west of Liaoyang. The furthest was 30 km from the city and 70 km wide, while the two others were closer to the town and narrower. The Russian corps were organised in two groups, each with their own commander's, while Kuropatkin kept overall command and kept one corps as a reserve. The defence was reinforced with field fortifications and the Russian artillery was also dug in and fired from concealed positions.³³²

The battle of Liaoyang began on 25 August 1904. After two days of heavy fighting, the Russians retreated to their second position, stretching 22 km in a semi-circle 10 km outside Liaoyang. The Russians manned their frontline positions thinly and kept half their force in reserve, out of fear of encirclement. The Japanese attacked again on 30 August and aimed for a double envelopment to cut the railway north of the city. On the first day, the attacks were forced to a halt by effective Russian artillery and machine gunfire. During the night and early morning, the Japanese misunderstood the situation, assuming a Russian retreat and moved to envelop the Russian left. The Russians, thinking the Japanese flanking manoeuvre was more substantial than it was, pulled out and retreated to their third defensive position. The Japanese followed closely as the Russians retreated and pre-empted a Russian counterstrike. Heavy

³³¹ *Rising Sun and Tumbling Bear - Russias war with Japan*, 72-87, 139-140; Menning, *Bayonets before bullets*, 157-160, 171-175.

³³² Connaughton, *Rising Sun and Tumbling Bear - Russias war with Japan*, 128-154; Menning, *Bayonets before bullets*, 171-176.

fighting the following night exhausted the Russian reserves. In the morning on 3 September, Kuropatkin ordered a general retreat. The Japanese were too exhausted to exploit the victory handed to them by the Russian decision to leave the field.³³³

The Russians counter-attacked on 22 September southwards from Mukden with almost 200,000 troops along a 65 km wide front. The Russian army was still divided into an eastern and western detachment, but Kuropatkin maintained the right to veto any detachment commanders' dispositions. His ineptness and unclear orders reinforced this limitation of subordinates' initiative. The Japanese exploited the Russian slow progress and repeated pauses to regain the initiative and launched a counter-offensive that drove the Russians back to the Sha-ho River, where both sides dug in along a 45 km wide front. Following the failed offensive Kuropatkin was given full command of all land forces. The first Russian front (army group) was created as the land forces were organised into three field armies under one commander. The Russians received reinforcements in February, while the three armies, totalling 330,000 troops, were deployed along a more than 100 km wide front. The Russian dispositions lacked depth and Oyama planned to attack to fix the Russian centre and envelop both flanks with his 270,000 strong force. The Japanese had brought in the Third Army after the fall of Port Arthur on 2 January 1905. Also, they brought forward the newly established Fifth Army, aiming for a "Far Eastern equivalent of Sedan."³³⁴

Both sides prepared for offensive operations in the winter of 1905. Russia spread its superior numbers evenly along the over 100 km wide front and kept two corps in reserve. The Russian fortifications were strong, but had no depth, either to absorb a Japanese offensive or to mass their forces for a decision if Kuropatkin decided to counter-attack. Oyama concentrated two armies on each flank and kept one army as a central reserve. He aimed once more for nothing less than surrounding and annihilating the Russian armies. The Japanese attacked the eastern stretch of the Russian defensive line on 18 February, which forced Kuropatkin to weaken his western flank and commit his reserves. Oyama then launched his left armies on a western

³³³ *Bayonets before bullets*, 176-179; Connaughton, *Rising Sun and Tumbling Bear - Russias war with Japan*, 155-204. Menning used the Julian calendar. All dates in this chapter are corrected to the Georgian calendar (1904-05: Georgian date is Julian date + 13 days).

³³⁴ The literature varies slightly on the size of the opposing forces. This chapter will use the numbers that are used by most of the sources and conservative estimates. The aim is to show the size of the forces and the force ratios, relative to the wars in the previous decades. *Rising Sun and Tumbling Bear - Russias war with Japan*, 258-273; Harrison, *The Russian Way of War*, 17-19; Menning, *Bayonets before bullets*, 184-187; Patrikeeff and Shukman, *Railways and the Russo-Japanese War: transporting war*, 116-117.

flanking movement around the Russian right on 27 February, while the other armies sustained the pressure along the entire front. Kuropatkin responded with half-hearted countermeasures that barely kept up with the aggressive Japanese push towards the Russian rear. Oyama committed his reserve to reinforce the western flanking movement. Kuropatkin just managed to prevent the Japanese from cutting the railway north of Mukden. A limited Russian retreat began on 7 March, but poor execution allowed the eastern Japanese armies to push westwards and threaten to cut off the retreat. When the Japanese armies closed the gap on 11 March, most Russians had managed to pull back northwards. The Russians established a new defensive position on 30 March at Siping, 160 km north of Mukden, and Kuropatkin was relieved of command. The Japanese were once more too exhausted to continue. Both Russia and Japan accepted the American President Theodore Roosevelt's proposal to begin negotiations. A peace treaty was signed on 5 September 1905.³³⁵

The Russo-Japanese war began with opposing forces some tens of thousands strong that fought battles that lasted days. It ended at Mukden, where several armies numbering more than a quarter of a million on each side were continuously engaged in combat for three weeks. It was a ten-fold increase in forces throughout the engagements. There was an even larger increase in the frontage they occupied and manoeuvred to outflank the defender. The armies no longer manoeuvred over any distance before they made contact, but started operations facing each other from trenches and field fortifications. When one army fell back, the other maintained contact. Both armies dug in along a new front and were facing each other in trenches within firing distance. Compared to the Franco-Prussian war, where the Prussian armies moved from one overlapping battle to another within the same operation, the fighting along the railway was beginning to display the main characteristics of modern operations that contained a "series of tactical missions and a number of logistical requirements".³³⁶

The complexity of these operations and the logistical system needed to sustain forces larger than a quarter of a million troops in the field created a demand for commanders and staff officers organised in well-run headquarters. While Moltke could manage his armies in the Franco-Prussian war from his nucleus of the mobile general staff, an army group as large as the ones in Manchuria needed a semi-independent headquarters outside the high command.

³³⁵ Connaughton, *Rising Sun and Tumbling Bear - Russias war with Japan*, 280-290; Harrison, *The Russian Way of War*, 17-23; Menning, *Bayonets before bullets*, 186-195; Steinberg, "The Operational Overview," 125-126.

³³⁶ Svechin, *Strategy*, 69.

Kuropatkin and Oyama were army group commanders with several modern operational functions. Their understanding of modern war and the staff officers' quality had a substantial influence on their armies' fighting qualities.³³⁷

Svechin devoted a chapter in his second volume of his *Evolyuciya voennogo iskusstva* (The Evolution of the Art of War) to the Russo-Japanese War.³³⁸ He was very critical of the Russian scholastic approach to operational art; the intellectual heritage of Leer rooted in Napoleon, the ignorance of the experiences of the German Wars of Unification, and the recent analysis of modern war. He stated that the Japanese knew well the German experiences and that Japanese commanders "were extremely consistent in striving to apply operational views cultivated by the Moltke school."³³⁹ On the other hand, the Russians were "confused by the teachings of Jomini" on main and secondary theatres of war. The Russians, therefore, regarded Manchuria as a "secondary theatre" for most of the war. The main theatre was on Russia's western border. Svechin regarded the conduct of operations as even worse, partly because of Manchuria's remoteness and the subsequent ignorance of the area as a secondary theatre by the army's high command.³⁴⁰

Both the Japanese and the Russians established designated headquarters for their armies in the theatre directly subordinated to their general staffs. These army group headquarters acted as operational commands in a modern sense, although the term was not yet developed. They planned and conducted operations by the field armies assigned to them and directed the armies' tactical actions over an area of operations that was too extensive for any single army to manage. Due to the size of the opposing forces and the sustainability made possible by modern logistics, armies had become too robust to be destroyed by tactical action alone. The command and supply of several armies of more than a quarter of million men were dependent on specialised bureaucracies, telegraph communications, and machine powered industrialised sustainment. These were the new strategic realities that required a separate headquarters subordinated the high command to manage the complexity in bridging strategy and tactics in the modern industrialised war.

³³⁷ Menning, *Bayonets before bullets*, 187; Oleg R. Airapetov, "The Russian Army's Fatal Flaws," in *The Russo-Japanese war in global perspective : World War Zero*, ed. John W. Steinberg, et al. (Leiden, Boston: Brill, 2005), 170-174; Patrikeeff and Shukman, *Railways and the Russo-Japanese War: transporting war*, 102-105.

³³⁸ Svechin, *Evolyuciya voennogo iskusstva*, 2, 297-347.

³³⁹ *Ibid.*, 308.

³⁴⁰ *Ibid.*, 301-302, 310-311, 318.

The increased range, precision, and volume of firepower reinforced the tendencies from the previous decades of dispersion, field fortifications, command challenges, and sustainment. Long-range, precise, and massed fire broke up attacks in closed columns. Troops were forced to disperse to avoid rapid firing rifles, machine guns, and artillery firing high explosive grenades. Dispersion made direct command and control of troops difficult because of the increased distances between soldiers and between units. The increasingly lethal battlefield made movement and combat leadership arduous and life-threatening. The spade became as important as the rifle, leaving soldiers to dig in as soon as movement halted. The result was that tactical action became more fragmented, covered more extensive areas, and lasted longer. Combat had to be planned and managed differently from the past when tactical action was one or a few large battles in a campaign where the high command also directed the battles. The modern operation had gradually and jerkily emerged during the half-century before the First World War, but it was not yet fully understood or developed into doctrine.

Thinking and theory

Military thought in Europe after 1871 was shaped by the expected future war between France and Germany; a war other great powers knew they with some certainty would become part of. The experiences of industrialised warfare, technological development, and increasing nationalism challenged established military traditions, doctrines, and professionalism. There was no straight and linear development of either operational thought or doctrine. Several competing forces within and outside the armed forces caused the development of military thinking and theory to take divergent directions. In their turn, these struggles influenced the emergence and development of strategic and operational thinking unevenly in different countries.

Imperial Germany

One challenge in studying Prussian and German military thinking and conduct of operations is their conceptual approach to planning and conduct of campaigns, operations, and battles. Planning was centralised mobilisation planning, while the conduct was decentralised and dependent upon commanders' professionalism. The Germans did not, or do not, have a term for operational art but use the term operational leadership: *operativer Führung*. Operational

elements should thus be identified in the domains of planning, command, and leadership. Another challenge is that the use of the terms *Operation* (operation) and *operativ* (operational) must be contextualised at each occurrence, due to imprecise use of terminology and the lack of standard definitions.³⁴¹ The chief of the Great General Staff from 1857-1888, Helmuth von Moltke, regarded operations as elements of strategy that had no substance as an independent discipline. Operations were related to moving the forces in the field, where the aim of the operation was to manoeuvre the forces into the optimal position for battle. The aim and purpose of the operation was the battle, but battles were not an integral part of the operation.³⁴² Moltke's understanding of the operation was thus similar to Jomini's; an element of strategy that brings the forces to the battlefield, an understanding that was shared by the majority of other armies.

The analysis of the Wars of German Unification was to a great extent influenced by the expectations of a future war for the new German Empire. Antulio Echevarria traces the observations, analysis, and lessons from the initial tactical crisis in the middle of the nineteenth century to the various interpretations of future war on the eve of the First World War.³⁴³ Echevarria also reminds the modern reader of the forceful rhetorical style of the military debate; as a consequence, middle positions would be difficult to identify, partly due to exaggerations and the manner in which arguments were presented.³⁴⁴ The increased lethality on the battlefield was acknowledged, including the fact that artillery was initially outranged by breech-loading rifles. This radically improved firepower thus challenged the tactical offensive. During the first decades after the Franco-Prussian War, the attempted responses to the crisis were predominantly tactical. The emphasis was on the combination of fire and movement, technical perfection, and tactical adaptations. By the turn of the century technological developments, the industrialisation of new technology, and the experiences from the Boer Wars had elevated the crisis.³⁴⁵

³⁴¹ Groß, *Mythos und Wirklichkeit*, 7-11, 14-17.

³⁴² *Ibid.*, 29-37, 42-44; Helmuth von Moltke, "Aus den Verordnungen für die höheren Truppenführer vom 24. Juni 1869," in *Moltkes militärische Werke II-2 Taktisch-strategische Aufsätze aus den Jahren 1857-1871*, ed. Großen Generalstab Abteilung für Kriegsgeschichte I (Berlin: Ernst Siegfried Mittler und Sohn, 1900), 173-189.

³⁴³ Echevarria, *After Clausewitz: German military thinkers before the Great War*.

³⁴⁴ *Ibid.*, 94. See also Joachim Hoffmann, "Die Kriegslehre des Generals von Schlichting," *Militärgeschichtliche Zeitschrift* 5, no. 1 (1969), 16-32.

³⁴⁵ Echevarria, *After Clausewitz: German military thinkers before the Great War*, 21-51, 65-80.

Echevarria asserts that the principle of interior lines was the root cause of the debate, in addition to the question of whether to concentrate the army before the battle or concentrate while the battle was being fought. Both issues were fundamental to Jomini and his interpretation of Napoleon, where the 1813 campaign in Saxony and Silesia and the Battle of Leipzig were counter-cases both strategically and tactically. The assumed advantage of interior lines was nullified by the coordination of the forces operating by exterior lines. Better railways in the American Civil War allowed Union forces to exploit their exterior lines and outmanoeuvre the Confederate interior lines of lower quality.³⁴⁶

As strategic means of communications, railways and telegraph could cause the geographical feature of interior lines to be less relevant and therefore diminish the strategical advantage of Germany's central position vis-à-vis France and Russia. Moltke's thesis of "march separated, fight concentrated" could be turned against Germany if its enemies could utilise railway and telegraph to coordinate their armies strategically and attack the Central Powers simultaneously at all fronts. This was what the Union armies did against the Confederacy in the American Civil War.³⁴⁷

The problems concerning the breakthrough of a continuous front became an issue after the Russo-Japanese War. The prevailing strategic method of flank envelopment was challenged when a continuous front failed to offer any flanks to envelop. A breakthrough would require a series of costly frontal attacks, precisely what the strategic envelopment aimed to avoid. The theorists developed various approaches to conducting a successful tactical breakthrough, but the question persisted of how to expand it and gain any strategic advantage after the front was pierced. One option was to use both sides of a breakthrough as open flanks and continue to roll up the enemy lines in one or both directions. However, experience from Manchuria indicated there were severe problems in bringing up reserves and supplies to sustain the pursuit and exploitation.³⁴⁸

³⁴⁶ Chandler, *The campaigns of Napoleon*, 912-936; Echevarria, *After Clausewitz: German military thinkers before the Great War*, 103; Gabel, *Railroad Generalship: Foundations of Civil War Strategy*, 6-7; Colin, *The Transformations of War*, 288-295. Colin was critical of the principle of interior lines. To him it was all about a pragmatic use of a central position.

³⁴⁷ Groß, *Mythos und Wirklichkeit*, 35-40, 63-75.

³⁴⁸ Echevarria, *After Clausewitz: German military thinkers before the Great War*, 174-179.

The best-known strategic debate at the time was the infamous *Strategiestreit* (strategy controversy) between the civilian historian Hans Delbrück and officers of the Great General Staff. This controversy is only indirectly relevant to strategic-operational elements, through Delbrück's insistence on the historical methodology of *Sachskritik* (topical criticism) of military historical sources, where historical events should be criticised based on the context in which they occurred. Delbrück's view contrasts to the General Staff's applicatory approach, where contemporary doctrine was projected onto historical cases and where selected historical examples were used to validate doctrine.³⁴⁹ One central historical question was whether Frederick the Great waged war according to a strategy of exhaustion (*Ermattungsstrategie*) or a strategy of annihilation or destruction, (*Vernichtungsstrategie*). This question became an issue in the contemporary debate over the right strategy to adopt in modern war. The Chief of the Great General Staff, Alfred Graf von Schlieffen, and the General Staff used Frederick's conduct of the Seven Years War as an authoritative argument for a modern strategy of annihilation. Delbrück, on the other hand, argued historically that the premises for the interpretation of Frederikian strategy were false. Therefore, the historical authority of Frederick was not applicable to contemporary war.³⁵⁰ Besides, there was the issue of whether Moltke's strategic approach in the Wars of German Unification represented something unique, or if it was just a continuation of Napoleonic methods. This debate was in one way the *Strategiestreit* in reverse: was Napoleon's strategic method still valid, or would technological and industrial developments alter the material conditions for strategy, as they did for tactics?³⁵¹

In the decade before the First World War, the General Staff struggled with the strategic problem of a two-front war and how to win decisively on one front before attacking the next. Moltke the Elder's prediction that the next war would be an all-out industrial people's war was generally accepted. In a war of exhaustion, Germany and Austria-Hungary would therefore lose in the long run. The only way to avoid military defeat was to quickly defeat one continental enemy before the other could mobilise and attack and then exploit Germany's superior rail network to move the entire army to the opposite front. The resulting strategic approach is known as the Schlieffen Plan, named after the chief of the Great General Staff

³⁴⁹ Bucholz, *Hans Delbrück*, 55-72; Echevarria, *After Clausewitz: German military thinkers before the Great War*, 182-188; Lange, *Strategiestreit*, 40-48.

³⁵⁰ Bucholz, *Hans Delbrück*, 34-39, 70-72; Lange, *Strategiestreit*, 83-97.

³⁵¹ Hoffmann, "Die Kriegslehre des Generals von Schlichting," 20.

from 1891 to 1906, Count Alfred von Schlieffen and remains a topic of debate among historians.³⁵²

Echevarria discusses Schlieffen's *Gesamtschlacht* (translated as "the overall battle") in the context of Germany's strategic challenges in the first decade of the twentieth century.³⁵³ The *Gesamtschlacht* was discussed in "his famous and controversial" essay *Der Krieg in der Gegenwart* (Contemporary War) in the magazine *Deutschen Revue* in January 1909, three years after Schlieffen retired.³⁵⁴ According to Echevarria, the *Gesamtschlacht* was the totality of the number of battles and engagements that were "to contribute to the overall progress of the attack" and was one of several elements in the understanding of the characteristics of modern war. Other essential elements were speed, aggressiveness in attack, the fluidity of combat, a defensive-offensive approach, and various degrees of un-readiness by all involved armies.³⁵⁵ The concept of the *Gesamtschlacht* can also be seen as an attempt to express the emerging operational challenges and the diminishing role of the battle as the decisive action in war but without any new operational terminology to articulate it outside the strategy-tactics paradigm.

All these elements reflected the Prussian and Imperial German Armies' approach to strategy and the direction of campaigns and battles. Strategy was understood as a system of expedients. Its delegated command approach *Auftragstaktik* (commonly translated as mission command), would allow commanders to quickly exploit these expedients (battles and

³⁵² There have been international debates of the Schlieffen plan, the latest round initiated by Terence Zuber's statement that there was no Schlieffen plan. See: Gerhard Ritter, *Der Schlieffenplan : Kritik eines Mythos* (München: Verlag R. Oldenbourg, 1956); Terence Zuber, *Inventing the Schlieffen Plan: German War Planning 1871-1914* (Oxford: Oxford University Press, 2002); Hans Gotthard Ehlert, Michael Epkenhans, and Gerhard Paul Groß, *Der Schlieffenplan* (Paderborn: Schöningh, 2006). This book is a compilation of the debate and its arguments. It is also available in an English translation; Hans Ehlert et al., eds., *The Schlieffen Plan International Perspectives on the German Strategy for World War I* (Lexington, KY: The University Press of Kentucky, 2014). For an examination of the plan and the various assessments of the plan, see Mark R. Stoneman, "Wilhelm Groener, Officering, and the Schlieffen Plan" (PhD dissertation, Georgetown University, 2008), 124-152.

³⁵³ Echevarria, *After Clausewitz: German military thinkers before the Great War*, 188-197.

³⁵⁴ Alfred von Schlieffen, *Gesammelte Schriften : I*, vol. 1 (Berlin: Mittler und Sohn, 1913), XXXII, 11-22; Daniel J. Hughes, "Schlichting, Schlieffen, and the Prussian Theory of War in 1914," *The Journal of Military History* 59, no. April 1995 (1995), 273-274. English translation in Alfred von Schlieffen, "War Today, 1909," in *Alfred von Schlieffen's Military writings*, ed. Robert T. Foley (London: Cass, 2003), 194-205.

³⁵⁵ Echevarria, *After Clausewitz: German military thinkers before the Great War*, 195.

engagements) to one's own advantage and force a decision by aggressive tactical offensives.³⁵⁶

General Sigismund von Schlichting was one of the German writers who grasped the implications of the fact that warfare was changing. He was in opposition to Schlieffen and his strategic approach to future war. There are indications that he was forced to retire in 1896, but Schlichting continued to write in retirement and took part in the public strategic debate. He was an influential military writer at the turn of the century and analysed the changes in warfare during the second half of the nineteenth century. Svechin also credited Schlichting with comprehending the differences between Napoleon's and Moltke's strategic approaches, where technology had made Napoleonic warfare obsolete. Schlichting was similarly credited with having analysed and developed Moltke's strategic conduct of the wars of 1866 and 1870-1871 into strategic theory.³⁵⁷

Schlichting's view of history was in opposition to the Great General Staff's applicatory method. He argued that a comparison of campaigns and battles between different historical periods was not only futile but harmful.³⁵⁸ He claimed that modern war had changed fundamentally since the Napoleonic wars, although the Napoleonic legacy still dominated military education and thinking. In pre-industrial war, armies would as a norm move to the battlefield, deploy for battle and then engage in combat. By the end of the nineteenth century, breech loaded rifles, machine guns and quick-firing artillery could hit and kill anything within sight. The immediate consequence of this technological advancement was that troops had to deploy into combat formation directly from marching formation and was subjected to lethal fire as soon as they were in sight.³⁵⁹

³⁵⁶ Gerhard P. Groß, "Myth and Reality. The History of Auftragstaktik in the German Army," in *Mission Command – Wishful thinking?*, ed. Palle Ydstebø and Tommy Jeppsson (Stockholm: Kungl Krigsvetenskapsakademien [The Royal Swedish Academy of War Sciences], 2018).

³⁵⁷ Eric Dorn Brose, *The Kaisers Army* (Oxford: Oxford University Press, 2001), 117; Rudolph von Caemmerer, *The Development of Strategical Science During the 19th Century* (London: Hugh Rees Ltd., 1905), 248-271; Donald Cranz, *Understanding Change: Sigismund Von Schlichting and the Operational Level of War* (Ft. Leavenworth, KS: U.S. Army Command and General Staff College, 1989), 24-32; Walter Görlitz, *The German General Staff* (London: Hollis & Carter, 1953), 136; Aleksandr A. Svechin, "Voyennoye iskusstvo v epokhu imperializma," in *Postizheniye Voyennogo Iskusstva*, 62; "Manevr tekhniki," 403.

³⁵⁸ Hoffmann, "Die Kriegslehre des Generals von Schlichting," 19.

³⁵⁹ Cranz, *Understanding Change: Sigismund Von Schlichting and the Operational Level of War*, 11-21; Hoffmann, "Die Kriegslehre des Generals von Schlichting," 10, 19-21.

The retired general and prolific writer Friedrich von Bernhardi devoted a chapter in his 1913 book *On War of Today (Vom heutigen Kriege)* to “the operative element”. He maintained that operations had always been important in war, but their significance varied according to the role of combat: “There have been times in which the art of war degenerated almost entirely into operational artificialities, [...] and where the importance of the actual combat was completely underrated”. He also wrote about the opposite scenario, combat ruled by brute force “unrestrained by any thought”.³⁶⁰

In another chapter in *On War of Today* Bernhardi discusses “the operative forms of attack and defence” and the different forms of attack and defence with the main body of the army, having examined tactics and technique earlier in the book.³⁶¹ Bernhardi’s use of operation relates to the realm of strategy and strategic troop movements, such as when he discusses German troop transfers between theatres of war by rail. He also refers to operation to describe the Prussian retreat and manoeuvre between Ligny and Waterloo. The Russo-Japanese war is his most recent example, where he described the Russian defensive line as a strategic front. He used tactical terminology in the discussion of the actions of the different armies: “to co-operate tactically at the Mandarin Road with Nogi’s army which had enveloped the right”.³⁶²

Bernhardi’s purpose was to “elucidate the nature of the art of operating, [...] namely, the endeavour to *move the troops in such a way as to bring about the tactical issue under particularly favourable conditions.*”³⁶³ The tactical issue was combat, while the operation should bring the troops to the most favourable position for battle. Bernhardi used both historical examples and hypothetical scenarios to forward his arguments such as a German strategic flanking operation against France, the Schlieffen plan, or a Russian offensive against Berlin. Bernhardi ended the chapter by concluding that strategic mobility was the key to success in a future war.³⁶⁴ He wrote within the military theoretical paradigm of his time, where strategy and tactics were the military disciplines and operations an element of strategy concerned with manoeuvring the forces to their battle positions. Operations and operating

³⁶⁰ Friedrich von Bernhardi, *On War of Today*, trans. Karl von Donat, 2 vols., vol. II Combat and Conduct of War (London: Hugh Rees, Ltd., 1913), 307. The German original was published in 1912.

³⁶¹ *Ibid.*, 64-98.

³⁶² *Ibid.*, 74-76.

³⁶³ *Ibid.*, 309.

³⁶⁴ *Ibid.*, 311-335.

were how the strategic commander moved forces, either for battle or for strategic force transfer between theatres of war.³⁶⁵

France

Brigadier-General Ferdinand Foch published two well-known books based on his lectures at the *École supérieure de guerre* (the French Command and General Staff College) while he was commandant of the *École*.³⁶⁶ Early in the First World War, Foch grasped the new character of warfare and developed methods that held many characteristics of operational art. One might therefore expect to find expressions of operational thinking in his pre-war books. But few are in evidence. Foch was in line with the majority of his contemporaries in Europe in his understanding of the next war.³⁶⁷ In the preface to the second edition of his book on the Franco-Prussian war, there were a few statements in his analysis of the Russo-Japanese war that suggest an understanding of changes in warfare (Foch used the term “the forms of war”, *les formes de la guerre*):

At Mukden Nogi’s army was not so much concerned with crushing the Russian Right by a flank attack as with getting behind it in order thus to compel the retreat of all the enemy forces. Hence we may say that the manoeuvre-battle of the Napoleonic epoch and of 1870 was transformed into an operation-battle lasting several days. One may say that the decision, even on the battlefield itself, had become a strategic affair and that the union between strategy and tactics was far closer than it has been in earlier days.³⁶⁸

This quotation from Foch is interesting in the sense that he concluded his analysis of modern war with “We have seen in all this that the mind retains the same universal conception of the essential act of war” and that essential act was still the battle. Modern industry and the increased space of the area of operations will only modify “the forms of war” in an evolutionary manner, not cause any revolution. Moreover, while some observers referred to a widening gap between strategy and tactics, Foch maintained the idea of a close union. Contrary to another prominent French author, Colonel Jean Colin, Foch did not use the term

³⁶⁵ Groß, *Mythos und Wirklichkeit*, 7-17.

³⁶⁶ Ferdinand Foch, *Les Principes de la guerre. Conférences faites à l'École supérieure de guerre* (Paris: Berger-Levrault, 1906); *De la conduite de la guerre : la manoeuvre pour la bataille* (Paris: Berger-Levrault, 1909).

³⁶⁷ Gat, *A history of military thought*, 394-413; Michael Howard, "Men against Fire: The doctrine of the offensive in 1914," in *Makers of Modern Strategy*, ed. Peter Paret (Oxford: Clarendon Press, 1986), 510-526.

³⁶⁸ Foch, *De la conduite de la guerre : la manoeuvre pour la bataille* VII-X. Printed as a separate chapter in the English book *Precepts and Judgements* (New York: Henry Holt and Company, 1920), 335-337. The operation-battle is the translation of *bataille-opération*.

grand tactics in either of his books. Foch did not further explain the meaning or consequences of the operation-battle.³⁶⁹ These observations by Foch were little more than what Skinner called “scattered or quite incidental remarks” among the dominant paradigm and were not developed further in this or any other book.³⁷⁰

In 1885, the French colonel and second in command at the *École supérieure de guerre*, Victor-Bernard Derrécagaix, published the two-volume work *La guerre modern* (The Modern War), which was translated to English and published in the USA in 1888 and 1890.³⁷¹ Derrécagaix was a prolific writer and had published his book on the Franco-Prussian War as early as in December 1871.³⁷² The *La guerre moderne* was the publication of Derrécagaix’ course in military history, strategy, and tactics at the *École supérieure*. The work illustrates French military thought and theory 15 years after the defeat in 1871, exemplifying how the Napoleonic heritage was questioned and interpreted in light of the industrialised people’s wars. It further contributed to preparing the French army professionally and culturally for the next war.³⁷³ Derrécagaix maintained the understanding of war as strategy and tactics; the two volumes were subtitled strategy and tactics. He did not use *grande tactique* as a term, only occasionally *tactique generale*, but the American translation translated *tactique* and *tactique generale* as grand tactics, including naming the second volume *Grand Tactics*.³⁷⁴ The translation was elsewhere true to the original’s terminology.

Strategic marches (*des marches stratégiques*) were interpreted by Derrécagaix as elements of strategy and defined as “those undertaken by armies either for the purpose of moving from their bases of concentration to a first objective, or from one objective to another.”³⁷⁵ Strategic marches were furthermore “the operations which conduct armies to decisive battles” and

³⁶⁹ Ibid. According to Gat, continental armies did not allow experiences in South Africa or Manchuria to challenge their main lines of thought: Gat, *A history of military thought*, 380-381, 406-411.

³⁷⁰ Skinner, "Meaning and Understanding in the History of Ideas," 7, 12.

³⁷¹ Deschamps, "La guerre moderne (1885)," 1-2; Victor-Bernard Derrécagaix, *La guerre moderne Première partie Stratégie* (Paris: Baudoin, 1885); *Modern War Part I. Strategy*, trans. Charles William Foster (Washington: James J. Chapman, 1888); *La guerre moderne Première partie Stratégie Atlas* (Paris: Baudoin, 1885); *Modern War Part II. Atlas*, trans. Charles William Foster (Washington: James J. Chapman, 1888); *La Guerre moderne. Deuxième partie, Tactique* (Paris: L. Baudoin, 1885); *Modern War Part II. Grand Tactics*, trans. Charles William Foster (Washington: James J. Chapman, 1890).

³⁷² *Histoire de la guerre de 1870* (Paris: A la direction du Spectateur, 1871).

³⁷³ Deschamps, "La guerre moderne (1885)."

³⁷⁴ Derrécagaix, *La guerre moderne Première partie Stratégie*, 2-3, 11, 13, 517; *Modern War Part I. Strategy*, 2-3, 11, 13, 519; *Modern War Part II. Grand Tactics*.

³⁷⁵ *Modern War Part I. Strategy*, 533.

“their influence upon the results of a campaign is considerable; and it may be said that, after combats themselves, they are the most important operations of war.” The principles for strategic marches were those from the Revolutionary and Napoleonic Wars and “this glorious epoch still offers the most complete instructions in this regard.”³⁷⁶ Derrécagaix was in line with his contemporaries in his understanding of operations and strategic marches; they were strategic manoeuvres to the battlefield. It was the tactical battles that would decide the outcome. The term operation was also used as a general term about several activities, spanning from mobilisation and strategic deployment to battle: “the crowning operation of the war, which represents both the first objective of the armies and the aim of all their movements”.³⁷⁷ This use of the term was comparable to Jomini’s *Précis de l’art de la guerre*, where *opération* was a general term for military activity, without any resemblance to twentieth-century operational terminology.

Jean Colin published his book *Transformations de la guerre* in 1911, which was translated into English the following year and republished in “a popular edition” in 1914.³⁷⁸ One central premise for Colin’s analysis of modern war was that he regarded the Napoleonic Wars as the most valid model for understanding future war. There would be “new weapons, larger masses, more efficient means of transport” and some Napoleonic principles of war would not be valid, but “we shall dwell at length upon the principles and the procedure of Napoleonic war.”³⁷⁹ Peter Paret briefly mentioned that Colin’s analysis of Napoleon’s warfare is still influential and carries authority for students of Napoleon, an opinion also shared by Azar Gat.³⁸⁰

Operational terms were present in Colin’s descriptions of grand tactics and the operation, where both were given definitions that superficially mirror a modern definition of operational art.

This new part of the art of war takes its place between strategy and tactics. It melts into the one and the other. Strategy, which deals with the general control of operations, also

³⁷⁶ Ibid., 533-534.

³⁷⁷ Ibid., 7, 11.

³⁷⁸ Jean-Lambert-Alphonse Colin, *Les transformations de la guerre* (Paris: E. Flammarion, 1911); *The Transformations of War; France and the next war : a French view of modern war* (London: Hodder & Stoughton, 1914).

³⁷⁹ *The Transformations of War*, 220-227.

³⁸⁰ Paret, "Napoleon and the Revolution in War," 127; Gat, *A history of military thought*, 669.

touches the distribution of forces and the combining of movements regulated so as to obtain a predetermined result.³⁸¹

Colin identified the emergence of “a new part of the art of war”, in which there were elements of twentieth-century operational art. The way he used the phrase “melts into the one and the other” indicated the interdependencies between strategy, grand tactics and tactics. In the following sentence, Colin pointed to “[o]n the other hand” that grand tactics did not include the battle, just the manoeuvres up to and the preparation for battle.³⁸² This view was also apparent in the way he used Napoleon’s conduct of campaigns as the model for his understanding of grand tactics:

Napoleon achieved these results by combined movements of his columns. These combined movements are the subject of grand tactics. The Emperor is doing grand tactics when he calculates the marches of his divisions or army corps in such a way as to concentrate, to outflank, to manoeuvre, to effect a surprise, or to guard against the unforeseen.³⁸³

Colin identified the evolution of grand tactics in the period of Frederick the Great and the Napoleonic wars, with the division of the army in subunits, such as divisions and corps. These subunits would enable them to execute some independent and delegated tasks, detached from, but still as part of the army. Grand tactics emerged as a method to manoeuvre the subunits of the army (army corps or divisions) and still maintain control of the dispersed units and concentrate the army to meet any contingency.³⁸⁴ Colin described the difference between “the operations of the armies of former days, marching in one single mass, following one single route, and those of modern armies, parcelled out in divisions, in which it is necessary to combine the movements of the columns.” He concluded, using the analogy of an orchestra, that “the operations of modern war demand a Chief of the Staff.”³⁸⁵

Colin stated that the approach marches that led to the battles of Austerlitz and Jena-Auerstedt were good examples of Napoleonic grand tactics.³⁸⁶ The Jena campaign was also the object for discussion in David G. Chandler’s chapter “Napoleon, Operational Art, and the Jena Campaign”. Dennis Showalter and Claus Telp also forward the operational dimensions at

³⁸¹ Colin, *The Transformations of War*, 215.

³⁸² Ibid.

³⁸³ Ibid., 262. This is very well illustrated in Napoleon’s use of the *bataillon carré* in the manoeuvre to Jena.

³⁸⁴ Ibid., 207-214.

³⁸⁵ Ibid., 216-217.

³⁸⁶ Ibid., 259-269.

Jena.³⁸⁷ But, does Colin's interpretation of Napoleonic grand tactics equal operational art, or was it nothing more than separated approach marches within the prevailing strategy-tactics paradigm? It is necessary to explore how Colin understood the operation to answer these questions:

Operations in their entirety have for object the preparation of the battle for him who hopes for victory ; the exploitation of the battle for him who is victor ; the avoidance or the attenuation of the battle for him who fears the encounter ; the concealing and reconstituting of his forces for a fresh struggle for him who is beaten. The thought of battle dominates all operations of war.³⁸⁸

According to Colin, the function of grand tactics was limited to the preparation for, the exploitation of, or the avoidance of battle. This understanding excluded the battle as an integral element of the operation. Herein lies the superficial similarity that makes Colin's interpretation of grand tactics resemble operational art. Grand tactics and operations were both subordinated to the battle, while the battle was the precondition for both. This dominant role of the battle was also recognised in Colin's assessment of Moltke's grand tactics:

Truly the grand tactics of Napoleon are superior to those of Moltke. The latter only consider the case of a battle in which the enemy has placed himself precisely on the line of march ; they contain no provision for the unforeseen.³⁸⁹

Like Foch, Colin recognised and acknowledged a "new part of the art of war", but interpreted it within the Napoleonic paradigm. The roles of grand tactics and operations were similar to those outlined in Jomini's *Précis*. Colin's analysis was more comprehensive than Foch's and a step in the emergence of operational art, but contrary to Schlichting, he did not leave behind the Napoleonic paradigm. In Colin's analysis of the Russo-Japanese war, operations were about the manoeuvre of forces within the battle, such as in the battle of Mukden. The battle was analysed in the framework of Napoleon, who "as we have seen, conceived three operations in battle, each fairly clearly defined". These were a frontal attack to fix the main enemy force, a disrupting flank attack, and the final attack to break the enemy.³⁹⁰ As with the Franco-Prussian war, Colin concluded that the strength of the defensive would prohibit frontal attacks. The only viable option was the turning movement, which the Japanese successfully

³⁸⁷ Ibid., 263-269; Chandler, "Napoleon, operational art, and the Jena campaign."; Showalter, "The Jena Campaign: Apogee and Perihelion."; Telp, *The Evolution of Operational Art, 1740-1813 : From Frederick the Great to Napoleon*.

³⁸⁸ Colin, *The Transformations of War*, 190.

³⁸⁹ Ibid., 308.

³⁹⁰ Ibid., 156.

used in Manchuria.³⁹¹ The operation was neither developed further nor becoming an independent discipline of war but understood within the existing paradigm of strategy and tactics.

Colin's steps in the direction of operational art were not reflected in contemporary French high-level doctrines, either in the 1895 or the 1913 field service regulations for large units.³⁹² The term *grande tactique* was not used in any doctrines. Operation was used as a general term for military activities, similar to Jomini's *Précis*. The doctrines were in line with the teachings of Derrécaigaix and did not reflect any of Colin's explorations of grand tactics. The army group was introduced³⁹³ in the 1886 edition of the 1883 field service regulations, but only briefly mentioned regarding rail transport and command issues.³⁹³ The original 1883 edition, which replaced the 1832 regulations, did not contain any reference to the army group.³⁹⁴ The army group was an organisational entity in both the 1895 and 1913 doctrines. It was given a clear and superior role in the latter to impose the general battle (*bataille générale*) on the enemy. Its subordinate armies were to fight battles and army corps to engage in combat.³⁹⁵ The strategic-tactics paradigm was thus perpetuated in France. Like Schlieffen's *Gesamtschlacht*, the *bataille générale* indicated a growing complexity of warfare.³⁹⁶ But, as with Schlieffen, the contemporary terminology was insufficient to articulate the changes of the character of warfare, or rather, the consequences of the changes were not fully realised.

The United States

Text-books at the US Army Military Academy West Point between the Civil War and the First World War were in the pattern of Henry W. Halleck's *Elements of Military Art and Science* from 1846.³⁹⁷ Halleck and his successors continued the tradition of Jomini and understood war in the realms of strategy and tactics, but also with an emphasis on logistics.

³⁹¹ Ibid., 146-158.

³⁹² *Décret du 28 mai 1895 portant règlement sur le service des armées en campagne*, ed. Ministère de la guerre (Paris: Imprimerie Nationale, 1895 [Reprint 1914]); *Conduite des grandes unités*, ed. Ministère de la guerre (Paris: Henri Charles-Lavauzelle, 1913).

³⁹³ *Portant règlement sur le service des armées en campagne*, ed. Ministère de la guerre (Paris: Henri Charles-Lavauzelle, 1886), 9, 15-16.

³⁹⁴ *Portant règlement sur le service des armées en campagne*, ed. Ministère de la guerre (Paris: Henri Charles-Lavauzelle, 1883).

³⁹⁵ *Conduite des grandes unités (1913)*, 18-21, 24-25, 36-37.

³⁹⁶ Schlieffen, *Gesammelte Schriften* : 1, 1, XXXII, 11-22.

³⁹⁷ Halleck, *Elements of Military Art and Science*.

Tactics were divided into grand tactics and minor tactics, but grand tactics was given little attention beyond defining it according to Jomini.³⁹⁸

James Mercur also began his book of 1898 by quoting and paraphrasing Jomini to set up the structure for his study of war. He defined grand tactics as combined arms tactics by large units and minor tactics as carried out by smaller forces and single arms.³⁹⁹ He concluded his definition with a reservation: “This division is general and not well defined, since the two run imperceptibly into each other.”⁴⁰⁰ In his fifth chapter “Grand Tactics.” he developed its understanding more thoroughly as combined arms combat. He explained how grand tactics “includes planning battles, perfecting the preliminary arrangements, conducting them during their progress and securing the results of a victory, or avoiding the consequences of a defeat.” Mercur concluded his initial paragraph by pointing to the relations between different levels and functions, where grand tactics

reaches out on the one hand into the domain of logistics and strategy, in the movements of troops and the character of battle sought ; and on the other into that of minor tactics, in the handling and placing of the different arms upon the field.⁴⁰¹

These quotes and their context illustrate how grand tactics was understood by Mercur as combined arms tactics. The reservation also indicates that the division had an arbitrary element and that grand tactics had little to do with modern operations.

In his book *Elements of strategy*, first published in 1916, G. J. Fiebeger presented a modern understanding of strategy, campaigns, and operations. Strategy was referred as

the art of directing the employment of the armed strength of a nation to best secure the objects of war. It is not sufficient to create military force by raising, equipping, and training armies and navies, and constructing fortresses, but it is necessary to direct properly the employment of this force, lest it be dissipated in useless operations or destroyed in unnecessarily hazardous ones. Strategy deals with the problems of warfare involving combinations of *force, space, and time*.⁴⁰²

³⁹⁸ Ibid., 114, 134; J. B. Wheeler, *A course of instruction in the elements of the art and science of war* (New York: D. Van Nostrand, 1879), 8, 192-193.

³⁹⁹ James Mercur, *Elements of the art of war* (New York: J. Wiley & sons, 1898), 16-17.

⁴⁰⁰ Ibid., 19.

⁴⁰¹ Ibid., 140.

⁴⁰² G. J. Fiebeger, *Elements of strategy* (New York: John Wiley & Sons, Inc., 1920), 5-6.

Strategy had a clear role in directing operations, which went beyond preparing and equipping the forces. Campaigns and operations were seen together. A campaign

is now more generally applied to such movements and combats as are connected with some important or decisive *event* in the *conduct* of the war; thus in our civil war we have the *Campaign of Gettysburg* and the *Campaign of Vicksburg*, to designate the movements of the armies and the minor combats connected with the battle of Gettysburg, and the capture of Vicksburg. The term *operations* is employed to designate the minor subdivisions of a campaign; [...]. A war is therefore made up of campaigns, a campaign of operations.⁴⁰³

An operation was not characterised as a discipline in itself and, leaning on Jomini and Clausewitz, Fiebeger concluded his discussion in line with these classics. Strategy was “the intermediary between national policy which furnishes the means and determines the object of a war, and tactics, through whose decisive battles results are alone possible.”⁴⁰⁴

Fiebeger discussed strategy by using operations from Frederick the Great to the First World War, emphasising warfare during and after the US Civil War. The book described strategy and operations in geometrical terms, still well within the established strategy-tactics paradigm.

Imperial Russia

The Tsarist army fought two major wars in the half-century prior to the First World War, the Russo-Turkish War of 1877-78 and the Russo-Japanese War of 1904-05. Those two wars gave Imperial Russia an abundance of experience, which together with domestic and international military literature and observations of foreign wars, provided Russia with a vast amount of knowledge and experience to analyse the changes in warfare and to make assumptions about future war.

The Russian approaches to military theory, strategy, and doctrine were developed and debated at the General Staff Academy. The approaches were subjected to the inherent tension between the dominant schools of thought; “the academic theorists” and “the nationalistic practitioners”. A consequence of this tension was that the acknowledged need for reform

⁴⁰³ Ibid., 75.

⁴⁰⁴ Ibid., 7.

based on military science was resisted due to tradition and inertia.⁴⁰⁵ The debate also tried to address the two primary paradoxes of, on the one hand, the “contradiction between the purely theoretical and purely applied aspects of science and on the other, the static and dynamic nature of empiric reality.”⁴⁰⁶

N. P. Mikhnevich was a renowned Russian strategist before the Russo-Japanese war. His book *Strategy* was published in 1899, its third edition was printed in 1911, but without any revision based on the 1904-05 experience. In his analysis of Napoleon and Moltke, Mikhnevich noted the difference between Napoleon’s concentration before reaching the battlefield and Moltke’s concentration on the battlefield. Beyond that difference, he concluded that they both relied on “the principle of individual victory”. Future war would not be won by individual battles, but “consists of one or more campaigns; each campaign - from one or more operations” and armies would also be combined into army groups.⁴⁰⁷ Mikhnevich’s thinking represented an important step in bringing Russian military thought in line with modern warfare. His findings reflected leading German thinkers, such as Schlichting. Mikhnevich’s acknowledgement of the declining role of the battle and the importance of operations in a modern sense was an essential precondition for the development of operational art as a military discipline.

A military misadventure such as the war against Japan contributed significantly to military thinking and new initiatives within the Russian army. A consistent form of operational thinking emerged among a few Russian general staff officers. This thinking was not conducted in a vacuum. In addition to Russian experiences and other domestic elements, the Russian army was part of an international exchange of ideas and experiences. Foreign books, military periodicals, military and diplomatic exchanges and visits, were all channels for the exchange of knowledge, in addition to the clandestine world of intelligence collection and analysis.⁴⁰⁸

⁴⁰⁵ Dyke, *Russian Imperial Military Doctrine and Education, 1832-1914*, 134-140; Marshall, *The Russian General Staff and Asia, 1800-1917*, 4-6.

⁴⁰⁶ Dyke, *Russian Imperial Military Doctrine and Education, 1832-1914*, 142-143.

⁴⁰⁷ Menning, *Bayonets before bullets*, 208-210; Alexander Alexandrovich Stokov, *Vooruzhennyye sily i voyennoye iskusstvo v pervoy mirovoy voyne* [Armed forces and military art in the First World War] (Moskva: Voenizdat, 1974), 97-100.

⁴⁰⁸ Dyke, *Russian Imperial Military Doctrine and Education, 1832-1914*, 139-141; Menning, *Bayonets before bullets*, 205.

The Russian Colonel Alexander Vladimirovich Gerua brought Russian and German thinking together to bridge the divide between the established fields of tactics and strategy. Menning suggests a German influence when Gerua proposed to name this intervening part *operatika*, derived from the German word *operativ* (operational). The purpose of this intermediate function was to bring together all the disparate elements of modern war into “the makeup of a modern operation.” Gerua’s views failed to gain ground and did not manage to challenge the established views on strategy nor influence the contemporary emphasis on indigenous experience.⁴⁰⁹

In his book on modern war in 1911, General Staff Officer Lieutenant Colonel Neznamov described the transformation from the Napoleonic emphasis on the single decisive battle to the succession of battles in modern war. He utilised many of Schlichting’s ideas and envisioned modern war as “series of engagements and operations linked to one another by the overall concept of the war plan”, where strategic objectives were to be accomplished by operations.⁴¹⁰ The commander in modern war had to differentiate between and manage the interplay between these categories. Neznamov further discussed the role of railways in influencing strategy and especially for the enormous Russian landmass with its extensive borders.⁴¹¹

The Soviet military historian Alexander A. Stokov defined Neznamov’s thoughts on modern operations as operational art, where modern war no longer was about the battle itself.⁴¹²

This means that as the whole war breaks down into a whole series of operations, so each operation breaks down into a whole series of immediate tasks, [...], and all of them are united together by a single purpose of the operation, just like all operations are connected the main guiding idea of the war plan “in purpose and direction.”⁴¹³

Neznamov also understood operations as conducted by army groups, not restricted to armies, where the army group was directly subordinate to the military-strategic level of command. The battle itself would take the form of a series of engagements linked by a common goal.

⁴⁰⁹ Ibid.

⁴¹⁰ *Bayonets before bullets*, 211-213; A. A. Neznamov, *Sovremennaya voyna* [Modern War], 2 Vols., vol. 1, (Moskva: Vysshii voyennyi redaktsionnyi sovet 1922). The book was reprinted in 1912 and in an updated edition in 1922. Neznamov also wrote a second volume based on recent developments, which was published in Moscow in 1921.

⁴¹¹ Dyke, *Russian Imperial Military Doctrine and Education, 1832-1914*, 144-151; Harrison, *The Russian Way of War*, 28-35.

⁴¹² Stokov, *Vooruzhennyye sily i voyennoye iskusstvo v pervoy mirovoy voyne*, 113-114.

⁴¹³ Neznamov quoted in: *ibid.*, 114; Neznamov, *Sovremennaya voyna*, 1, 12.

Firepower and not bayonets would decide future battles; infantry must move in open order and not in closed ranks. Just as the teachings of the German theorists, the flanks had become much more critical. Neznamov did not use the term operation concerning battles but used the term actions.⁴¹⁴ The operation had a similar meaning for Neznamov as for Svechin, which indicates a line of continuity in Russian operational thought from the Tsarist Empire to the Soviet state.

A central element in the debates within the army that clearly illustrates the disagreements was the Russian doctrinal debate. In this contentious question, the General Staff officers, “the academic theorists”, clashed with “the nationalistic practitioners” and “often fell victim to imperial whimsy.”⁴¹⁵ The question of a unified Russian army doctrine was finally laid to rest by Tsar Nicholas II in the summer of 1912: “Military doctrine consists of doing everything which I order.”⁴¹⁶ The Tsar stated that doctrine was his orders and said that orders were to be given “to Neznamov that he is no longer to publish articles on this question.” Higher-level interference the same year removed the reformists from their key positions and replaced them with more conformist officers.⁴¹⁷ David Alan Rich has termed these attitudes elements of a de-professionalisation of the Russian general staff officers in the two decades leading up to the First World War, within a dysfunctional autocracy that “prized the capabilities of grand dukes over professionals”.⁴¹⁸ Such an environment could explain why the foresighted analysis that identified the key elements of operational art could not survive or impact the planning and conduct of the next war.

Russian General Staff officers identified some of the central elements in the changes in warfare that followed the Russo-Japanese War and developed responses that reflected advanced operational thinking. Despite such intellectual progress within the formal structures of the General Staff, when reform encountered tradition, all progress was cut short by “a dysfunctional autocracy”. The intellectual and operational legacy of the late Tsarist army went

⁴¹⁴ Stokov, *Vooruzhennyye sily i voyennoye iskusstvo v pervoy mirovoy voyne*, 114-117.

⁴¹⁵ Dyke, *Russian Imperial Military Doctrine and Education, 1832-1914*, 134-140; Marshall, *The Russian General Staff and Asia, 1800-1917*, 4-5.

⁴¹⁶ David Alan Rich, *The Tsar's Colonels Professionalsim, Strategy and Subversion in Late Imperial Russia* (Cambridge, MA: Harvard University Press, 1998), 221.

⁴¹⁷ Dyke, *Russian Imperial Military Doctrine and Education, 1832-1914*, 154; Rich, *The Tsar's Colonels*, 218-223.

⁴¹⁸ *The Tsar's Colonels*, 213-228.

on to form the foundations for the development of operational art in the Soviet state after the First World War.⁴¹⁹

On the eve of war

The term operation emerged as one of the early military terms in Renaissance Europe, with a very broad meaning and content and the least defined military term. Operation was mainly associated with the movement of larger forces within a campaign (strategic operations), but it was also used about manoeuvres on the battlefield (tactical operations). The term was further applied to a cluster of military activities in general. By the end of the nineteenth century, land warfare had changed from campaigns where a few battles were to decide the war to campaigns of several operations. Each operation consisted of several battles, which often overlapped and continued over a prolonged period. The accumulated effect of these battles could be decisive regarding the outcome of the war. The wars between great powers had begun to be decided by attrition or exhaustion, not by decisive outcomes of one or few isolated battles.

By the last decades of the nineteenth and the first of the twentieth century, the term operation was beginning to acquire new content and meaning in some military circles. Officers at the Russian General Staff combined one line of German strategic and operational thinking with indigenous analysis and experience of modern war. The outcome was an understanding of operations where the purpose was to bring together and direct the multitude of fragmented actions in modern industrialised warfare. On the one hand, this task was too extensive for tactical commanders who had to concentrate on fighting battles and engagements. On the other hand, it would flood the high command with large quantities of tactical and logistical details that would impair the headquarters' capacity for strategic command and administration. Operations were acquiring some of the characteristics of operational art, which Svechin outlined a few years later. The Russian reformers were ousted from the General Staff. The conservative autocracy secured control before the nascent operational thinking had any chance to mature and influence the Russian army's organisation and approach to modern war.

⁴¹⁹ Harrison, *The Russian Way of War*, 38-39; Menning, *Bayonets before bullets*, 277-278.

By 1914, the European armies prepared for a war that was expected to be decided by battles, by clusters of battles (*Gesamtschlacht*), the general battle (*bataille générale*), or operation-battles (*bataille-opération*), all which would last for several days. Operations were still an element in strategy related to the movement of armies to the battlefield, where the decisive battle(s) would be fought. Military thinking that focused on operational elements was, with a few exceptions, not translated into doctrine. The Napoleonic approach to war and warfare was still held in high regard. The recent experience was interpreted within the paradigm of the decisive battle or a cluster of battles. Other experiences, such as the US Civil War, were shelved as the US Army went on to conduct counter-insurgency and “civilise” the Indians. At the same time, the Jominian paradigm was relearned in new editions of military textbooks.

A new continuity in the development of warfare that began in the mid-nineteenth century was a development in bits and pieces, in uneven paces. At times, it was cut short by changes in tasks for armies or by internal power struggles. The puzzle that emerged as operational art in the second decade of the twentieth century revealed itself as a seemingly random collection of fragments of a puzzle that did not have any blueprint. Few recognised the significance of these pieces among all the other experiences of modern war, leaving the established pre-industrial strategy-tactics paradigm to maintain its dominant position. Thomas Kuhn’s observation of how paradigms shifts happen and how resistance last is somewhat revealing:

Though some scientists, particularly the older and more experienced ones, may resist indefinitely, most of them can be reached in one way or another. Conversions will occur a few at a time until, after the last holdouts have died, the whole profession will again be practicing under a single, but now a different, paradigm. We must therefore ask how conversion is induced and how resisted.⁴²⁰

Only when the disciples of Jomini faced the modern battlefield through their trench periscopes did the last holdouts begin to die. But they died hard.

⁴²⁰ Thomas S. Kuhn, *The Structure of Scientific Revolutions* (Chicago, IL: University of Chicago Press, 1996), 152.

Chapter 4: Endeavours

The system of battles for attrition was incapable of finding an operational solution to the problem of breaching the continuous front, and was therefore senseless. As for exhausting the enemy, the system exhausted the attackers more than the defenders. The whole thing was a senseless system of self-attrition.

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This chapter will study two endeavours to adapt land warfare to be able to conduct offensive operations to reach strategic goals. These two are the Russian Brusilov offensive in the summer of 1916 and the German Michael and Mars offensives in March-April 1918. Both efforts employed innovative tactics and yielded significant tactical and operational gains but failed strategically. They are both examples of emerging operational art. The strategic-operational and operational-tactical relations in the operations are essential indicators of the emergence of operational art. On the other hand, dysfunctional strategic-operational interactions were also the reason why successful operations did not yield strategic results.

The Russian offensive by the South-Western Front in Galicia in the summer of 1916 was a stunning operational success that influenced the Soviet development of operational art after the war. It was an offensive that utilised the means available and exploited vulnerabilities in enemy defences to a point where tactical successes could be developed into substantial operational gains. In March 1918, the Germans launched a massive offensive in Picardie on the Western Front that threatened to collapse the Allied defences and decide the war. The infiltration tactics and artillery techniques have influenced modern military theory. Still, the offensive was criticised for its lack of strategic direction and whether there were any operational perspectives in the planning and execution.

These two operations displayed some unique operational qualities that qualify them as examples of incomplete steps towards the successful conduct of modern war. The chapter will explain how operational practice managed to utilise innovation in tactics and fire support systems and combine these in modern operations. What was missing to transform the Russian and German operational successes into strategic gains, was their respective leaderships' ability to provide strategic direction for the operations. This argument reflects Svechin's critique of

⁴²¹ Isserson, *The Evolution of Operational Art* 36.

the German operational successes: even highly successful operations are of little value if they are not oriented towards clear strategic objectives.⁴²²

The purpose of this chapter is to consider whether the planning and conduct of these operations reveal any understanding of the nature of operational art. Some operational elements will be examined to answer the question. Firstly, it will examine the strategic context of both operations and the way the Russian and German high commands planned to use the operations within the respective campaigns. Secondly, it explores the operational commanders' planning and conduct of the operations for evidence of understanding of operational art. Finally, it considers the way tactics were adapted to serve the purpose of the operation. Both operations will then be compared and criticised in light of the inter-war Soviet theory of operational art.

Entente strategy development and strategic coordination

The Great War began in the west when Germany unleashed its campaign to defeat France in six weeks. The campaign plan is known as the Schlieffen Plan, after Graf Alfred von Schlieffen, chief of the Great General Staff between 1891 and 1906. It is also named the Moltke Plan after Schlieffen's successor Helmuth von Moltke the Younger, nephew of Helmuth von Moltke the Elder.⁴²³ Moltke modified the plan according to changed circumstances. Nevertheless, the campaign failed when the French army managed to block the main effort and counterattacked with the support of the British Expeditionary Force (BEF). The Western Front settled into a system of trenches after the attempts of outflanking manoeuvres reached the Channel late October 1914.⁴²⁴ The Eastern Front was characterised by decisive tactical victories, such as the Battles of Tannenberg and the Masurian Lakes, none which yielded any strategic outcome. There were further offensives in the east the next year when the Central Powers pushed the front hundreds of kilometres eastwards. These did not either reach any strategic decision.⁴²⁵

⁴²² Svechin, *Strategy*, 69.

⁴²³ Groß, *Mythos und Wirklichkeit*, 85-104; Hew Strachan, *The First World War : Vol. 1 : To arms* (Oxford: Oxford University Press, 2001), 163-180. There has been a discussion whether there was a Schlieffen Plan or not. For an overview of the debate, see Ehlert, Epkenhans, and Groß, *Der Schlieffenplan*.

⁴²⁴ Groß, *Mythos und Wirklichkeit*, 105-109; Strachan, *The First World War 1*, 242-280.

⁴²⁵ Groß, *Mythos und Wirklichkeit*, 109-128; Norman Stone, *The Eastern Front 1914-1917* (London: Penguin Books, 1998), 44-121, 165-193; Strachan, *The First World War 1*, 347-373.

While the Entente had to act offensively to force the Germans from the ground and vital resources they occupied in Northern France and Belgium, the Germans could allow themselves to defend what they had conquered. On the Eastern Front the force density was lower and the room for mobile warfare greater, but even clear-cut German victories against Russian armies did not decide the war. There was simply too much terrain and too many Russian reserves for the available German and Austrian-Hungarian forces in the east. The Russians themselves lacked both strength and capability to mount any successful offensives.⁴²⁶ What followed was an ongoing quest to find alternative ways to conduct land warfare. These attempts included technology, such as chemical weapons and tanks, and tactics and techniques, such as infiltration tactics and elite assault troops. In addition, there were alternative strategic approaches, such as physical attrition of enemy troops and resources, or attempts at indirect strategies, such as Gallipoli and Salonika.⁴²⁷

A joint Entente strategy began to evolve in late 1915 with the planning conferences in Calais and Chantilly in December. Despite friction between politicians and generals on both sides of the Channel, a political framework for strategy was established, and military strategy followed suit. Germany's advantage of an interior position, where it could shift forces between the eastern, western, and Italian fronts and fight their enemies separately, was to be countered by simultaneous Entente offensives along all fronts. Coordinated and continuous pressure along all fronts would prevent Germany from shifting reserves and bringing Entente superiority to bear.⁴²⁸

The plans called for coordinated Entente offensives by the summer of 1916. The method to reach the strategic aims was

“coordinated offensives” in the principal theaters and that these offensives should occur as soon as possible after March 1916. If the enemy attacked one of the allied powers, the others would provide as much assistance as they could. The representatives also

⁴²⁶ *The First World War* (London: Simon & Schuster UK Ltd, 2003), 59.

⁴²⁷ Robert T. Foley, *German strategy and the path to Verdun: Erich von Falkenhayn and the development of attrition, 1870-1916* (Cambridge: Cambridge University Press, 2005), 259-268; Jessen, *Verdun 1916 Urschlacht des Jahrhundert*, 12-15; Strachan, *The First World War*, 113-121, 152-156.

⁴²⁸ Robert A. Doughty, *Pyrrhic Victory French Strategy and Operations in the Great War* (Cambridge, MA: First Harvard University Press, 2005), 250-252; David French, *British strategy & war aims, 1914-1916* (London: Allen & Unwin, 1986), 164-165; Elizabeth Greenhalgh, *Victory through coalition : Britain and France during the First World War*, Cambridge military histories (Cambridge: Cambridge University Press, 2005), 42-46; Herfried Münkler, *Der Große Krieg - Die Welt 1914 bis 1918* (Berlin: Rowohlt, 2013), 403-404; Philpott, *War of Attrition*, 215-217.

agreed that “attrition of the enemy should be pursued with partial and local offensives”.⁴²⁹

The tactical problem of breaching the enemy’s fortified lines, “*rupture des lignes fortifiées*”, was considered easier on the Eastern Front.⁴³⁰ It was acknowledged that it would not be possible to conduct decisive manoeuvres to force a military decision by the defeat of the enemy armies in the field, but aim to wear down the adversary, “*l’usure des armées adverses*”.⁴³¹ The strategic means was tactical attrition and not breakthrough and decisive manoeuvre. In the west, there would be a British-French offensive on the river Somme along a front up to 70 km, while Russia and Italy would mount simultaneous offensives.⁴³²

In the preceding months, the French Commander-in-Chief Joseph Joffre had strived to improve the offensive tactical methods but acknowledged that it was impossible to break through the elaborate German defensive system in one operation. Joffre realised that the means to defeat the enemy was to wear him down and protect one’s forces from attrition. Joffre stated that the British army had to wage attrition in 1916, as the French army had to recover from the losses during the offensives of 1915.⁴³³ General Philippe Pétain, commander of the Second Army, stated clearly the role of attrition in his report of 1 November 1915 of the lessons learned from the September offensive in Champagne. Methodical attrition must be the precondition for launching the decisive attack to force the enemy to retire. Pétain’s analysis revealed that his army failed because the Germans could bring in reinforcements unhindered from their reserves and restore the defences.⁴³⁴ Attrition does not appear to have been an end in itself in Pétain’s opinion, but a means to weaken the enemy so he could be attacked and forced out of his defences.

After the Champagne offensives in September 1915, General Curières de Castelnau, commander of the Central Army Group, concluded his report with some recommendations for future offensives. An offensive against German forces was expected to be a series of operations (*d’une série d’opérations*), where each position in the enemy defensive belt was to

⁴²⁹ Doughty, *Pyrrhic Victory*, 252.

⁴³⁰ AFGG IV-1-1, Annexe No. 46, 84.

⁴³¹ Ibid., 85.

⁴³² Ibid., 84-85. Doughty, *Pyrrhic Victory*, 251-252; David French, *The strategy of the Lloyd George Coalition, 1916-1918* (Oxford: Clarendon, 1995), 199-203; Greenhalgh, *Victory through coalition*, 46; Philpott, *War of Attrition*, 221-230.

⁴³³ AFGG, III-3, Annexe No. 2792, 1023-1024.

⁴³⁴ AFGG, III-4, Annexe No. 3042, 168-169.

be taken by a new operation with fresh troops. The rupture of the enemy front must be considerable in breadth and depth, and the assault troops would have to be rotated and reconstituted to avoid them being worn down themselves. These series of operations were to be tactical operations within the framework of an army, and the focus was on the army corps and its divisions. It was also acknowledged that the processes and methods differed between the armies within the army group to the extent that they did not “speak the same language”, which reduced interoperability between the different units and services.⁴³⁵

In Joffre’s January 1916 instructions for offensive combat by large units, terms of attrition or tasks and missions to wear down enemy forces were not present. The emphasis was placed on close cooperation between infantry and artillery, and following up success in attack with sufficient artillery support to secure the gains and widen the breach. For the army and army corps, the ambitions were to immediately exploit a breakthrough and rush cavalry through the breach.⁴³⁶ The stated purpose of the attack in these instructions was not attrition but breakthrough and pursuit. The role of attrition was a separate issue in the memorandum of 15 February from Joffre for the 1 March conference in Chantilly. The Allies were to act cautiously until they were ready for the planned series of coordinated offensives outlined in the December conference. Despite indications of a German offensive in the west (not expected until April) the reorganising of the Russian army would to a great extent determine the timing for the concerted Allied offensives.⁴³⁷

The Entente’s strategic plan for 1916 was disrupted when the Germans launched a massive offensive at Verdun in February. As the German effort and pressure increased, France was put under severe pressure and had to reduce its role in the planned British-French offensive. The March 1916 conference at Chantilly was delayed until 12 March, and in the introduction paper, Joffre pressed to advance the dates for the coordinated offensives and even urged Russia to launch an offensive “without delay” and with the means available.⁴³⁸ At the conference, Joffre got assurance from the Entente to launch supporting offensives on the Russian front on 15 May and in the Balkans and Italy on 30 May, while France held against

⁴³⁵ *AFGG, III-4*, Annexe No. 3019, 106-110. Interoperability is a NATO-term that sets the standard of how different armed forces are able to operate together: “The ability to act together coherently, effectively and efficiently to achieve Allied tactical, operational and strategic objectives.” NATO, *AAP-06, NATO Glossary*, 68.

⁴³⁶ *AFGG, III-4*, Annexe No. 3298, 682-702.

⁴³⁷ *AFGG, IV-1-1*, Annexe No. 237, 438-450.

⁴³⁸ *AFGG, IV-1-2*, Annexe No. 1163, 1288-1299; Doughty, *Pyrrhic Victory*, 279-280.

the German onslaught at Verdun. The Russians would also mount a local offensive immediately (*une action locale importante dès maintenant*).⁴³⁹

The British had to take more responsibility for the offensive on the Somme as Joffre had to reduce the French contribution because of the strain at Verdun. While the offensive on the Somme was being planned, two central generals argued over strategy. Pétain and Ferdinand Foch were critical to either the form of attack or to the offensive itself. Pétain was now commander of the Central Army Group, (*Groupe d'armées du centre* (G.A.C.)). He recalled the 1915 Champagne offensive and proposed limited offensives on all fronts to deplete German resources. Foch, commander of the Northern Army Group (*Groupe d'armées du Nord* (G.A.N.)), argued for delaying any French attacks until 1917 and reconstitute the French army. An Austrian attack against Italy on 14 May made the Russian offensive even more important. By the spring and summer of 1916, the Entente used the Chantilly strategy as the basis for coordinated offensives in France, Italy, and on the Eastern Front to ease the German pressure against the French forces at Verdun.⁴⁴⁰

The Chantilly conferences developed and maintained the agreed Entente strategy that provided the framework for each nation's military strategy. The key element concerning the war's strategic conduct was to coordinate offensives in time and space to negate the Central Power's ability to transfer reserves to any threatened front in turn. When the German Verdun offensive disrupted the Entente's plan for synchronised offensives in 1916, the Entente's Chantilly strategy allowed for the coordination of relief offensives within the same framework.

In the protocols from the Chantilly conferences, the terms operation and campaign were only used in a few instances in relation to the offensives. However, they were not used in ways that would reflect their role as modern operational terms. The term operation was still used about military activities in general, and in the December 1915 conference mainly by the Italians.⁴⁴¹ Half the instances of the term operations were "theatre of operations".⁴⁴² On the other hand,

⁴³⁹ *AFGG, IV-1-2*, annexe no. 1212, 1352.

⁴⁴⁰ Doughty, *Pyrrhic Victory*, 280-283, 289-290; Rudolf Jeřábek, "Die Brussilowoffensive 1916 Ein Wendpunkt der Koalitionskriegführung der Mittelmächte" (Doctoral dissertation, University of Vienna, 1982), 204-205.

⁴⁴¹ *AFGG, IV-1-1*, Annexe No. 46, 89-94.

⁴⁴² *Ibid*, Annexe No. 46-49, 77-119.

the use of campaign (*campagne*) was in two-thirds of the instances a synonym for “field” in field fortifications, field artillery, and field army.⁴⁴³ By the March 1916 conference, operation was used in a similar way and still as a general term, while campaign was mainly used in relation to artillery.⁴⁴⁴ Campaign and operation were used throughout these documents, and the terms showed some degree of hierarchical relations, where campaign was related to strategy and operation to activities in general. Although there were instances where terms that resemble modern operational terminology, these were just “incidental remarks” that do not indicate any institutionalised use and understanding of operational art or operational terminology.⁴⁴⁵ Castelnau’s observation of “a series of operations” was a farsighted exception, but still an incidental remark in the bigger picture.⁴⁴⁶

The 1916 Brusilov offensive

The strategic context for the Russian offensives in 1916 was the Entente’s Chantilly strategy. When the German Verdun offensive unhinged the purpose of the Chantilly strategy, Russia conducted their offensives to relieve the pressure on the French army. As the German Verdun offensive gained momentum, the French requests for a Russian relief were answered.

The Russian losses in the previous year were to some extent replaced, and the Russians outnumbered the Central Powers in men and materiel almost two to one on the Eastern Front. The Russian Western Front, commanded by General Evert, was to be the main effort of the March offensive. The North-Western Front, commanded by General Kuropatkin, would conduct supporting attacks.⁴⁴⁷ The Russian army opened the offensive with feeble artillery preparations on 18 March 1916. The artillery barrage did little damage to the German defenders, and the massed assault lines of infantry were submitted to devastating artillery and small arms fire. The lack of infantry-artillery cooperation contributed to the disaster, and cooperation between the two fronts was almost non-existent. Renewed attacks only reinforced the disaster and contributed to nothing but mounting numbers of casualties. Despite some local Russian successes, the Germans recaptured the terrain they had lost. The offensive

⁴⁴³ Ibid, Annexe No. 46-47, 78-113.

⁴⁴⁴ Ibid, Annexe No. 237, 439-459; *AFGG, IV-1-2*, Annexe No. 1212, 349-355

⁴⁴⁵ Skinner, "Meaning and Understanding in the History of Ideas," 7-8, 23-24.

⁴⁴⁶ *AFGG, III-4*, Annexe No. 3019, 107.

⁴⁴⁷ Front in this context is the Russian term for an army group.

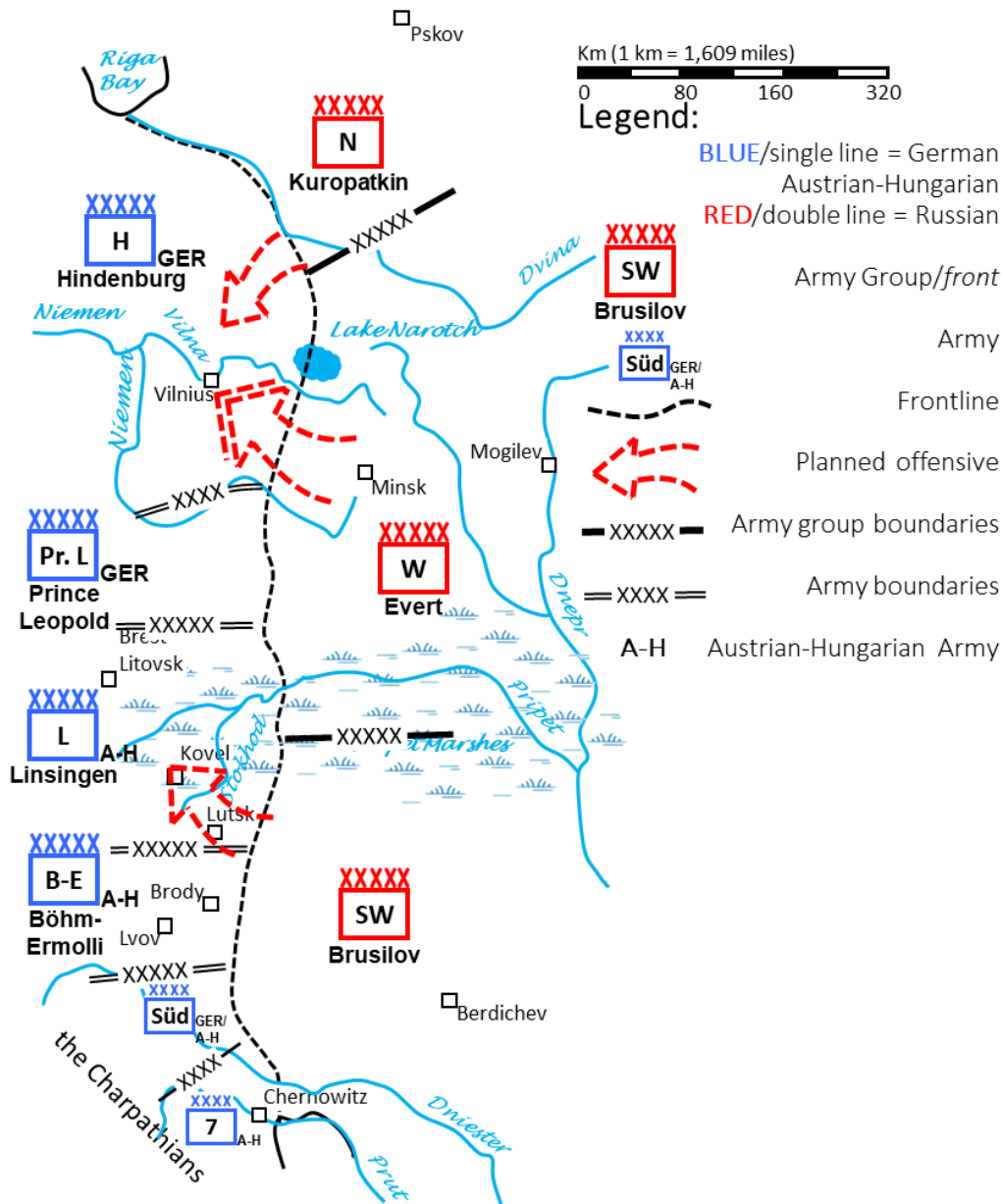
offered no relief to the defenders of Verdun. Norman Stone argues that this Battle of Lake Narotch was a decisive battle, as it exposed the “extreme incompetence with which affairs had been combined in March,” and cured the North-Western and Western Fronts of any future offensive attempts.⁴⁴⁸ While Russia was committed to the Chantilly strategy and to support its allies, its leading field generals were hesitant.

Planning and preparations

The plan for the 1916 summer campaign was developed by the supreme headquarters of the Russian Imperial army, in accordance with the Chantilly strategy. Despite opposition from generals Kuropatkin and Evert, still commanders of the North-Western and Western Fronts, the chief of the general staff General Mikhail V. Alexeev maintained that the offensive must proceed. The Tsar had committed Russia to the Chantilly strategy of simultaneous offensives at all fronts, but not even the Russian local superiority of five and six to one against the Germans could convince Kuropatkin and Evert to attack. A compromise was agreed to allow two more months for preparations and the transfer of a thousand pieces of heavy artillery. The only commander who declared himself ready for an offensive was General Aleksei Alekseevich Brusilov, commanding the South-Western Front south of the Pripet marshes. His front had no particular superiority against the Austrian armies opposing him. Still, Brusilov was allowed to launch an offensive although Alexeev’s had reservations. As a result of Brusilov’s decision to commit his forces to an offensive, the Russian army was to embark on a summer campaign of offensives along the entire front, from the Baltics to the Rumanian border. The North-Western and Western Fronts would be reinforced. The Western Front would be the main effort, while the South-Western Front would support the campaign by an offensive to tie up the Austrian forces and prevent them from reinforcing the defence against the Russian main effort.⁴⁴⁹

⁴⁴⁸ Timothy C. Dowling, *The Brusilov Offensive* (Bloomington IN: Indiana University Press, 2008), 2; Jeřábek, "Die Brussilowoffensive 1916," 190-191; Claus Bundsgaard and Niels Bo Poulsen, "Brusilov-offensiven, juni-september 1916: Sejr og sammenbrud på Østfronten [The Brusilov Offensive, June-September 1916: Victory and Collapse on the Eastern Front]," in *Om læring og indsigt fra krig [On Learning and Insight from War]*, ed. Michael H. Clemmesen (Odense: Forsvarsakademiet, 2018), 33-37; Stone, *The Eastern Front*, 227-231; Graydon A. Tunstall, "Austria-Hungary and the Brusilov Offensive of 1916," *Historian* 70, no. 1 (2008), 34.

⁴⁴⁹ Alekseĭ Alekseevich Brussilov, *A soldier's notebook, 1914-1918* (London Macmillan & Co., Ltd., 1930), 215-218; Bundsgaard and Poulsen, "Brusilov-offensiven," 36-37; Dowling, *The Brusilov Offensive*, 1-3; Stokov, *Vooruzhennyye sily i voyennoye iskusstvo v pervoy mirovoy voyne*, 383-385; Tunstall, "Austria-Hungary and the Brusilov Offensive of 1916," 35-36.



Sketch 4.1. The Eastern Front June 1916. Strategic attack directions, main effort, and operational formations.⁴⁵⁰

General Aleksei Brusilov was a cavalry general from a family of military men. He served with distinction as a dragoon in the 1877-1878 war against the Ottoman Empire. He joined the Cavalry Officer School and served in various postings at the school until he took command of a cavalry division. Brusilov visited several European great powers to study training and as corps commander was noted for his approaches to training. He was put in command of the Eighth Army at the beginning of the First World War and made several successful offensives,

⁴⁵⁰ *Weltkrieg*, 10, Karte 6; Dowling, *The Brusilov Offensive*, 53; L. V. Vetoshnikov, *Brusilovskiy proryv. Operativno-strategicheskii ocherk [Brusilov's breakthrough. An operational-strategic essay]* (Moskva: Voenizdat, 1940), sketch 22, 23.

but had to retire due to failures elsewhere. In late March 1916, Brusilov became commander of the South-Western Front.⁴⁵¹

Despite receiving reinforcements of heavy artillery and ammunition, Kuropatkin and Evert were still dragging their feet and wanted to cancel or postpone the offensive. Brusilov, conversely, assembled his army commanders and laid out his plan for the offensive, a plan that was remarkably different from previous Russian offensive practice. He counted on minute planning and thorough preparations. Instead of massing his forces against one main objective, Brusilov intended to launch an offensive with all of his four armies simultaneously along his entire front. Brusilov directed his four army commanders to identify attack sectors with a width of at least 15 km, one sector for each army. The northern attack towards the rail junction at Kovel was Brusilov's main effort. The Ninth Army at the Rumanian border was also prioritised, since success there might induce neutral Rumania to enter the war alongside the Entente. This illustrates the offensive's political and strategic potential. Since the armies concentrated their forces along a narrow front, they would gain local superiority, while the entire front attacked, the enemy would not be able to move reserves to every threatened sector.⁴⁵²

Instead of massing the sparse artillery in a massive artillery preparation, the guns were to be used in close cooperation with the infantry against selected targets to open the way for the assault forces. The infantry was to dig their way as close to the enemy trenches as possible and prepare hidden assembly areas. Brusilov also adopted recent tactical innovations from the French and the Germans and adapted them to the local context and the characteristics of the Russian army. The assault tactics for the infantry mirrored the French experience of small-scale advances following a rolling artillery barrage but was extended to be executed along the entire front. A blend of deception and secrecy and overwhelming the enemy with large amounts of information, real or fake, were all means to bewilder the Austrian and German defenders. Brusilov's armies would attack by a mixture of infiltration tactics, close infantry-

⁴⁵¹ Dowling, *The Brusilov Offensive*, xxiii-xxv.

⁴⁵² Brussilov, *A soldier's notebook*, 219-225, 232-234; Bundsgaard and Poulsen, "Brusilov-offensiven," 40-43; Dowling, *The Brusilov Offensive*, 42-47; Strokov, *Vooruzhennyye sily i voyennoye iskusstvo v pervoy mirovoy voyne*, 388-399; Tunstall, "Austria-Hungary and the Brusilov Offensive of 1916," 36-37.

artillery cooperation, and thorough preparations to deceive the enemy. All of those preparations were aimed at increasing the chances of surprise and breakthrough.⁴⁵³

The South-Western Front consisted of the Eight Army in the north, which was reinforced and the front's main effort. To the south were Eleventh Army, Seventh Army, and the Ninth Army facing Chernowitz and the Carpathian Mountains. The Central Powers facing the South-Western Front were mainly Austrian-Hungarian troops. To the north was *Heeresgruppe Linsingen* (army group) of two composite army detachments and the Fourth Army. To the south was *Heeresgruppe Böhm-Ermolli* with the First and Second Armies. Further south was the *Deutsche Südarmee* (German South Army), which included the *Korps Hoffmann*, a German division alongside an Austrian-Hungarian corps. The German and Austrian strategic assessment was that the Russians were not able to mount any large offensives in 1916 due to the heavy losses in the previous year. The Russian March offensive at Lake Narotch was clumsily executed and stopped dead in its tracks and suffered heavy casualties, further reassuring the Central Powers that Russia would remain on the defensive. Austria had transferred troops to the Italian front and Germany was committed at Verdun, so the Russians had numerical superiority in the east.⁴⁵⁴

The area of operations was characterised by large rivers and their numerous tributaries. In the northern sector, the rivers ran northwards into the Pripyet and the Bug ran past Brest-Litovsk and turned north-west. In the south, the main rivers drained the Carpathian Mountains flowing southeast towards the Black Sea. River lines were essential defensive features and important fall-back positions in a retreat. There were few railways on the Russian side and only a north-south single-track line west of Kiev. The Austrian and German side of the front line, had higher railway density, many double-track, more rolling stock, and rail traffic was far better managed than on the Russian side. The most important was the north-south line through the important rail hub Brest-Litovsk along the entire front via Lvov and Stanislaw to Chernowitz. This lateral rail line allowed the Central Powers to shift troops along the front faster than the Russians and would allow them to respond strategically to any Russian initiatives.⁴⁵⁵

⁴⁵³ Brussilov, *A soldier's notebook*, 219-224; Bundsgaard and Poulsen, "Brusilov-offensiven," 40-42; Dowling, *The Brusilov Offensive*, 41-47.

⁴⁵⁴ *Weltkrieg, 10*, 424-425; *The Brusilov Offensive*, 48-65; Vetoshnikov, *Brusilovskiy proryv*, 20.

⁴⁵⁵ *Weltkrieg, 10*, Karte 6, 7; Dowling, *The Brusilov Offensive*, 8.

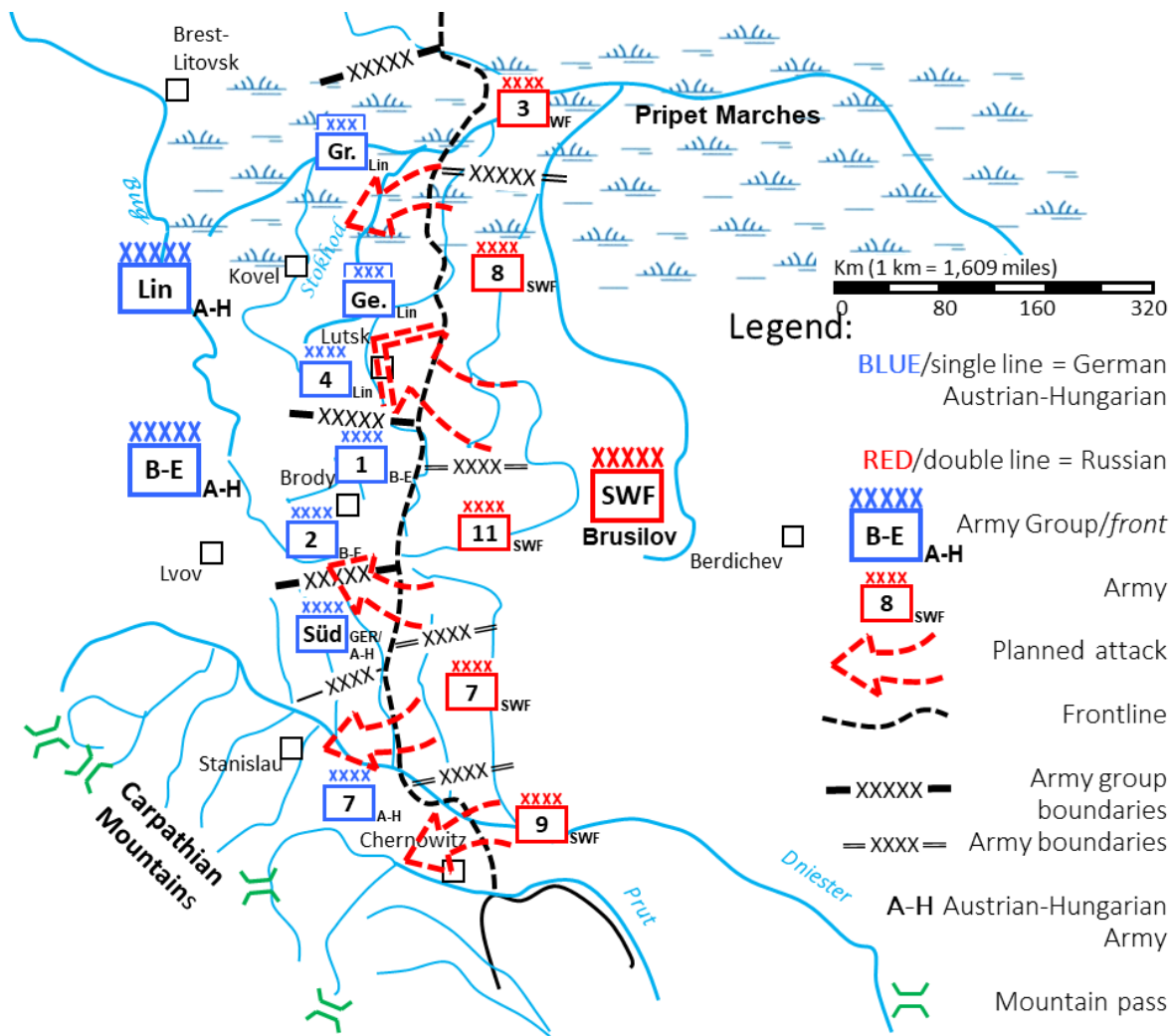
The Austrian defences facing the South-Western Front consisted of three fortified belts of several trenches in each belt and was supported by superiority in artillery and machine guns with interlocking fields of fire. The trench systems had shell-proof underground shelters and concrete bunkers and were reinforced with barbed wire obstacles and landmines. The Austrians had transferred their best troops to the Italian front, while those that manned the defences facing Brusilov's front had spent more time constructing defences than training to fight in them. Another weakness of the Austrian defences was that only the first belt was close to being completed. The second and third belts were left more or less unfinished. The defences lacked depth, which might not have mattered against the kind of uncoordinated human wave attacks the Russian had mounted so far in the war. But the lack of defence-in-depth was a vulnerability that Brusilov planned to exploit when he chose his unorthodox offensive method.⁴⁵⁶

Execution and outcome

The artillery of the South-Western Front opened up at 4 AM on 4 June. The entire width of the front was shelled for three hours, but there was no massive concentration at any point, just a steady, deliberate fire to destroy wire obstacles and trenches. As the guns fell silent the defenders emerged from their shelters ready to face massive Russian attack columns. But there were only small reconnaissance forces to probe the defences and assess the damage. An hour later the artillery began a deliberate fire against chosen targets, but still no massive or concentrated barrages. At this point, the Austrians and Germans expected no more than local attacks to relieve the pressure on the Italians. The perceived lack of determination in the Russian probing attacks confirmed these expectations.⁴⁵⁷

⁴⁵⁶ Brussilov, *A soldier's notebook*, 193, 199-200, 229-232; Bundsgaard and Poulsen, "Brusilov-offensiven," 33-37; Dowling, *The Brusilov Offensive*, 35-36, 48-59; Jeřábek, "Die Brussilowoffensive 1916," 253-254, 293-294; Nikolay Yakovlevich Kapustin, *Operativnoye iskusstvo v pozitsionnoy voyne* [Operational art in a positional war] (Moscow, Leningrad: Gosudarstvennoye izdatel'stvo, 1927), 244; Stokov, *Vooruzhennyye sily i voyennoye iskusstvo v pervoy mirovoy voyne*, 386-387; Tunstall, "Austria-Hungary and the Brusilov Offensive of 1916," 33.

⁴⁵⁷ Brussilov, *A soldier's notebook*, 241-243; Dowling, *The Brusilov Offensive*, 62-67; Jeřábek, "Die Brussilowoffensive 1916," 254-257; Stokov, *Vooruzhennyye sily i voyennoye iskusstvo v pervoy mirovoy voyne*, 399-402; Tunstall, "Austria-Hungary and the Brusilov Offensive of 1916," 38-41.



Sketch 4.2. The Eastern Front June 1916. The force groupings south of the Pripet Marshes, Brusilov’s operational plan, its main effort, and attack directions.⁴⁵⁸

While the Russian advances in the centre were limited to breaking into the Austrian tactical defences, the attacks in the south broke through all the Austrian defensive lines before fresh reserves managed to halt the advance. During the next two weeks, the Russians had advanced 15 km along the Rumanian border and captured the city of Czernowitz. The attack collapsed the defences in the north and had within a week pushed 50 km into the depth of the Austrian defences and captured the city of Lutsk. Attempts by the Austrians to stem the Russian offensive were shattered time and again. The Russians occasionally even lost contact with the retreating Austrians. But by the second week the Russians were forced by the lack of supplies and reserves to halt the advance and pause for resupply. At the strategic level, the two other fronts had not moved into action. Alekseev “was unable (or unwilling) to convince Evert and

⁴⁵⁸ Dowling, *The Brusilov Offensive*, 42-47, 60; Vetoshnikov, *Brusilovskiy proryv*, 36-37, 157-161, Sketch 153, 117.

Kuropatkin to attack in support of the South-Western Front.”⁴⁵⁹ Alekseev did however transfer three army corps from the North-Western Front to Brusilov to guard the offensive from a possible German thrust from the north.⁴⁶⁰

As Brusilov was pressing towards Kovel he faced increasing resistance as the Germans reinforced the Austrians and managed to stabilise the front. On 19 June, Brusilov ordered his forces on the Kovel front to dig in and prepare to renew the offensive in July. The main effort of the entire Russian campaign was moved from the reluctant North-Western and Western Fronts to Brusilov’s South-Western Front. What was intended as a supporting operation became the campaign’s main operation by default, leaving the strongest fronts to only conduct secondary operations (Dowling uses the term “demonstrations”). The South-Western Front was attached the adjacent Third Army from the Western Front. Furthermore, the Guards Army was transferred to Brusilov’s command. As more forces were transferred south, the Russian railways’ lack of capacity slowed the force transfer, while the well managed German and Austrian rail net allowed them to win the reinforcement race. Brusilov was also obliged to align the renewal of the offensive with the Anglo-French offensive at the Somme in July, which allowed the Central Powers more time to prepare for the next blow. By early July Brusilov had an approximately two-to-one superiority but had lost his perhaps most vital asset; the element of surprise. The high casualties caused a shortage of troops and officers trained according to his new and unorthodox tactics. The senior commanders of the Guards Army that he received as reinforcements were not held in any high regard, lacking any understanding of modern war and mainly owing their senior positions to their nobility and court connections. None of Brusilov’s reinforcements understood or were trained in the South-Western Front’s successful infiltration and artillery tactics.⁴⁶¹

General Evert’s Western Front finally attacked in the first week of July but still with outmoded tactics and sustained huge losses without influencing the Central Powers’ strategic

⁴⁵⁹ Dowling, *The Brusilov Offensive*, 87.

⁴⁶⁰ Brussilov, *A soldier's notebook*, 241-246; Bundsgaard and Poulsen, "Brusilov-offensiven," 43-47; Dowling, *The Brusilov Offensive*, 68-87; Jeřábek, "Die Brussilowoffensive 1916," 264-285, 294-311; Stokov, *Vooruzhennyye sily i voyennoye iskusstvo v pervoy mirovoy voyne*, 402-404; Tunstall, "Austria-Hungary and the Brusilov Offensive of 1916," 41-47.

⁴⁶¹ Brussilov, *A soldier's notebook*, 258-260; Bundsgaard and Poulsen, "Brusilov-offensiven," 48-49; Dowling, *The Brusilov Offensive*, 88-106; Harrison, *The Russian Way of War*, 67-68; Stokov, *Vooruzhennyye sily i voyennoye iskusstvo v pervoy mirovoy voyne*, 404-405; Tunstall, "Austria-Hungary and the Brusilov Offensive of 1916," 47.

dispositions, literally “a complete and bloody failure.”⁴⁶² The attacks by the Western Front had largely run their course when Brusilov renewed the offensive against Kovel on 4 July. But, despite initial success, the advance was halted along the Stockhod River. A further transfer of troops from the two northern fronts to the South-Western Front increased the numerical superiority, while Kuropatkin’s North-Western Front was ordered to conduct a supporting offensive to coalesce with Brusilov’s renewal of the offensive mid-July. Brusilov’s armies made significant gains in the centre and had captured Brody by the end of the month. But the lack of coordination between the Russian fronts and armies allowed the Germans and Austrians to shift their reserves southwards and halt the attacks, while inflicting heavy casualties.⁴⁶³

When Brusilov resumed the offensive in early August, the plan was to concentrate on Kovel, attack in the centre to tie up German and Austrian reserves, and press the offensive in the south. Before the offensive got started, the Austrian initiated a counteroffensive that struck Brusilov’s southern army and delayed the Russian attack. The offensive began according to plan in the centre but was halted within days when German reserves was transferred from the quiet sectors in the north. In the south, the artillery opened up in the morning of 7 August and the infantry followed by noon. After a few days of heavy fighting and severe losses, the Russians reached the Carpathian passes leading into Hungary but lacked reserves to follow up the success. The Germans and Austrians were again able to reinforce the threatened sectors, thus the last Russian attack was defeated on 12 August. The final offensive towards Kovel ran into well prepared German and Austrian defences and was defeated with heavy Russian casualties. By mid-August, the Brusilov offensive was over.⁴⁶⁴

Operational elements

The summer campaign was Russia’s major contribution to the Entente’s Chantilly strategy to launch simultaneous offensives against the Central Powers and prevent them from transferring reserves from one front to another. This strategy was disrupted by the German Verdun

⁴⁶² Harrison, *The Russian Way of War*, 67; Jeřábek, "Die Brussilowoffensive 1916," 374.

⁴⁶³ Brussilov, *A soldier's notebook*, 249-254; Dowling, *The Brusilov Offensive*, 106-134; Harrison, *The Russian Way of War*, 68-69; Stokov, *Vooruzhennyye sily i voyennoye iskusstvo v pervoy mirovoy voyne*, 405-407; Tunstall, "Austria-Hungary and the Brusilov Offensive of 1916," 48-49.

⁴⁶⁴ Dowling, *The Brusilov Offensive*, 135-150; Jeřábek, "Die Brussilowoffensive 1916," 423-431.

offensive, but it served as a framework to coordinate relief offensives by Russia and Great Britain. The first Russian March offensive at Lake Narotch was a costly failure which did nothing to ease the pressure at Verdun. The Russian summer campaign failed strategically despite Brusilov's operational success south of the Pripet Marshes. After the Brusilov offensive had reached the Carpathians, Rumania decided to leave its neutrality and join the Entente. But its army was not ready for modern war and a well-conducted German-led counter offensive defeated the Russian and Rumanian forces, captured Rumania's natural resources, and increased Russia's defence responsibilities.⁴⁶⁵

The Germans did not transfer any troops from the Western Front to counter the Brusilov offensive until 9 June and only two of a total of eight German divisions were transferred before the main operations at Verdun were over. The Central Powers' reserves to counter Brusilov's offensive were drawn from Italy, from quiet sectors of the Eastern Front, and from the strategic reserves. Even the Austro-Hungarian divisions from Italy were withdrawn after the Italian offensive had ended, so the Brusilov offensive had no impact on the force ratio in Italy either.⁴⁶⁶ Brusilov himself concluded in his memoirs that "[t]he campaign had no strategic result".⁴⁶⁷ The campaign failed when the North-Western and Western Fronts were unable to do their parts. Brusilov's weaker support operation was alone not able to secure the success of the Russian summer campaign. The strategic transfer of forces from the north to the south came too late. However, the Russian rail network could not transfer troops and supplies fast enough compared with the enemy's railways. Von Moltke the Elder asserted that it is impossible to correct flawed initial strategic dispositions during the subsequent campaign.⁴⁶⁸ Svechin regarded Moltke's well-known idea as obsolete since modern railways and operational reserves allowed for rectifying of initial strategic errors.⁴⁶⁹ Whatever the case, the inadequate Russian rail network and the dysfunctional command relations only created more friction. One successful unsupported operation was not able to compensate for a strategic failure. Consequently, the Russian efforts during 1916 served neither Entente nor Russian strategic purposes.

⁴⁶⁵ Dowling, *The Brusilov Offensive*, 150-159.

⁴⁶⁶ Jeřábek, "Die Brussilowoffensive 1916," 373.

⁴⁶⁷ Brussilov, *A soldier's notebook*, 269; Bundsgaard and Poulsen, "Brusilov-offensiven," 56-57; Dowling, *The Brusilov Offensive*, 163-167.

⁴⁶⁸ Moltke, "Ueber Strategie," 291.

⁴⁶⁹ Svechin, *Strategy*, 224-225.

Brusilov managed to exploit the tactical vulnerabilities of the Austro-Hungarian defences to gain surprise, breakthrough, and local superiority while tying up all enemy reserves by attacking along his entire front. Brusilov justified his approach of a wide front offensive and refers to General Ludendorff's War Memoirs to defend his action based on the impact the offensive had on the German-Austrian conduct of the war.⁴⁷⁰ The operational advantage lasted only until the enemy could shift strategic reserves to counter the operation, without any interference from the other fronts, and Brusilov's own reserves and supplies were spent. But Brusilov's initial conduct was not without flaws either. In a conference in 1920, Svechin criticised Brusilov for not pushing his northern army more vigorously, to exploit the initial tactical successes to gain a strategic breakthrough with the possibility of annihilating the enemy.⁴⁷¹

The continued progress of the Brusilov offensive depended on the two other operational commands; the North-Western and Western Fronts. The failure of the Russian high command to influence and direct the other front commanders reduced the strategic gains of the South-Western Front, although its operational success was significant. The two strongest fronts' inactivity allowed the Central Powers to move troops from the north and concentrate against Brusilov. This failure is closely linked to the dysfunctions of an archaic military top hierarchy, where incompetent archdukes were more influential than professionals.⁴⁷² The operational success of the Brusilov offensive was nullified by the inept conduct of the Russian high command and systemic incompetence, as much as by enemy resistance and counter moves.

Brusilov developed and tailored tactical solutions to the specific opponent and challenges facing his front, accumulated the tactical successes and utilised the logistical resources that allowed the operation to develop successfully. He furthermore directed and coordinated the tactical offensives within the operational framework designed to limit the enemy's ability to defend himself. The planning and conduct of the Brusilov offensive was operational art. The South-Western Front was an operational formation directly subordinated to the high

⁴⁷⁰ Brussilov, *A soldier's notebook*, 268-275.

⁴⁷¹ David R. Stone, "Misreading Svechin: Attrition, Annihilation, and Historicism," *The Journal of Military History* 76, no. 3 (2012), 691-693.

⁴⁷² Brussilov, *A soldier's notebook*, 270-275; Dowling, *The Brusilov Offensive*, 62-87; Harrison, *The Russian Way of War*, 68-70; Rich, *The Tsar's Colonels*, 213-228; Stokov, *Vooruzhennyye sily i voyennoye iskusstvo v pervoy mirovoy voyne*, 408-409.

command.⁴⁷³ Brusilov's operational conduct in the latter part of the offensive was not without flaws. These were to a large extent caused by the increased friction caused when the South-Western Front received large reinforcements and became the *de facto* main effort of the Russian campaign. The Brusilov offensive was a unique modern Russian operation that the Russian high command and the rest of the Russian army were not able to comprehend or manage. In that sense, Brusilov's operation was a bridge too far for the Imperial Russian Army.

The 1918 German spring offensives

The German army launched several large-scale offensives on the Western Front from late March to mid-July 1918, with the aim of deciding the war by military victory in the field. The two first offensives, named *Michael* and *Mars*, will be the object of study in this section, which seeks to explore and analyse German approaches to the planning and conduct of modern operations. The *Michael* offensive was the closest the Germans came to breaking the Allied armies apart. This is the rationale for emphasising this offensive and not study the other offensives. The planning and execution of these offensives are illustrative of the strategic-tactical relations within the Imperial German Army. It also illustrates the way operations and the operational (German: *operativ*), the ambiguous functions and processes between tactical conduct and strategic direction, were understood in the German army late in the war.

The strategic context of the German spring offensive consisted of a window of opportunity. The collapse of the Russian Empire created it, but the United States would close it in months. The Germans were under pressure to act fast and decisively or be crushed by the Western Allies' combined industrial might. The Brest-Litovsk peace treaty with Russia's Bolshevik leadership allowed the *Oberste Heeresleitung* OHL (Supreme Army Command) to free large forces in the east for transfer to the Western Front and gain a temporary numerical advantage over the Allies. The advantage was temporary because American forces were arriving in France in increasing numbers, far more than the Germans thought possible.⁴⁷⁴

⁴⁷³ Svechin, *Strategy*, 69.

⁴⁷⁴ Zabecki, *The German 1918 offensives*, 79, 91-92.

The OHL, *de facto* led by General Erich Ludendorff, chose to exploit German geopolitical and strategic advantages (secure borders and resource base in the east) to train and equip their best divisions for mobile warfare for a strategic offensive to win the war in the west. The OHL opted for a military all-or-nothing gamble where there was no room for any alternative political approaches to end the war. While the decision to attack had been made at the end of 1917, the decisions on where, how, and towards which end, had yet to be made.⁴⁷⁵

General Erich Ludendorff impressed his superiors at the General Staff Academy and entered the Great General Staff directly from the Academy. He gained fame in early August 1914 when he took command of a brigade that had lost its commander and captured the citadel in Liège. He became chief of staff to General Paul von Hindenburg when he was assigned as commander of the Eighth Army in East Prussia. Hindenburg and Ludendorff established themselves as an effective command team in the east. In August 1916 Hindenburg became Chief of the Great General staff and Ludendorf First Quartermaster-General, acting as the *de facto* chief. Ludendorff was the brain and driving force behind the offensives on the Western Front in the spring of 1918.⁴⁷⁶

The decision to move from the strategic defensive to the strategic offensive on the Western Front was made by the OHL and illustrated how the army leadership dominated German policy and politics. The discussions that took place between the decision to attack and the decision to launch the Michael Offensive reveal a lack of strategic conceptions. Ludendorff was unable to define the objective that would achieve the political aim (victory in the west) and guide the planning. Despite some attempts to raise operational questions, the closer the first offensive came to its launch, the more tactical the focus became at every level of command. The terrain that promised a tactical breakthrough was where the first of a series of offensives was to be launched. In accordance with the German General Staff's credo, "Strategy follows tactical success", Ludendorff's experience from Russia would define

⁴⁷⁵ Wolfgang Foerster, *Graf Schlieffen und der Weltkrieg*, vol. III (Berlin: Mittler, 1921), 80-82; Robert T. Foley, "Breaking Through: The German Concept of Battle in 1918," www.academia.edu (2013), 9-12. Accessed on 17 November 2018; Zabecki, *The German 1918 offensives*, 93-96.

⁴⁷⁶ Bruno Thoß, "Ludendorff, Erich," <https://www.deutsche-biographie.de/pnd118574841.html#ndbcontent>; Paul J. Rose, "Erich Ludendorff" in David Zabecki, ed. *Chief of Staff : The Principal Officers Behind History's Great Commanders, Napoleonic Wars to World War I Vol. 1*. Annapolis, MD: Naval Institute Press, 2013.

operations although they carried the offensive in a direction that contradicted the strategic objective.⁴⁷⁷

A decision was reached to split the BEF from their French allies by launching the offensive between Arras and the river Oise. A successful breakthrough would offer the possibility to roll up the BEF, cut it off from the French army, and either destroy it or drive it back to the Channel. Despite requests by senior German commanders, Ludendorff did not set any particular objectives for the offensive, but referred to the practice on the Eastern Front of aiming for “an intermediate objective, and then discovering where to go next.”⁴⁷⁸ Such an approach was the anti-thesis of both strategy and operational art because the aims became subordinated to the means and methods.⁴⁷⁹

French intelligence monitored the transfer of German troops to the Western Front and registered a steady increase from January to March 1918, a clear indication of the building of an offensive capacity. Two likely areas for a massive offensive were identified: the southern British sector and along the French front on both sides of Reims. The earliest time the offensive could be launched was assessed to be late March. The Entente also had a reasonably good picture of how the offensive would commence, based on the German offensives on the Eastern Front in previous years. While waiting for the Americans to arrive in strength, the British and French argued about strategy and the top French generals argued among themselves.⁴⁸⁰

Planning and preparations

David T. Zabecki argues that, despite Ludendorff’s narrow tactical focus, the German army “clearly recognised a body of warfighting activity that was neither tactical nor strategic.”⁴⁸¹ The terms *Operation* (operation) and *operativ* (operational) had been in use since Moltke the

⁴⁷⁷ Robert B Asprey, *The German high command at war : Hindenburg and Ludendorff conduct World War I* (New York: Quill, 1991), 367; Groß, *Mythos und Wirklichkeit*, 136-137; Zabecki, *The German 1918 offensives*, 97-112.

⁴⁷⁸ Groß, *Mythos und Wirklichkeit*, 136-139; Gudmundsson, *Stormtroop tactics*, 155-157; Zabecki, *The German 1918 offensives*, 107-111.

⁴⁷⁹ “an operation is not the highest stage of armed conflict. Rather, an operation is itself an element within the larger equation, subordinate to war in general.” Isserson, *The Evolution of Operational Art* 12.

⁴⁸⁰ Doughty, *Pyrrhic Victory*, 405-412.

⁴⁸¹ Zabecki, *The German 1918 offensives*, 29.

Elder. Although the terms were vague and not clearly defined, they indicated an understanding of some unique military activities in between strategy and tactics, but the understanding was fluid.⁴⁸² *Operativ* was understood more on the basis of what it was not than based on a positive definition. The Imperial German Army had not come to terms with any agreed definition of what *operativ* meant, or what role and function it had concerning strategy and tactics.⁴⁸³ As a consequence, it is challenging to use a modern operational framework to analyse and assess the historical case of the German spring offensives in 1918. On the other hand, a critical application of modern operational terminology may throw light on German planning and conduct.⁴⁸⁴

The key issue is that the entire framework for the offensives was defined by Ludendorff, who explicitly rejected operations as such. He also created both a command and a force structure that would deny army group commanders (the operational level commanders) the means to command and manage the direction of the operation. This was done by dividing the responsibility for the operation between the two army groups, which allowed the OHL to better micro-manage the operation. Ludendorff not only controlled planning and preparations but also set himself in position to direct in person events at lower echelons of command.⁴⁸⁵

The conduct of the German 1918 offensives was based on improvements in tactics and techniques that had been tested on a large scale in Russia, then against the Italians in Tyrol, and on a smaller scale on the western front. The best-known elements were the stormtroop infiltration tactics, the improved artillery tactics for neutralisation and suppression of the defences, and the rolling barrage to pave the way for the assault troops.⁴⁸⁶ The same offensive system was used in the counterattack to recapture the ground lost in the British Cambrai offensive on 20 November 1917. The success of this operation convinced the OHL that it would be effective on the Western Front.⁴⁸⁷ A critical German weakness when aiming for a

⁴⁸² Ibid., 22-29.

⁴⁸³ Hugo Friedrich Philipp Johann von Freytag-Loringhoven, *Heerführung im Weltkriege : vergleichende Studien*, vol. 1 (Berlin: E.S. Mittler, 1920), iii, 46.

⁴⁸⁴ Skinner, "Meaning and Understanding in the History of Ideas," 4-8, 22-24.

⁴⁸⁵ *Weltkrieg*, 14,1, 76-77; Marco Sigg, *Der Unterführer als Feldherr im Taschenformat* [The junior leader as pocket-sized field commander], *Zeitalter der Weltkriege* (Paderborn: Ferdinand Schöningh, 2014), 218-219; Zabecki, *The German 1918 offensives*, 113-124.

⁴⁸⁶ Gudmundsson, *Stormtroop tactics*, 107-138; Zabecki, *The German 1918 offensives*, 41-57.

⁴⁸⁷ Gudmundsson, *Stormtroop tactics*, 139-154; Strachan, *The First World War*, 286-288; Zabecki, *The German 1918 offensives*, 133.

breakthrough was the lack of mobile forces to exploit success. In 1918, that would have been either light armour or cavalry, but the Germans invested little in armour. Furthermore, the lack of horses in 1918 forced mounted troops to fight as infantry.⁴⁸⁸ Some early studies have also criticised the Germans for not exploiting the opportunities they created: “It was senseless to break down a door if there was no one to go through it.”⁴⁸⁹

There are several explanations for the strategic aim and purpose of the offensives and a fair amount of critique of German misjudgement and errors at all levels of command. Groß argues that it was the success of the tactical breakthrough that was the defining element in Ludendorff’s analysis. This led him to launch the offensive where the chance of a tactical breakthrough was most promising, not where operational exploitation of a breakthrough might lead to a strategic result. Ludendorff was quoted in defence of his purely tactical approach: “I disapprove of the word operation. We’ll cut a hole. The rest will follow. That’s how we did it in Russia.”⁴⁹⁰ By such a solely tactical focus Ludendorff risked the entire offensive by choosing the breakthrough for the sake of breaking through and not where any strategic gain could be achieved.

The literature is somewhat ambiguous on the purpose or objective of the offensives. Foerster quotes Ludendorff in a meeting on 11 November 1917 that the aim was to break through the southern flank of the BEF and roll up the entire front in a north-westerly direction.⁴⁹¹ Groß contends that the strategic-operational dimensions of the offensive overwhelmed Ludendorff’s organising capacity to such an extent that he could not balance the dilemmas facing him. The dilemmas were between the tactics required for the breakthrough, operational freedom of action to encircle and annihilate the British Expeditionary Force (BEF), and a strategic option for peace based on military victory.⁴⁹² Robert T. Foley argues that the purpose was to break into the open and regain mobility to wage mobile warfare (*Bewegungskrieg*) according to pre-war doctrine. The strategic aim was then to destroy the enemy armies in decisive battles and dictate peace conditions, in line with the Wars of German Unification and the battles in the fall of 1914.⁴⁹³ If the offensives’ strategic purpose is difficult to grasp, the *method* was a

⁴⁸⁸ *The German 1918 offensives*, 45-46.

⁴⁸⁹ Isserson, *The Evolution of Operational Art* 36-37.

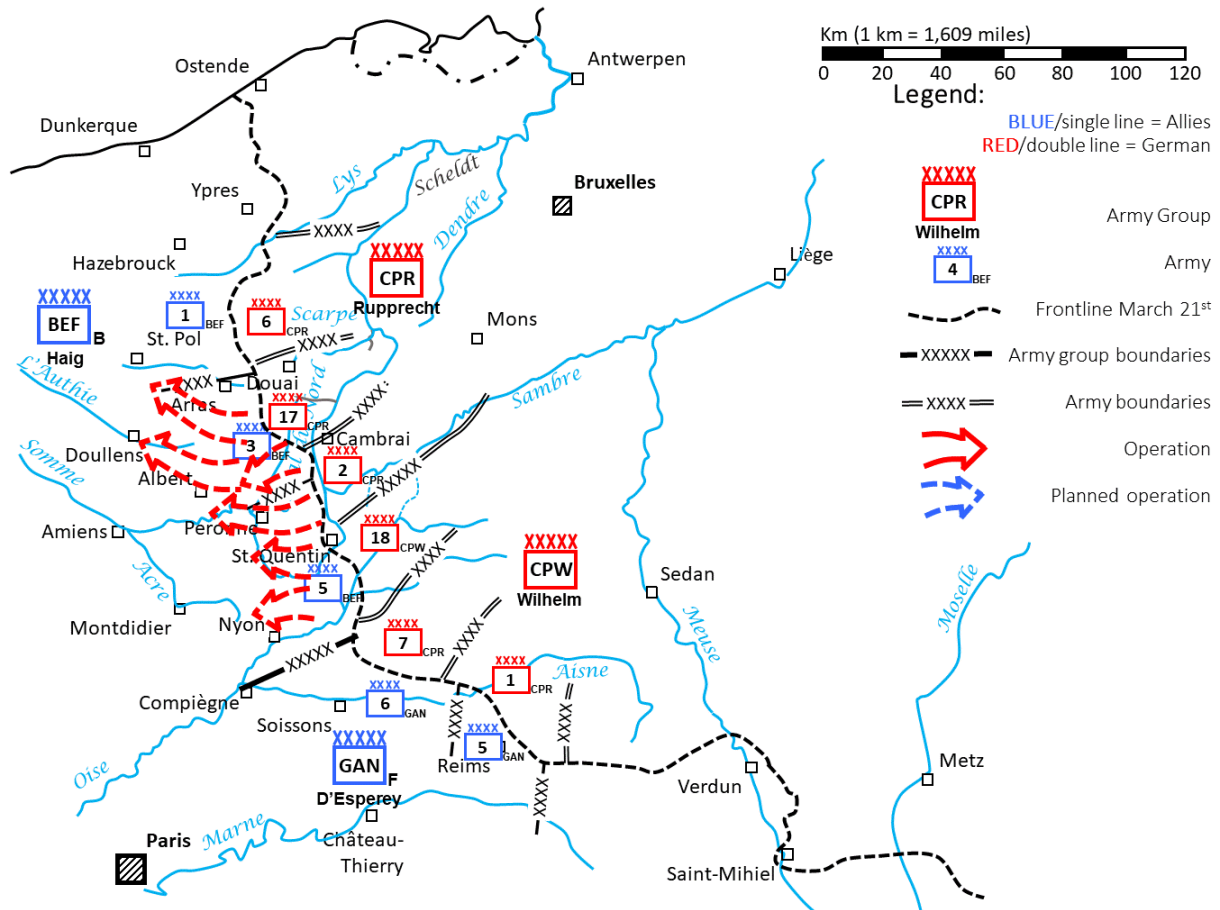
⁴⁹⁰ Groß, *Mythos und Wirklichkeit*, 136.

⁴⁹¹ *Weltkrieg 14,1*, 87-88; Foerster, *Graf Schlieffen und der Weltkrieg*, III, 81.

⁴⁹² Groß, *Mythos und Wirklichkeit*, 135-136.

⁴⁹³ Foley, "Breaking Through: The German Concept of Battle in 1918," 7-10.

return to *Bewegungskrieg*, mobile warfare, where opportunistic exploitation of fleeting tactical opportunities would, as it was hoped, secure strategic aims.



Sketch 4.3. The German plan for the *Michael* and *Mars* offensives.⁴⁹⁴ The planned directions of the assaults reflect the strategic intent to cut off the BEF against the Channel and destroy its armies by annihilation battles.⁴⁹⁵

Zabecki stresses the German planning process and preparations leading up to the offensives and how various aims and objectives were discussed. Army group commanders criticised Ludendorff and the OHL for not stating specific strategic or intermediate (operational) objectives. He also notes that tactical tasks and attack directions were adjusted right up to the final days before the start of the offensive.⁴⁹⁶ Ludendorff's approach was the logical perversion of the General Staff approach, where strategic victory was to follow tactical success. Moltke's statement that strategy had to align itself with the outcome of tactical victories was interpreted as strategy having to yield to tactics and to adjust its direction to the

⁴⁹⁴ The sketch's geographical features are based on *OHGW V*, Endpaper A and B, *Der Weltkrieg 14,1*, Beilage 21 and 23, and *AFGG VII, I*, Charte No. 4.

⁴⁹⁵ *OHGW 1918 I*, Sketches B, 1, 11, 15, 16; *OHGW 1918 IV*, Sketch 1; *Weltkrieg 14,1*, Beilage 24; Michael S. Neiberg, *The Second Battle of the Marne* (Bloomington, IN: Indiana University Press, 2008), 162.

⁴⁹⁶ Zabecki, *The German 1918 offensives*, 97-124.

altered realities.⁴⁹⁷ But in 1918, as in 1914, there was no Moltke the Elder to manage the overall strategic direction of the campaign and harness tactics to strategy. Nor was there a German politician of Bismarckian qualities to rein in the army and secure the primacy of policy. The tail was free to wag the dog.

The 1918 German army in the west had to reconfigure itself from a defensive trench war to an offensive mobile war. Equipment, tactics, and techniques for mobile warfare differed significantly from the previous three years of defensive war. Even the Verdun offensive became more of a mobile siege than a *Bewegungskrieg*. Commanders at all levels had to be able to think, assess, and act in very different ways in a mobile and fleeting war of manoeuvre, than in the static, fire-saturated trench war. The German army's wartime expansion and the high rate of casualties had depleted the pre-war officers' corps. The junior leaders, on the other hand, were young and fit and experienced in modern war. The army relied on its well-tested command approach of *Auftragstaktik* (mission command) that was second nature to German leaders at all levels and integrated into the conception of mobile warfare. Experience from the German Wars of Unification and the 1914 *Bewegungskrieg* indicated that subordinate commanders at times tended to allow tactical success or personal ambition to override higher command intentions and limitations. Such *Autoritätsverlust* (loss of authority) is an integral element of *Auftragstaktik* that could pull tactics away from the strategic aim if higher-level commands uncritically allow tactical success to follow the line of least resistance.⁴⁹⁸

The emergence of modern command and control systems, such as the telephone, also influenced the established German conduct of operations. In 1918 the telephone network was well developed after almost four years of static trench war. As a result, higher command levels would bypass lower levels and approach field headquarters with detailed inquiries and disrupt both command procedures and commanders' freedom of action. Ludendorff was particularly skilled in utilising modern information technology to immerse himself in minute tactical details.⁴⁹⁹ The command and control of the German offensives in 1918 was an odd

⁴⁹⁷ Asprey, *The German high command at war*, 367; Krause, "Moltke and the origins of the operational level of War," 131-134; Moltke, "Ueber Strategie," 293.

⁴⁹⁸ Foley, "Breaking Through: The German Concept of Battle in 1918," 14-17; Groß, *Mythos und Wirklichkeit*, 136-137; Sigg, *Der Unterführer als Feldherr im Taschenformat*, 181-213.

⁴⁹⁹ Groß, *Mythos und Wirklichkeit*, 93-99, 113-117; Sigg, *Der Unterführer als Feldherr im Taschenformat*, 215-219.

combination of freedom of action at the lowest levels and a tendency at the highest level to micromanage as far forward as the telephone line would reach. The intermediate operational and higher tactical commands were easily left bewildered in between.

When the Army Group Crown Prince Rupprecht (AGR) was assigned the Seventeenth Army, the army group had five armies to command. The Second Army was then transferred to the Army Group Crown Prince Wilhelm (AGW), while the Fifth Army and an army detachment from Army Group Duke Albrecht were formed into a new army group. This reorganisation on 1 February 1918 would leave each commander with fewer armies to control. However, it would divide the responsibility for the Michael operation between the two most prestigious army groups. As the unity of command was diluted, the new command structure was deliberately designed to facilitate direct interference by Ludendorff and the OHL.⁵⁰⁰

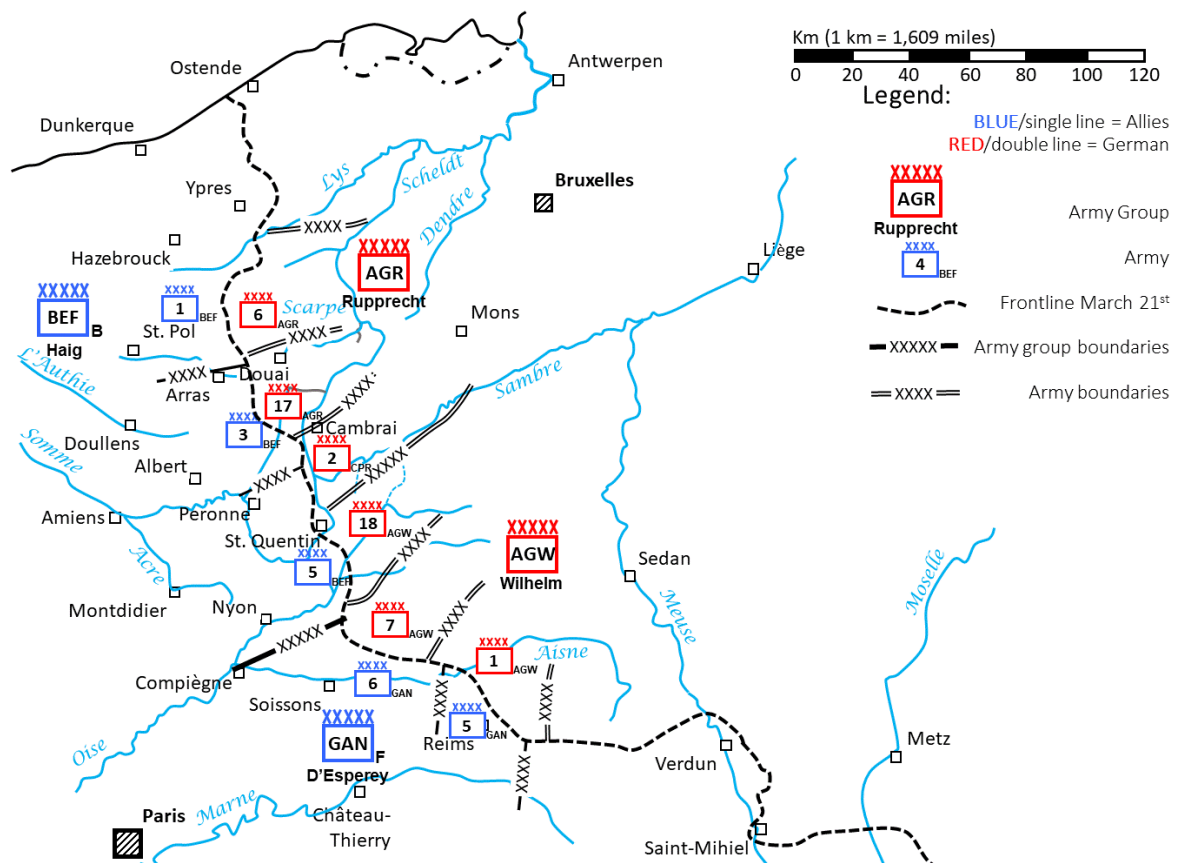
Logistical constraints allowed for just 52 divisions to be ready for the offensives in the spring of 1918. One critical limitation was the lack of horses and trucks to allow artillery and supplies to follow the attack forces beyond the enemy trenches and deep into the rear of the Allies. Road construction through the old Somme battleground would demand huge construction resources and the roads were to be prioritised for supplies and not troops. There were preparations to use conquered railways, while large amounts of railway repair materiel and construction units were prepared to follow the assault troops.⁵⁰¹

The final order of operations from OHL issued on 10 March set the initial tactical objectives for the Michael offensive that was to start on 21 March. It indicated the subsequent direction of the offensive. The AGR should aim to reach the line Arras-Albert, turn north, and roll up the British front. It was to be supported by the Mars offensive along the British front to the north to fix the British forces in their trenches. To the south, the AGW was to support the main effort by capturing the Somme River and Crozat Canal and be prepared to extend its right flank to Peronne. However, less than a week before the attack there was a significant alteration of the offensive following suggestions by General Hutier, commanding the Eighteenth Army, which had its mission extended from a supporting attack to a main attack of its own. In a last-minute telephone exchange, Ludendorff outlined follow-up objectives that

⁵⁰⁰ *Weltkrieg 14,1*, 76-77; Ludendorff, *Meine Kriegserinnerungen*, 475; Strachan, *The First World War*, 286.

⁵⁰¹ Foley, "Breaking Through: The German Concept of Battle in 1918," 9-12; Zabecki, *The German 1918 offensives*, 130-132.

would alter the operational direction of the offensive. The result was diverging axes of attack. Zabecki is critical of the limited and tactical orientation of the operation and shows how operational commanders requested operational or strategic objectives beyond the immediate tactical horizon. As examples of the German strategic and operational ineptness, he uses the lack of understanding of the vulnerable British logistic system and its dependence of a few of harbours and critical railway junctions such as Amiens and Hazebrouck.⁵⁰² Both junctions were crucial to the limited railroad network that conveyed supplies for the Channel ports to the British armies. If one or both hubs had been captured, the BEF could only with difficulties supply the troops.



Sketch 4.4. The Western Front on 20 March 1918.⁵⁰³ The army groups' and armies' boundaries that were part of or adjacent to the *Michael* and *Mars* offensives. Note the British Fifth Army's wide front and the concentration of the reinforced German assault armies Seventeenth, Second, and Eighteenth. Note also the division of the assault armies between Army Group Rupprecht and Army Group Wilhelm.⁵⁰⁴

⁵⁰² *Weltkrieg 14,1*, 89-93; Gary Sheffield, *The chief Douglas Haig and the British Army* (London: Aurum Press, 2012), 268; David Stevenson, *With our backs to the wall: victory and defeat in 1918* (Cambridge, MA: Harvard University Press, 2013), 50-53; Strachan, *The First World War*, 285-286; Zabecki, *The German 1918 offensives*, 120-124, 145, 150-151, 168.

⁵⁰³ The sketch's geographical features are based on *OHGW V*, Endpaper A and B, *Der Weltkrieg 14,1*, Beilage 21 and 23 and *AFGG VII, I*, Charte No. 4.

⁵⁰⁴ *OHGW 1918 I*, Sketches B, 1, 11, 15, 16; *OHGW 1918 IV*, Sketch 1; *Weltkrieg 14,1*, Beilage 24; Neiberg, *The Second Battle of the Marne*, 162.

The Allies had set up a Supreme War Council (SWC) in early November 1917, which then had been over two years in the making. The SWC consisted of a permanent military representative (PMR) of each country and the Prime Minister in addition to another unspecified minister. The politicians would bring a military advisor, typically the Chief of the General Staff. The PMRs would be based in Versailles and act as a secretariat, while the SWC was to meet each month. The SWC would not have the authority to direct policy or act as any kind of unified command but would be

an instrument for arriving at a common policy – although it could not compel a member nation to carry out that policy in practice – and not an instrument for carrying out that common policy. The council was, in fact, merely a more regularised way of conducting the international conferences that had come to characterise the political side of the conduct of the war.⁵⁰⁵

The SWC was not without friction. But it was able to respond with joint allied efforts against common threats such as the German U-boats. It also decided to establish a general reserve to be controlled by an Executive War Board, which also included an American representative in addition to the British, French, and Italian. The question of control of a general reserve was, on the other hand, so contentious, that when the Germans launched their Michael offensive, it had still to be solved.⁵⁰⁶

During January the British Fifth Army under General Gough took over the front from the French Third Army as part of an extension of the BEF's responsibility, to allow the French army to build larger reserves to meet the expected German offensive. The new area for the Fifth Army included the 1916 Somme battlefield, which was littered with craters and where most of the infrastructure was damaged. Fifth Army also occupied a devastated area east of the German positions that the Germans evacuated during the retreat to the Hindenburg Line in the winter of 1917. The defensive zone was little developed since the French Third Army expected to be relieved and had done little construction to strengthen the defences.⁵⁰⁷ Despite forced construction of trenches and obstacles, both the Fifth and the right sector of the adjacent British Third Army “might be permitted to give ground, if this became necessary,

⁵⁰⁵ Greenhalgh, *Victory through coalition*, 173; Meighen McCrae, *Coalition Strategy and the End of the First World War: The Supreme War Council and War Planning, 1917–1918* (Cambridge: Cambridge University Press, 2019), 12-23.

⁵⁰⁶ Greenhalgh, *Victory through coalition*, 163-185; McCrae, *Coalition Strategy*, 100-101.

⁵⁰⁷ See footnote 2 in *OHGW 1918 I*, 119; Michel Goya, *Les vainqueurs : comment la France a gagné la Grande Guerre* (Paris: Tallandier, 2018), 32.

without uncovering any vital point.”⁵⁰⁸ The railway centre at Amiens 60 km behind the front line was such a vital point.

Zabecki refers to Travers who contends that the fall-back option was a “post facto rationalisation to cover the fact that Haig and General Headquarters (GHQ) were slow to recognise the threat to the southern end of their line”.⁵⁰⁹ Fifth Army was ordered to stand and fight. If forced to conduct a “fighting retreat” it was to fall back no further than the Somme. Whatever the thought and reasoning before or after the events and despite construction work and added reinforcements, the front of the Fifth Army was the least fortified part of the BEF’s front and the thinnest manned. There was an emerging understanding between the Third and Fifth armies of where and how the Germans would attack. This was confirmed by German prisoners the final days before the attack. Intelligence assessed that German deception activities on other parts of the front “might be or might not be feints”. Furthermore, an attack against the French could not be ruled out. To make things worse, Gough had also placed most of his troops in the first defence line, which made them vulnerable to the German artillery preparations and infiltration tactics.⁵¹⁰

Execution and outcome

The execution of the Michael offensive reflects both the narrow tactical outlook of the German leadership and the debates and decisions during the planning in the months preceding the offensive. The emphasis on innovative tactics and techniques, especially infantry-artillery combined arms, bore fruits in the stunning tactical results during the first week of the offensive. The level of relative unpreparedness of the British Fifth Army contributed to the German gains. The greatest weaknesses were a thinly manned front and a lack of defence in depth to absorb and disrupt the storm-troopers. Nevertheless, the Germans did not reach their initial tactical objectives the first day and were behind schedule from the onset in what was a high-risk offensive where they were also fighting against the clock. The attacks had met the strongest resistance in the critical sector in the north. The supporting attack in the south had better progress. Ludendorff responded tactically to the lack of progress by reinforcing the

⁵⁰⁸ *OHGW 1918 I*, 92.

⁵⁰⁹ Zabecki, *The German 1918 offensives*, 111-112.

⁵¹⁰ *OHGW 1918 I*, 21-24, 46-48, 94-99, 108-112; *Weltkrieg, 14,1*, 97-99; Doughty, *Pyrrhic Victory*, 416-418; Zabecki, *The German 1918 offensives*, 111-112, 133-134.

success of Hutier's Eighteenth Army in the south and choosing not to follow up *Michael* with the *Mars* support offensive in the north.⁵¹¹ This decision reflects the changes in Hutier's mission from supporting the centre and northern part of the offensive to becoming another main effort. Ludendorff's decisions the first day of the offensive continued the "tacticisation of strategy", which had begun immediately after the order of operation was issued and substituted tactical opportunism for strategic direction and operational objectives.⁵¹² While the Fifth Army took heavy losses, the Germans managed to break through in only two places on the first day. The Third Army stood firm, while the Fifth Army was allowed to withdraw. Commander of the BEF, Field Marshal Sir Douglas Haig, and Pétain, Commander-in-Chief of the French Army, took decisions to forward both British and French reserves to the threatened sector. More than half of the nearly 40,000 British casualties the first day were prisoners, which indicates the scale of the German tactical success. The British retreat prevented higher casualties the next days as units retreated before they were bypassed and encircled by the advancing storm-troopers and their follow-on forces.⁵¹³

It took two more days for the German armies to reach the first day's tactical objectives. On the second day, Ludendorff began to expand the original tactical mission to encircle and destroy the British forces facing Cambrai (the Flesquières salient). He also let the two northern armies advance further west before linking up. The Eighteenth Army in the south continued to push westwards. By 23 March the three armies were on diverging axes of advance. Ludendorff was pursuing three different objectives instead of concentrating on the original aim to split the BEF from the French army. In addition to separating the BEF from the French forces, the offensive should also have defeated the BEF and disrupted the French reserves. Amiens was identified as a direction for the advance of the Second Army in the centre, but not as an objective in itself. Ludendorff also committed more and more reserves, especially in the south, which would leave him empty-handed if a gap to be exploited appeared in the enemy defences. The day of 23 March ended with the Eighteen Army being

⁵¹¹ BAMA PH51-29, 268-269; Stevenson, *With our backs to the wall*, 53-56; Zabecki, *The German 1918 offensives*, 138-143.

⁵¹² An early use of the term "tacticisation of strategy" is by John Ferris, "The Biggest Force Multiplier? Knowledge, Information and Warfare in the 21st Century" (paper presented at the Conflict, the State and Aerospace Power, Canberra 2002), 153. See also Rob Johnson, "The Changing Character of War," *The RUSI Journal* 162, no. 1 (2017), 8.

⁵¹³ Sheffield, *The chief*, 268-270; Stevenson, *With our backs to the wall*, 53-56; Zabecki, *The German 1918 offensives*, 139-142.

ordered to advance towards the south-west and to cross the river Oise, while the Seventeenth Army was to diverge south reinforce the progress of the Second Army.⁵¹⁴

The British Third and Fifth armies withdrew their remaining forces from their forward positions along the front in reasonably good order, while the Third Army evacuated the Flesquières salient. Despite the failure of the SWC to create a general reserve, Haig and Pétain agreed that the British and French armies had to be kept together to prevent the Germans from dividing them. They also decided to use their own reserves and the first French reinforcements arrived on 22 March. By 23 March, four French divisions had reinforced the British Fifth Army. The French agreed to take over the southern part of the Fifth Army's front and had six more divisions ready to move to support the BEF. Haig had also begun to move about half of his 40 division strong general reserve. The Fifth Army was ordered to make a new stand and hold the river Somme at all costs.⁵¹⁵

The Germans continued to divert from the initial plan and pushed west to the south-west on 24 March, while falling behind their daily objectives. The Seventeenth Army in the northern sector made no progress towards Arras and was ordered by the OHL to turn away from its intended push north-west towards St. Pol and head west in the direction of Doullens. The Second Army in the centre was to diverge south to cover the Eighteenth Army, which was slowed by exhaustion and supply problems. The Eighteenth Army's supporting role had now effectively become the offensive's main effort, so the Second Army had to divert its forces to support it.⁵¹⁶

By the evening the next day, the German Eighteenth Army had split the BEF from the French forces and was turning the French flank at Roye on the River Avre. But it was too little too late as two French armies were deploying behind the southern part of the British Fifth Army. On 26 March, the AGR ordered its two armies to continue west in the direction of Doullens and Amiens, while the rail hub Albert fell in the afternoon. The Eighteenth Army took Roye

⁵¹⁴ BAMA PH51-29, 270; GRDP WW-I, Akte Nr. 336; Stevenson, *With our backs to the wall*, 56-57; Zabecki, *The German 1918 offensives*, 142-145.

⁵¹⁵ OHGW 1918 I, 392-395, 549; Sheffield, *The chief*, 270-272; Stevenson, *With our backs to the wall*, 56-57; Zabecki, *The German 1918 offensives*, 145.

⁵¹⁶ BAMA PH51-29, 271; *The German 1918 offensives*, 146-147.

and Noyon, formed a defence towards the south along the river Oise by Noyon, and continued its westwards drive.⁵¹⁷

On 26 March, Ludendorff issued a “directive for the continuations of the operations” based on the advances during the first part of the day, where the aim of splitting the British and French armies seemed to be within reach.⁵¹⁸ The directive gave immediate and subsequent objectives that would pull the armies even further apart. The Second Army was given Amiens as an objective, the Seventeenth would advance on a front from south of Doullens over Arras to St. Pol, and the Eighteenth across the Oise in a continued south-western direction. At this stage, the logistic constraints were beginning to tell. Artillery and supplies fell behind the advancing infantry. The combat units took losses of officers and trained assault troops that were hard to replace. Horses that were intended for officers and dispatch riders were used to pull supplies. While the losses in combat units were influencing the assault units directly, the attrition of the supply system would reduce the German ability to sustain the operation as the combat units were deprived of ammunition, food, and other supplies.⁵¹⁹

The crisis caused by the Michael offensive caused British and French politicians and leading generals to meet to agree to coordinate the defence. At a conference at Doullens on 26 March, the British and French governments tasked General Ferdinand Foch with coordinating the allied armies on the Western Front.⁵²⁰

Ferdinand Foch was commander of the Second Army’s XX Corps on the German border in 1914. He was just two years short of retirement when the war began but led his corps well in the initial battles on the frontier. On 28 August was Foch given command of an army detachments of two corps and four divisions, which later became the Ninth Army. Later he was posted as deputy to the deputy of commander-in-chief and worked closely with the British in the north. His role on the Somme in 1916, when he was in command of the French Northern Army Group (*Le groupe d’armées du nord, G.A.N.*) and responsible for the French participation, was the cause for him to be relieved of command. Foch had been active in

⁵¹⁷ Zabecki, *The German 1918 offensives*, 147-150.

⁵¹⁸ *GRDP WW-I*, Akte Nr. 336; Quoted in *Weltkrieg 14,1*, 201.

⁵¹⁹ *Weltkrieg 14,1*, 197-199; Stevenson, *With our backs to the wall*, 58-59; Zabecki, *The German 1918 offensives*, 147-152.

⁵²⁰ Doughty, *Pyrrhic Victory*, 437-438; Greenhalgh, *Victory through coalition*, 192-197.

improving tactical methods and combined arms combat, emphasising artillery-infantry cooperation. He held several posts in 1917, including Chief of Staff of the French Army, and in command of French relief troops to Italy.⁵²¹

Foch's new role became the supreme commander of the Allied forces, but there were conditions:

Le général Foch est chargé, par les gouvernements britannique et français, de coordonner l'action des armées alliées sur le front ouest. Il s'entendra à cet effet avec les généraux en chef, qui sont invités à lui fournir tous les renseignements nécessaires.⁵²²

Despite his limited authority, Foch was able to bring the actions of the British and French armies together in a coordinated defence against the German onslaught. If the Germans had gained a temporary operational objective in splitting the British and French armies on 25 March, the appointment of Foch as a strategic coordinator was a lasting victory by the Allies, an appointment that was only made possible by the clear and present danger of the German offensive

French intelligence reported on 25 March that there would be no German offensive in the Champagne region. This meant that Pétain could safely bring more of his reserves to counter the Michael offensive. The Reserve Army Group (*Groupe d'armées de Réserve ou de Rupture* (G.A.R.)) established on 14 February 1918 and commanded by General Fayolle was ordered on 11 March to prepare to keep the British and French defensive zones together. The G.A.R. was attached the French First and Third Armies and deployed to relieve the southern part of the British Fifth Army and block the German offensive south of the Somme.⁵²³

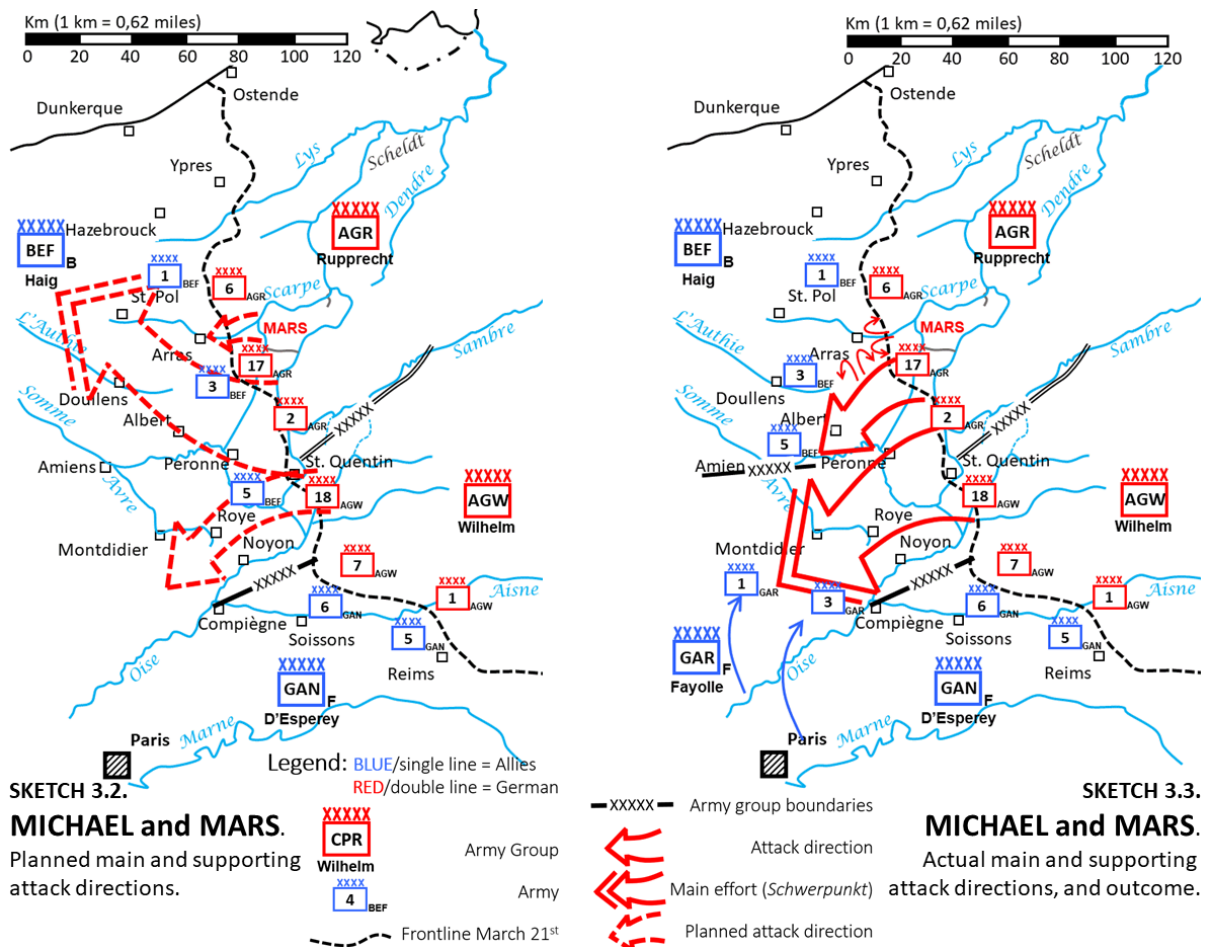
The German advance continued south of Albert the next week, while the British defence held between Albert and Arras and the French were moving more forces forward to stem the tide in the centre and south. As the Germans forced open gaps between the British and French forces, French commanders moved to plug them. Montdidier fell late on 27 March. The next

⁵²¹ Greenhalgh, *Foch in Command*, 9-42, 79-90, 166-193, 207-216, 225-262.

⁵²² AFGG VI-1-2, annex no 762, 279.

⁵²³ AFGG VI, 128, 225, 251-255; Foch, *The Memoirs of Marshal Foch*, 293-300; Greenhalgh, *Victory through coalition*, 192-197; Foch in *Command*, 301-309; Stevenson, *With our backs to the wall*, 62-65; Zabecki, *The German 1918 offensives*, 152.

day a gap between the British and French armies was again open and the Germans could advance northwards along the river Avre directly to Amiens. The AGW was, on the other hand, not able to reach Amiens despite the fact that the OHL had ordered both the Second and Eighteenth Army to attack. The Michael offensive was reaching its culmination point.⁵²⁴



Sketch 4.5. The Michael and Mars offensives, plan. To the left are the original strategic aims and planning for the Michael offensive to aim north-west towards the Channel and cut off the BEF from their French allies and a supporting attack to the south-west.

Sketch 4.6. The Michael and Mars offensives, execution. To the right displays how the offensive diverged 90 degrees and projected its main effort to the south-west.⁵²⁵

At 0300 hours the same morning, the long-overdue Mars offensive was finally initiated towards Arras. At the same time, the Seventeenth Army launched its final attack to capture

⁵²⁴ Culmination point: “The point in time and the location at which a force no longer has the capability to continue an operation under current conditions.” NATO, *AAP-06, NATO Glossary*, 36. See also Clausewitz, *On War: Indexed Edition*, 528: “[strategic attacks] lead up to a point where their remaining strength is just enough to maintain a defense and wait for peace. Beyond that point the scale turns and the reaction follows with a force that is usually much stronger than that of the original attack. This is what we mean by the culmination point of the attack.”

⁵²⁵ *OHGW 1918 I*, Sketches B, 1, 11, 15, 16; *OHGW 1918 IV*, Sketch 1; *Weltkrieg 14,1*, Beilage 24; *Neiberg, The Second Battle of the Marne*, 162.

Arras. Both attacks met well-prepared defences and were fought to a standstill by the late afternoon. The attacks towards Amiens made little progress and the Michael offensive was in reality cancelled in the late afternoon on 30 March. Pétain had deployed the Fifth and Tenth Armies behind the G.A.R. ready to support either Fayolle or Haig. Attempts to renew the offensive on 4 and 5 April made no progress and the offensive was terminated by the OHL.⁵²⁶ The conclusion in the initial OHL operational assessment was that “a great tactical victory is won and the strategical evaluation will have to follow.”⁵²⁷

Operational elements

The relationship between the OHL and the army groups (the operational formations) in 1918 mirrored the Entente, including Russia, but was dominated by Ludendorff as the *de facto* strategic commander of the Imperial German army. He had a tactical understanding of warfare and thus a tactical approach to the planning and conduct of the offensives. The widening gap between the large-scale strategic aim and the ongoing tactical fight was bridged ad hoc by new tactical gains as the offensive commenced. However, what is striking was Ludendorff’s apparent inability to connect the strategic ambition to the tactical activities and logistic realities needed to realise that ambition. The strategic-tactical bridge that operational art is meant to provide is hard to detect. The single issue of not identifying the strategically important railway hub at Amiens as the critical intermediate objective is the most glaring example of this problem that Zabecki observes of Ludendorff: “in many ways he was a reflection of the German army as a whole in the first half of the 20th century: tactically gifted, operationally flawed, and strategically bankrupt.”⁵²⁸ This judgement is too harsh since the operational conduct was sound, given the realities the German army faced in the spring of 1918. However, the inability to provide direction for the operation or harness the tactical commanders to the strategic purpose reduced the offensives to nothing but “self-attrition”.⁵²⁹

⁵²⁶ AFGG VI, 407-408; BAMA PH5I-29, 273-274; *Weltkrieg 14,1*, 216-220; Zabecki, *The German 1918 offensives*, 152-159.

⁵²⁷ BAMA PH5I-29, 274.

⁵²⁸ Zabecki, *The German 1918 offensives*, 328.

⁵²⁹ Isserson, *The Evolution of Operational Art* 36.

Ludendorff retained the coordination authority himself in order to be able to directly influence operations and tactics, citing experiences from the November 1914 operations in Poland.⁵³⁰ Given his personality and strategic outlook, this meant direct interference and detailed control of events based on his emphasis on tactics. This attention to tactics was rational as the strategic outlook mirrored Moltke's statement of strategy as a system of expedients. These expedients were created and exploited in war of movement (*Bewegungskrieg*). But the German approach to such a war of movement was to emphasise delegated authority and great operational freedom to subordinate commanders.⁵³¹ The ability to exploit fleeting tactical opportunities in a chaotic *Bewegungskrieg* depended on commanders leading from the front and able to feel the pulse of the fighting while simultaneously maintaining the strategic direction. Ludendorff's lack of strategic understanding undermined the effects of the high-tempo *Bewegungskrieg* the Germans hoped to force on the Allies in the spring of 1918.

Ludendorff's infamous statement, "Tactics had to be set above strategy" (*Die Taktik war über die reine Strategie zu stellen*) is repeatedly used as evidence of German strategic ineptness.⁵³² Seen in context this quotation referred to the futile Entente offensives during the first three years of the war, where strategy was made irrelevant by the inability to break through the tactical defences.⁵³³ Foley also criticises such an interpretation, since "Ludendorff focused on tactics because he rejected the step-by-step approach enshrined in the Entente concept of battle. Instead, he remained wedded to the German concept of a flexible battle of manoeuvre."⁵³⁴ Foley's critique highlights the challenges in attempting to analyse past events based on contemporary ideas and concepts, which is the approach Zabecki uses when he applies contemporary US Army definition of operational art to explain the German operations.⁵³⁵ Ludendorff explained his tactical focus of the offensives in an interview in 1923 and concluded: "What would an operation that lacked any tactical basis be for me?" (*Aber was sollte mir eine Operation, für die die taktischen Grundlagen fehlten?*).⁵³⁶ The problem was not the tactical basis for the breakthrough, but that tactics overruled strategic and operational objectives during the operation. Svechin's logic, where strategy should guide

⁵³⁰ Ludendorff, *Meine Kriegserinnerungen*, 475.

⁵³¹ For a brief compilation, see Groß, "The History of Auftragstaktik in the German Army," 20-38.

⁵³² Ludendorff, *Meine Kriegserinnerungen*, 474.

⁵³³ Ibid.

⁵³⁴ Foley, "Breaking Through: The German Concept of Battle in 1918," 21.

⁵³⁵ See Skinner, "Meaning and Understanding in the History of Ideas," 16-22.

⁵³⁶ Quoted in *Weltkrieg 14,1*, 679, footnote 1.

operations, was turned upside down when operations and strategy were at the mercy of tactical opportunism.⁵³⁷ While Svechin credited Ludendorff for “outstanding achievements in operational art” he also maintained that “Ludendorff’s partial successes were only a step towards ultimate defeat.”⁵³⁸ This critique's central point is that there was no strategy for the operational successes to serve, not least because of failed policy.

Ludendorff wrote in his memoirs that as the defence north of the Somme hardened, the main effort (*Schwerpunkt*) had to be modified and directed towards Amiens. Ludendorff hoped “we would be able to conduct an operation” [author’s translation] (*wir würden zu einer Operation gelangen*), which the English edition translated “we should get through to open warfare”.⁵³⁹ This statement is in line with Foley’s argument that the German purpose with the Michael offensive was to break through and restore “a flexible battle of maneuver” according to the pre-war concept of *Bewegungskrieg*.⁵⁴⁰

This use of the term operation by Ludendorff is in line with the German understanding of operation as related to movement and not the new understanding that was emerging and later defined by Svechin: “We call an operation an act of war if the efforts of the troops are directed toward the achievement of a certain intermediate goal in a certain theatre of military operations without any interruptions.”⁵⁴¹ What the Germans was missing was the “intermediate goal”. The German army group commanders were not given specific goals for the operation. The *Michael* operation was not an intermediate objective in a campaign, but a strategic war-winning offensive in itself. Industrialised warfare in 1918 had changed the physical conditions for the German mobile warfare of 1914 vintage.⁵⁴² Should the Imperial German army as an institution be criticised, the criticism must be directed towards their inability to acknowledge that the character of war had changed and to adapt as skilfully in strategic and operational terms as they did in tactics.

⁵³⁷ Svechin, *Strategy*, 68-69, 73.

⁵³⁸ *Ibid.*, 69, 93.

⁵³⁹ Ludendorff, *Meine Kriegserinnerungen*, 481; *My War Memories 1914-1918*, vol. 2 (London: Hutchinson & Co, 1919), 599.

⁵⁴⁰ Foley, "Breaking Through: The German Concept of Battle in 1918," 20-22.

⁵⁴¹ Groß, *Mythos und Wirklichkeit*, 7-17; Svechin, *Strategy*, 69.

⁵⁴² Foley, "Breaking Through: The German Concept of Battle in 1918," 22.

The final analysis of the spring offensives in the German official history had a section entitled “Operational considerations” (*Operative Erwägungen*). The discussion delved into strategic issues and in particular the question of one massive blow instead of the series of offensives that were conducted. It also considered whether the Michael offensive should have had a larger share of available assault forces and artillery and whether the offensive should have aimed exclusively at the British instead of simultaneously fighting the French.⁵⁴³ Operational considerations significantly, were discussed in the section “Tactical considerations” (*Taktische Erwägungen*) in the previous pages. These considerations referred to the lack of an explicit focus of effort (*eine ausgesprochene Schwerpunktbildung*). A related question was whether such a focus was possible, given the inability to sustain larger forces in the field when the troops moved away from the railheads. The lack of a strong tank force was acknowledged as was the enemy’s strength in the air.⁵⁴⁴ Although the 1918 volume was completed as late as 1944 and published in 1956, there was a consistent use of operational terminology and discussions of operational considerations in the framework of tactics. This uneven use of terms suggests strongly that the conduct of operations was not regarded as an independent military discipline in the German tradition. It confirms a continuity in using the terms from the Imperial army through the Second World War.

The Imperial German Army, in other words, understood *operativ* and *Operation* differently than modern-day militaries’ understanding of operational art and operations. For the majority of the officers, operations meant bringing the forces to the point of battle where the battle, or a cluster of battles (Schlieffen’s *Gesamtschlacht*), was still regarded as the means to reach the strategic objectives. The battle’s strategic purpose was the annihilation of the enemy forces. Mobile warfare (*Bewegungskrieg*), leading to decisive battles was how to pursue that aim. The question persists whether the German army was able to escape its dogma of tactical annihilation and establish a broader and more comprehensive understanding of modern industrialised war. In such an understanding, tactics would be harnessed to changing strategic realities. Such questions go beyond this study and are more about the German understanding of the changing character of war than the role of operations and the strategic-tactical interactions during the 1918 spring offensives.

⁵⁴³ *Weltkrieg 14,1*, 682-685.

⁵⁴⁴ *Weltkrieg 14,1*, 680-682.

Observations and conclusions

Both the Brusilov offensive and the Michael offensive were innovative in their tactical use of forces. Their outcomes were also unusually large for First World War offensives. They resembled more offensive operations in the Second World War than those between 1914 and 1918. The army group was the headquarters directly subordinated the respective high commands. Both offensives were also conducted with multiple armies and coordinated by one or more army groups. The army groups served as operational level commands since they were directly subordinated the strategic commands and commanded the largest tactical formations (armies). These army groups were to achieve the strategic objectives set by the high command. Beyond these issues, the offensives were completely different.

While the Brusilov offensive was hampered by the Russian high command's fundamental inability to provide strategic direction, the Michael offensive was hampered by Ludendorff's micromanagement and interference in tactical details. Brusilov had unity of command within his command authority (the South-Western Front) and reasonable freedom of action from the General Staff. On the other hand, Ludendorff deliberately let two operational commanders direct the armies in the Michael offensive to ensure there was no unity of command apart from his own.⁵⁴⁵ Both cases illustrate that there were ways of bridging the strategical-tactical gap based on innovative tactics. But, since the ability to direct operations to serve strategy was missing in both the German and Russian cases, the operations "had no strategic result."⁵⁴⁶ The bridge lacked a solid strategic abutment. The next chapter will study how strategy managed to adapt to modern warfare and harness and direct operations towards the strategic objectives that would serve the purpose of the war.

⁵⁴⁵ Zabecki, *The German 1918 offensives*, 164-165.

⁵⁴⁶ Brusilov, *A soldier's notebook*, 269.

Chapter 5: Materialisation, the Allied 1918 offensive

The necessity of conducting several successive operations in order to attain a final military goal, is almost beyond doubt when two large and strong modern states clash. An operation just pursuing an intermediate military goal, limited in its essence, is typical in contemporary art of war. The capacity to conduct such a limited operation does not exhaust the full content of the art of war. Strategy is the art of grouping operations in order to obtain the final goal of war.

Alexandr A Svechin⁵⁴⁷

This chapter will consider operational art and operational elements in the planning and execution of the Allied offensives of 1918. Just when the final German spring offensive culminated in mid-July, the Allies counterattacked. General Ferdinand Foch laid out the strategic direction for the Allied operations. His aim was to ensure that the entire Allied effort on the Western Front served a unified strategic purpose. This purpose was agreed upon and developed by Allied politicians and supreme commanders. It was therefore designed explicitly to serve the aims of policy.⁵⁴⁸ The Allied campaign would direct army group commanders to conduct operations according to the strategic purpose. The question to examine is whether the strategic-tactical gap was bridged in the planning and conduct of the Allied offensive between July and November 1918. In other words, were the Allied offensives directed operational art? Or, conversely, was Isserson right that the Allied offensive was nothing but “the highest manifestation of the dead-end at which military art had arrived during the epoch of imperialism”?⁵⁴⁹ Was the Allied victory just a default accumulation of industrialised mass and political collapse?⁵⁵⁰

The essence of operational art is its function as a bridge between strategy and tactics, a function based on strategic-operational and operational-tactical interactions. Operational art must plan and direct tactical forces to achieve the objectives given by strategy if it is to act as that bridge. The Germans’ emphasis on tactics made them lose sight of the strategic

⁵⁴⁷ Aleksandr A. Svechin, "Tezisy k seminarium po strategii na temy: "Operatsiya" i "Strategicheskaya liniya povedeniya", in *Postizheniye voyennogo iskusstva*, 568.

⁵⁴⁸ Michael S. Neiberg, "The Evolution of Strategic Thinking in World War I: A Case Study of the Second Battle of the Marne," *Journal of Military and Strategic Studies* 13, no. 4 (2011), 11-14.

⁵⁴⁹ Isserson, *The Evolution of Operational Art*, 7.

⁵⁵⁰ *Ibid.*, 37; Svechin, *Strategy*, 247-248; "Vtoraya chast' mirovoy voyny," 244-245.

dimension and went for a tactical wild goose chase in the 1918 spring offensives. The Russians' inability to carry out strategic coordination left Brusilov to conclude that "the campaign had no strategic result", despite the remarkable operational success in Galicia in 1916.⁵⁵¹ The Allied offensive in 1918, on the other hand, was successful precisely because operations successfully linked tactical objectives with strategic aims.

Context

The methods to conduct offensives had developed substantially since the beginning of the war. Technology, tactics, and techniques evolved to counter the enemy trench systems, while the defence also continuously adapted to parry new offensive methods. The concept of the sudden attack, *attaque brusquée*, which consisted of artillery preparation, breakthrough, and exploitation, was developed early in 1915. A prolonged artillery preparation precluded any surprise; furthermore did vulnerable frontline communications made coordination very difficult. Offensives quickly outpaced the artillery support and ground to a halt against the enemy's second trench line. Another approach was the scientific battle, *conduite scientifique de la bataille*, was based on the assumption that the breakthrough had to be through a long and methodical action. It was used at the 1916 Battle of the Somme, where the French Sixth Army reached the enemy's second defensive belt, but there was no means to continue the attack. The Germans adapted their defences faster than the Allied progress. Trench lines were developed into defensive belts and just as at Verdun offensives degenerated into a battle of mutual attrition.⁵⁵²

As commander of the Second Army, General Robert Nivelle achieved some remarkable local offensive successes at Verdun from October to December 1916. A brief and violent artillery preparation preceded these attacks. Then the infantry advance commenced protected by a rolling barrage. Nivelle was then promoted to command the armies on the north-Western Front and sought to implement the Verdun School, *école de Verdun*, on a large scale at the Chemin des dames in Champagne. Michel Goya describes the new method as a return to the *attaque brusque*, but with modern means of combat. German intelligence detected the

⁵⁵¹ Brussilov, *A soldier's notebook*, 269.

⁵⁵² Doughty, *Pyrrhic Victory*, 289-297; Michel Goya, *Les vainqueurs*, 35-37; William James Philpott, *Three armies on the Somme : the first battle of the twentieth century* (New York: Vintage, 2011), 179, 206-209, 212-219.

preparations and surprise were also lost due to the prolonged artillery preparations. The offensive stalled the first day but had some limited success the second. The Germans had improved their defensive constructions based on the lessons from the Battle of Somme. Thus, the German defensive responses to the Allied attacks proved once again more effective than the improved offensive method. The large casualties of the failed offensive sparked mutinies and collapse in the army's morale. General Philippe Pétain replaced Nivelle on the fifteenth day of May 1917.⁵⁵³

Shortly after he was appointed Commander-in-Chief of the French army, Pétain published his well-known Directive No.1 of 19 May 1917. In this document, Pétain acknowledged that there was an even balance between the adversaries on the northern and north-western part of the front. He closed by stating that should the situation and the balance of forces change, new directives would be issued. The current strategic ambition was an economy of force approach that aimed at preserving and restoring the French army without yielding the initiative to the Germans.⁵⁵⁴ The means used to keep the initiative was limited offensives with existing forces, to attrit the enemy by massive use of artillery and securing limited objectives. These short and quick offensives should follow in rapid succession to fix the enemy and prevent him from shifting forces to counter one offensive before the next one began in another sector. There should be a continuous improvement of the defences to prevent the Germans from exploiting the situation by transferring forces from the Eastern Front following the Russian revolution. This was the first of a series of directives that was to create a new doctrinal framework for future offensives by the French army.⁵⁵⁵ Pétain's focus on successive offensives was based on experiences that dated back to the Champagne offensive in the autumn of 1915.⁵⁵⁶

The French front was reorganised to accommodate the new resource-intensive offensives. Roads parallel to the front were constructed to facilitate lateral movements of troops and especially artillery and ammunition. The defences were rearranged to facilitate offensives. Assault trenches were dug closer to the enemy. Furthermore were communications trenches

⁵⁵³ Goya, *Les vainqueurs*, 37-39.

⁵⁵⁴ Economy of force is to limit the numbers of troops on a secondary sector to the absolute minimum, while massing combat power at the primary sector. In this case it means to husband the forces to avoid casualties and rebuild their strength. Robert Cowley and Geoffrey Parker, *The Reader's companion to military history* (Boston: Houghton Mifflin, 2001), 146-147.

⁵⁵⁵ *AFGG V-2-1*, Annexe No. 235, 291-292; Doughty, *Pyrrhic Victory*, 366-367; Goya, *Les vainqueurs*, 39-40.

⁵⁵⁶ *AFGG III-4*, Annexe No. 3048, 169.

and storage areas for ammunition and equipment established. The purpose was to concentrate superior forces and firepower quickly and covertly to secure surprise and fire superiority for Pétain's new limited offensives. The offensive method proved successful locally, but was very costly in ammunition and would not alone defeat the German army. However, they helped to reconstitute the French army's morale and further develop tactical attack methods. Special raiding parties and techniques were developed, which varied from company size raids to larger than divisions sized attacks with limited objectives. Artillery and machine guns were often used massively to support these actions.⁵⁵⁷

The cost of the artillery preparations for the battle of Fort La Malmaison on the Chemin-des-Dames ridge in October 1917 reached the stunning costs of 500 million francs. It was twice the production cost of the more than 4000 tanks produced in France during the war. New artillery directives refocused the use of artillery in attack from destruction to the neutralisation of enemy resistance for a limited time. The artillery would neutralise enemy artillery by counter-battery fire and suppress enemy infantry to allow the attacking forces to cross no man's land and assault the trenches. The increased motorisation of the artillery would both allow for field artillery to follow the attacking infantry and the heavy artillery to relocate for a new offensive along the front line.⁵⁵⁸ What was still missing, was a way to develop Pétain's tactical successful attacks into a strategic offensive to win the war.

Foch had argued that the Allies should begin to plan a counter-offensive in early May 1918, even as the Germans were still conducting their offensives. In a note of the twelfth day of May and his General Directive no. 3 of 20 May, he envisioned offensives to reduce the salient protruding towards Hazebrouck in Flanders and recapture the mining areas in the region. He also stressed the need to reduce the German bulge threatening Amiens.⁵⁵⁹ One part of Foch's argument was to include the British and take a comprehensive view of the situation of the Allies. Foch insisted that British and French attacks between the rivers Oise and Somme must be understood as fundamentally linked together since they aimed for results that would complement each other (*des résultats qui se complètent l'un l'autre*).⁵⁶⁰ But while Foch was

⁵⁵⁷ Goya, *Les vainqueurs*, 40-43, 46-49.

⁵⁵⁸ Goya, *L'invention de la guerre modern*, 387-390; Doughty, *Pyrrhic Victory*, 384-389.

⁵⁵⁹ *AFGG VI-2-1*, Annexe No. 158, 319-321, Annexe No. 214, 401-403; Doughty, *Pyrrhic Victory*, 447.

⁵⁶⁰ *AFGG VI-2-1*, Annexe No. 214, 402.

pressing for counterattacks and offensives, Pétain was more concerned with the next German offensive.⁵⁶¹

There were two distinct dimensions in Foch's arguments. The first is where Foch strived to counter the series of German offensives with counterattacks against the salients gained in the offensives. This argument brought about the well-known tension between himself and Pétain. The latter claimed that the French army lacked resources for the offensive. The second dimension was the clarity of Foch's strategic concept and his ability to maintain it until the situation had improved for the Allies. His perception of the essential geographical areas for the counter-attacks, as well as the strategic purpose of these operations, would lead him to develop the successes of the initial counter-attacks into an Allied counter-offensive. Foch's general strategic vision embraced initial successes to forge a specific strategy for an offensive campaign to win the war.

Allied unified command in the field emerged after Foch was given a coordinating role of operations at Doullens on the twenty-sixth day of March 1918. He soon argued that the role had to be expanded to include directing operations. At the meeting between the Allies at Beauvais on 3 April, Foch had his authority widened to include "the strategic direction of military operations. The Commanders-in-Chief of the British, French and American Armies will have full control of the tactical action of their respective Armies."⁵⁶² This limited authority of "the strategic direction of operations" was as far as the nations would go regarding unified command. The execution of Foch's strategic direction demanded its full share of military-diplomatic tact:

But by persuasion he could stimulate or restrain their Commanders-in-Chief, decide upon the policy to follow, and thus bring about those concerted actions which result in victory, even when the armies concerned are utterly dissimilar.⁵⁶³

Foch himself had no illusions of his authority: "What later was known by the term 'unified command' gives a false idea of the powers exercised by the individual in question – that is, if it is meant that he commanded in the military sense of the word".⁵⁶⁴ In a modern

⁵⁶¹ Doughty, *Pyrrhic Victory*, 446-447.

⁵⁶² Quoted in *OHGW 1918 II*, 115; see also *AFGG VI*, 403.

⁵⁶³ Foch, *The Memoirs of Marshal Foch*, 211.

⁵⁶⁴ *Ibid.*, 210.

understanding of command authority, Foch possessed only a coordinating authority. He was dependent on the forces he was to coordinate allowing themselves to be coordinated.⁵⁶⁵

There was a remarkable absence of a direct role for the Supreme War Council (SWC) in Foch's execution of "unified command". A week before the German *Michael* offensive, the 14-15 March meeting of the SWC failed to agree on a strategic reserve or a unified command.⁵⁶⁶ The July meeting of the SWC was unable to enhance the role of its Permanent Military Representatives (PMR) in the strategic planning of the offensives in 1918 and 1919. On the other hand, Foch threatened to resign rather than have his authority reduced. More critical was the SWC's role in streamlining and standardising logistics.⁵⁶⁷ Modern war had become extremely dependent on a constant and uninterrupted flow of supplies.⁵⁶⁸ The Allied 1918 campaign would not have been possible had supplies not been available and forwarded to the armies. Elizabeth Greenhalgh made it absolutely clear that "It is undeniable that the allied solutions to the logistics problems were war-winning."⁵⁶⁹ Although the SWC did not interfere in Foch's direction of operations, it did, make the operations possible by its logistics arrangements.

Foch's coordination of the defence against the German offensives was not without friction and disagreements. However, his position was confirmed at the meeting of British and French politicians and top military leaders in Paris on 7 June.⁵⁷⁰ Foch maintained the pace of the campaign by extending Pétain's tactical method of limited attacks to the strategic level. The campaign would consist of parallel and sequential operations along the entire width of the front to keep up a steady pressure on the Germans and deny them any respite. Contrary to John Terraine's claim that Foch was one of the last of the great old fashioned generals, Foch

⁵⁶⁵ "coordinating authority / autorité de coordination CA The authority granted to a commander, or other individual with assigned responsibility, to coordinate specific functions or activities involving two or more forces, commands, services or organizations. Note: The commander or individual has the authority to require consultation between the organizations involved or their representatives, but does not have the authority to compel agreement." NATO, AAP-06, *NATO Glossary*. Note the limited authority given to the commander.

⁵⁶⁶ Foch, *The Memoirs of Marshal Foch*, 278-280; Greenhalgh, *Victory through coalition*, 186, 191-192.

⁵⁶⁷ Foch, *The Memoirs of Marshal Foch*, 408-409; Greenhalgh, *Victory through coalition*, 221-223, 229-246, 261-264; McCrae, *Coalition Strategy*, 158-159.

⁵⁶⁸ Crevel, *Supplying war : logistics from Wallenstein to Patton*; Dennis E. Showalter, "Mass Warfare and the Impact of Technology," in *Great War, Total War*, ed. Roger Chickering and Stig Förster (Cambridge: Cambridge University Press, 2000).

⁵⁶⁹ Greenhalgh, *Victory through coalition*, 263.

⁵⁷⁰ Doughty, *Pyrrhic Victory*, 460-462; Greenhalgh, *Victory through coalition*, 197-220.

was in fact inventing modern coalition warfare.⁵⁷¹ To quote Alexandr Svechin's analysis of modern war, "We reduce the whole essence of the strategic art of warfare to an understanding of the logic of grouping operations to achieve the goals of the war."⁵⁷² Foch's strategy in 1918 was all about grouping operations within the context of the campaign. He might have been an old fashioned general before the war, but by 1918, Foch had redefined strategic generalship and reshaped Allied strategy to accommodate modern operations.

The command structure of the Allies in 1918 balanced between the need for a unified command and national concerns, burden sharing, and different roles among the Allies.⁵⁷³ Foch was a supreme commander in the name only. His authority was limited to directing operations within the campaign. While Foch directed and coordinated operations, it was the army groups, which acted as operational commands, that planned and conducted the operations.

Field Marshal Sir Douglas Haig commanded the BEF and was also the senior British officer on the continent. The BEF was organised as an army group alongside the French army groups. The French army was commanded by Pétain and was organised in three army groups. Bordering the BEF was the Reserve Army Group (*Groupe d'armées de Réserve ou de Rupture* (G.A.R.)), which was commanded by General Emile Fayolle. To the east was the Central Army Group (*Groupe d'armées du Centre* (G.A.C.)), under General Paul Maistre. General Édouard de Curières de Castelnau commanded the Eastern Army Group (*Groupe d'armées de l'Est* (G.A.E.)) that was deployed along the German border.⁵⁷⁴ Foch's direct involvement in command, at times bypassing the French army commander Pétain, provided him with the means to exert strategic direction over offensive operations. Pétain, on the other hand, did occasionally direct the tactical conduct within the operations, bypassing army group commanders. The Allied chain of command was partly parallel and partly overlapping with national chains of command, which could easily lead to conflict or friction.⁵⁷⁵

⁵⁷¹ John Terraine, *The smoke and the fire: myths and anti-myths of war 1861-1945* (London: Sidgwick & Jackson, 1980), 77.

⁵⁷² Svechin, *Strategiia*. 173.

⁵⁷³ Elizabeth Greenhalgh, "1918: The Push to Victory," in *Britain and France in two world wars: truth, myth and memory*, ed. Robert Tombs and Emile Chabal (London: Continuum, 2013), 63-77.

⁵⁷⁴ Doughty, *Pyrrhic Victory*, 328-329.

⁵⁷⁵ *Ibid.*, 467-468; Greenhalgh, *Foch in Command*, 401-404.

When the German *Marneschutz-Reims* offensive was stopped dead in its tracks on 17 July, the Allies counterattacked the following day in the Second Battle of the Marne. The subsequent Allied 1918 offensive campaign developed out of this successful counterattack. The success at the Marne was developed into a strategic offensive. The next was the British-led British-French Amiens-Montdidier operation (the battles of Amiens and Montdidier), which began on 8 August. The Amiens-Montdidier operation was followed by two more offensives, one east of Hazebrouck at the Lys River and later the American attack at Saint-Mihiel. The aims were initially limited to securing Paris and removing German threats to vital rail junctions. But from these initial successes, a general offensive emerged. Its purpose was to force German forces out of France and secure starting positions for the final offensive into Germany by the spring of 1919.⁵⁷⁶

Foch hosted a conference with the Allied commanders at his headquarters in Bombon on 24 July 1918 to present his four-step strategy to win the war. The first step was to halt the German offensives, the second to counter-attack, the third to advance the entire front, and finally end the war with a massive Allied offensive in 1919. The offensive on the Marne turned out to be the opening round of the second step.⁵⁷⁷ The precondition for Foch to press for the offensive was the growing Allied superiority in men (with 250,000 Americans arriving monthly), a steadily increasing material advantage, and rising Allied morale. At the same time, German morale was suffering after the failed spring offensives.⁵⁷⁸

The Allied offensive on the Western Front is commonly referred to as the Allied Autumn Offensive or the Hundred Days. The British tradition tends to start with the Battle of Amiens and refer to the hundred days of fighting that lead to the armistice, with reference to Napoleon's hundred days leading to the battle of Waterloo.⁵⁷⁹ Historian Nick Lloyd regards the French Marne offensive as a prologue, which makes sense since Foch first laid out his strategic concept on 24 July, capitalising on the initial success on the Marne.⁵⁸⁰ On the other

⁵⁷⁶ Doughty, *Pyrrhic Victory*, 461-463; Nick Lloyd, *Hundred Days The End of the Great War* (London: Penguin Books, 2014), 24-27; Greenhalgh, *Foch in Command*, 407-413.

⁵⁷⁷ Doughty, *Pyrrhic Victory*, 462; Greenhalgh, *Victory through coalition*, 246-247.

⁵⁷⁸ *AFGG VII-1*, Annexe No. 276, 305-306; Greenhalgh, *Foch in Command*, 408.

⁵⁷⁹ The tradition dates back to the first publications after the war, see Archibald Armar Montgomery-Massingberd, *The story of the Fourth army in the battles of the hundred days August 8th to November 11th, 1918*, (London: Hodder and Stoughton Ltd., 1920); Sir Raymond Edward Priestley, *Breaking the Hindenburg line the story of the 46th (North Midland) division* (London: T.F. Unwin, 1919), 11, 17; Greenhalgh, *Victory through coalition*, 70-71; *Foch in Command*, 462-463.

⁵⁸⁰ Lloyd, *Hundred Days*, 1-27.

hand, Doughty emphasises that the strategic offensive was an opportunistic exploitation of the success in the Second Battle of the Marne and became the opening round of Foch's offensive campaign. Elizabeth Greenhalgh maintains it was the Allied seizure of the initiative that constituted the turning point.⁵⁸¹ The German official history acknowledges that the Allied Marne offensive consumed the available German reserves poised for future offensives. The prospect of an overall retreat, similar to the 1917 withdrawal to the *Siegfried Stellung*, was emerging as the only realistic German option, although it would have far-reaching political effects. There was an implicit acknowledgement that the strategic initiative was lost for Germany, although German troops fought well in defence.⁵⁸²

Prelude: The Second Battle of the Marne⁵⁸³

The third series of German spring offensives, the *Blücher*, *Yorck* and *Goerz*, was launched on 27 May across the River Ailette between Reims and the River Oise. The aim was to draw Allied reinforcements away from the British sector before a renewed effort to split the French and British armies. Similar to the Michael offensive, opportunistic exploitation of tactical success prevailed over strategic purpose. The limited aim of a diversion was expanded into a decisive operation and an advance deep into the French defences. The unintended outcome was a salient about 45 km wide and 30 km deep that protruded from the front line southeast of the Amiens salient. Rail and road communications were so restricted that the troops could only be supplied with difficulty.⁵⁸⁴ The final German offensive, the *Marneschutz-Reims* offensive, was launched on 15 July to capture Reims with its vital railroad junction. The French army had prepared a thorough defence in depth, so the offensive gained little ground, while the defenders inflicted heavy casualties on the assault forces.⁵⁸⁵

A French counter-offensive against the protruding German salient south-west of Reims was conceived as early as late May. It was prepared by moving the majority of the strategic reserves from other sectors to reinforce the armies assigned for the offensive. Four armies of

⁵⁸¹ Doughty, *Pyrrhic Victory*, 461-475; Greenhalgh, *Foch in Command*, 404.

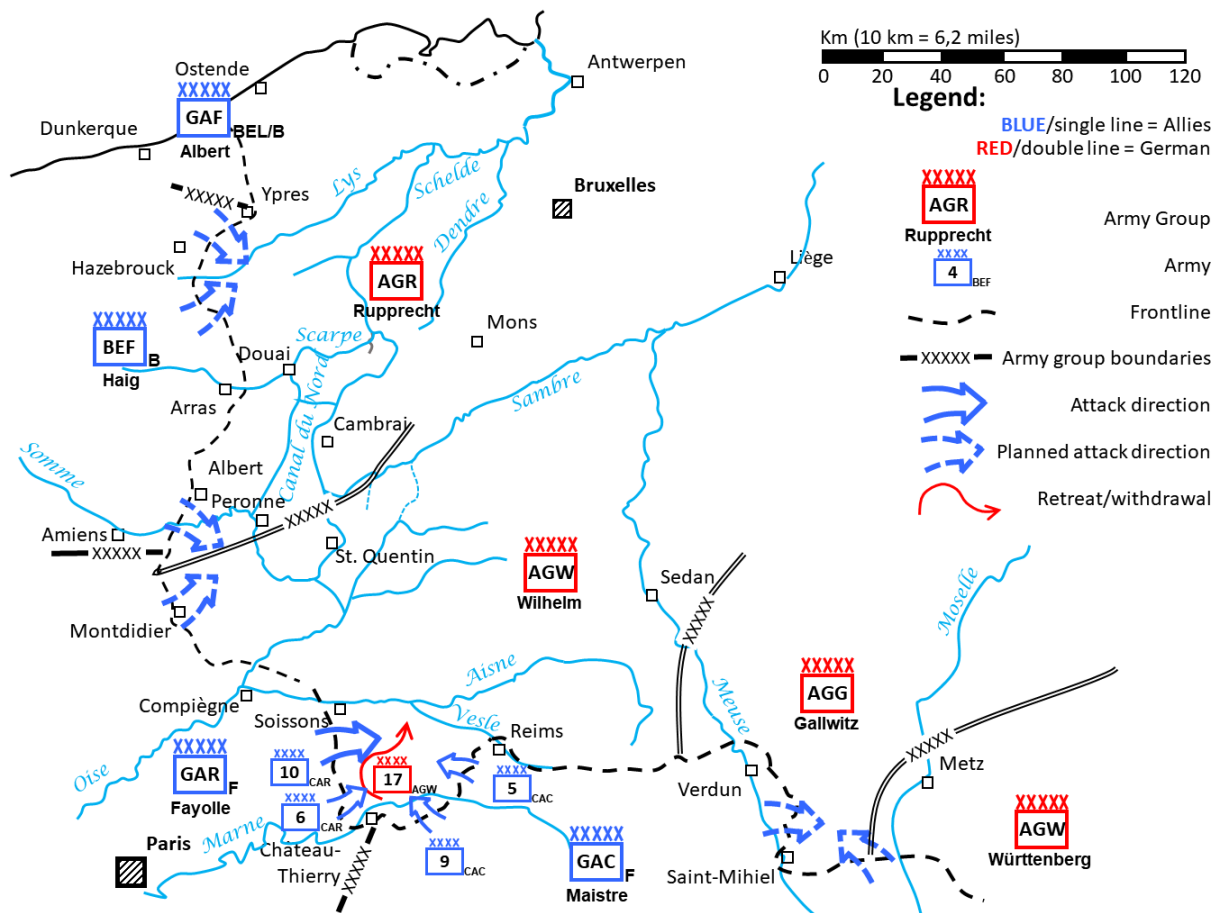
⁵⁸² *Weltkrieg 14,1*, 504-505.

⁵⁸³ *AFGG VII-1*, 73; Frederick Maurice, "The First and Second Battles of the Marne," *Harper's Monthly Magazine*; (Cover Title: *Harper's Magazine*) 138, no. 824 (1919).

⁵⁸⁴ Neiberg, *The Second Battle of the Marne*, 69-72; Zabecki, *The German 1918 offensives*, 206-232.

⁵⁸⁵ *The German 1918 offensives*, 246-265.

two army groups were involved. They were further reinforced by American and British troops, which also made the offensive an Allied effort. Artillery and armour were concentrated to ensure fire superiority and mobility to the attack force. A tight security and secrecy regime was imposed to reduce the risk of German intelligence detecting the preparations. The purpose of the offensive was to remove the direct threat towards Paris and open the railroad juncture at Château Thierry.



Sketch 5.1. The Western Front on 24 July 1918.⁵⁸⁶ Army group areas of operations, front line, the Second battle on the Marne and planned operations against German salients at Hazebrouck, Amiens and Saint-Mihiel.⁵⁸⁷

The operational and tactical preparations were in accordance with Pétain’s Directive No. 5 of 12 July 1918 concerning the conduct of the offensive.⁵⁸⁸ Pétain stated firstly that from now on the armies were to attack. Success would depend on thorough planning and preparations,

⁵⁸⁶ The sketch’s geographical features are based on *AFGG VII, I*, Charte No 4; *OHGW V*, Endpaper A and B; *Weltkrieg 14, Beilagen*, Beilage 21 and 23.

⁵⁸⁷ *OHGW 1918 III*, Sketch 1, 12, 15, 16; *OHGW 1918 IV*, Sketch 1; *Weltkrieg 14, Beilagen*, Beilage 24; Neiberg, *The Second Battle of the Marne*, 162.

⁵⁸⁸ *AFGG VII-1*, Annexe No. 19, 34-40; Doughty, *Pyrrhic Victory*, 462-468; Greenhalgh, *Foch in Command*, 388-402; Neiberg, *The Second Battle of the Marne*, 118-128.

secrecy and surprise, rapid execution and penetration into the trench systems, and immediate and deep exploitation. The directive further emphasised the role and responsibility of commanders and staff officers. The troops must be properly trained in their tasks and fight in combined arms teams, which should include tanks and close cooperation with artillery. These issues were further described in detail and also in specified tasks for artillery, aeroplanes and tanks.⁵⁸⁹

Foch initiated the counteroffensive in the early morning of 18 July, as soon as the German *Marneschutz-Reims* offensive was brought to a halt by French counterattacks on 17 July. The attack hit the Germans when their offensive ground to a halt and were most vulnerable. In the west, the Germans were taken completely by surprise since there was no massive artillery preparation by the French Tenth Army, just a creeping barrage immediately followed by tanks and infantry. The Tenth Army's gains of 8 km the first day ripped open the defensive zone, penetrated the German defences, and cut the western supply route into the salient. By noon the German troops were ordered to evacuate their bridgehead across the Marne. The French Sixth, Ninth, and Fifth Armies attacked the next day, but now the Germans were prepared; therefore, these attacks progressed much more slowly. Resistance in the west also hardened, but the pressure of superior force, supported by artillery and tanks, forced the Germans relentlessly backwards. Fearing rising casualties, the German army group commander suggested withdrawal from the salient on 24 July. But Ludendorff declined this recommendation. The sustained allied pressure forced Ludendorff to accept defeat and order a retreat two days later. The Germans lost most of the terrain gained in the *Blücher* offensive in May and were back in defensive positions along the Aisne and Vesle rivers by 3 August. French casualties were high, but their gains were irreversible. The Germans had lost the initiative and would never regain it.⁵⁹⁰

The Second Battle of the Marne had limited ambitions that were tailored to the means available. The latest tactical methods were utilised to exploit the enemy's vulnerabilities. The offensive was terminated in the tension between reaching the final objectives and the costs to get there. Contrary to some of the previous Allied offensives on the Western Front, the Second Marne was halted when the Germans were well entrenched in strong defensive river

⁵⁸⁹ *AFGG VII-1*, Annexe No. 19, 34-40.

⁵⁹⁰ *OHGW 1918 III*, 240-306; *Weltkrieg 14,1*, 475-501; Doughty, *Pyrrhic Victory*, 470-474; Lloyd, *Hundred Days*, 1-18; Neiberg, *The Second Battle of the Marne*, 125-181.

lines along the Aisne and Vesle. There would be no breakthrough attempts. Pétain's limited offensives designed to reduce French casualties were combined in a sort of cognitive tension with Foch's offensive drive. The result was a massive offensive operation of sequenced tactical actions, each with limited aims.⁵⁹¹ The Second Battle of the Marne fits well within the defining characteristics of a modern operation.⁵⁹²

The evolution of a campaign

Germany had lost over 800,000 first class assault troops in the spring offensives.⁵⁹³ The salients created by the advances extended the defensive lines by 120 km. The spring offensives brought the German troops well forward of their heavily fortified *Siegfried Stellung*, which was prepared in late 1916 and occupied in 1917.⁵⁹⁴ These newly occupied positions were not the well-fortified deep defensive zones that had withstood the massive Allied offensives the previous years, but rather hastily dug field fortifications. The German army was still a formidable opponent, but the spring offensives had worn down their combat strength and created vulnerabilities that the Allies were poised to exploit. These vulnerabilities consisted of both the physical attrition of troops and equipment and exposed defensive positions. The troops also suffered from weakened morale since the offensives did not bring about the peace that the German High Command had promised the exhausted soldiers. Finally, the attrition reduced the reserves needed at the strategic and operational level of commands to counter future Allied offensives.⁵⁹⁵

This success of the counter-offensive on the Marne turned out to be the opening round of the second step in the four-step strategy that Foch presented in July. Foch presented the strategy in the 24 July 1918 meeting of the Commanders-in-Chief in his Headquarters in Bombon.⁵⁹⁶

⁵⁹¹ *OHGW 1918 III*, 299-306; *Weltkrieg 14, I*, 497-501; *The Second Battle of the Marne*, 176-179.

⁵⁹² Svechin, *Strategy*, 68-70.

⁵⁹³ The German official history lists close to 3 million casualties from March to July 1918, almost 2 million by illness (half of them by influenza), and 950000 irrecoverably lost. *Weltkrieg 14, I*, 516-517.

⁵⁹⁴ The German defensive system of the *Siegfried Stellung* is commonly referred to as the Hindenburg Line in English language literature. This practice goes back to the First World War and the Hindenburg Line was commonly used alongside the German names on the various defensive systems. *Weltkrieg 14, I, Beilagen*, Beilage 23; Doughty, *Pyrrhic Victory*, 333-334, 480-481; Lloyd, *Hundred Days*, 143-145; Strachan, *The First World War*, 291.

⁵⁹⁵ *OHGW 1918 III*, 215-216; Lloyd, *Hundred Days*, 110; Neiberg, *The Second Battle of the Marne*, 125-126.

⁵⁹⁶ Doughty, *Pyrrhic Victory*, 462; Greenhalgh, *Foch in Command*, 401-414; *The French Army and the First World War*, *Armies of the Great War* (Cambridge: Cambridge University Press, 2014), 321-235.

In a memorandum for the meeting on 24 July 1918, Foch emphasised the manner in which the offensives were to be conducted:

[t]hese actions are to be carried out at short intervals to disrupt the enemy in his use of reserves and not to give him time to reconstitute his units.

They need to be powerfully endowed with all necessary means in such way as to secure the success of the blows.

Finally, surprise must be achieved at all costs. Recent operations show that this is an essential condition for success.⁵⁹⁷

The strategic approach Foch presented was, on the one hand, related to specific operations aimed at limited objectives. On the other hand, it signalled a general ambition to take and maintain the initiative to prevent the enemy from regaining it:

It is impossible to foretell at present where the different operations outlined above will lead us, either in the matter of time or space. Nevertheless, if the objects they have in view are attained before the season is too far advanced, there is reason for assuming now that an important offensive movement, such as will increase our advantages and leave no respite to the enemy, will be launched toward the end of the summer or during the autumn.

It is still too early to be more precise in regard to this offensive.⁵⁹⁸

This memorandum made it clear that Foch had understood how operations were to be conducted in the modern industrialised people's war. There would be no breakthrough or dashing pursuit, no mobile warfare (*Bewegungskrieg*) or decisive operations. The contrast to Ludendorff's 1914-style operational concept of an all or nothing mobile warfare is revealing. Whereas Foch and the Allies had discarded the illusion of breakthrough in the new kind of warfare, Ludendorff maintained his bottom-up tactical approach: "I disapprove of the word operation. We'll cut a hole. The rest will follow. That's how we did it in Russia."⁵⁹⁹

Foch stressed the war was to be fought by combining the tactical method of limited attacks, *attaque brusque* and "bite and hold" into successive operations with limited aims. The initiative was to be maintained by engaging the enemy continuously with operations according to Foch's strategic direction. The Allied learning curve had reached the operational level of war and modern operational art was emerging, although it yet had neither a theory nor a name. In 1918, the Allies were "speaking prose without knowing anything about it".⁶⁰⁰

⁵⁹⁷ AFGG VII-1-1, Annexe No. 276, 306-307; Foch, *The Memoirs of Marshal Foch*, 425-432.

⁵⁹⁸ AFGG VII-1-1, Annexe No. 276, 306; Foch, *The Memoirs of Marshal Foch*, 428-429.

⁵⁹⁹ Groß, *Mythos und Wirklichkeit*, 136.

⁶⁰⁰ Molière, *Le bourgeois gentilhomme*, 31.

Foch envisaged that the operations by the army groups would take place sequentially in time and space to deprive the German defenders of their means to counter the offensive either strategically or operationally. This sequencing would force the Germans to consume their reserves, which were their main means of combat at the strategic and operational levels. These reserves had to be transferred from one Allied offensive to another over distances up to 150 km or more. The reserves themselves would be worn down in the fighting against the superior Allied combined arms system and also exhausted by the constant transfers from sector to sector. In addition, these movements of reserves would strain the German transport and supply system that was already suffering from a lack of fuel and critical raw materials. When the Allied offensive were underway, these effects on German reserves took less than a month to materialise and severely limited the German ability to support the tactical defence the final months of the war.⁶⁰¹

Foch also issued a detailed questionnaire at the 24 July meeting and asked the Allied commanders to list the forces that would be ready for the offensive in 1919. He asked for information about large units via tanks and aeroplanes, logistical capacities and motorised transport. Foch also asserted that Britain and France should maintain their number of divisions, while the Americans would increase their forces. It was imperative to be ready to renew the offensive early in 1919 and stock ammunition for a long fight.⁶⁰² This questionnaire is a clear indicator that Foch did not expect to end the war in 1918, despite ordering preparations for a major offensive after the railroad junctions had been cleared. The 1919 offensive would be the fourth and final step in Foch's strategy.

The Allied campaign will be analysed in the framework of Foch's second and third steps. The analysis is structured in phases based on the actual progress, to present how the third step unfolded. The purpose is to investigate whether modern operational elements were present and the extent to which they indicate planning and conduct of operations constituted operational art as it was defined by Svechin a decade later. The first phase of the third step (the general offensive) was the advance to the Germans' main defences, the *Siegfried Stellung*. The second, phase was the operations to break through the defences. The third phase was the advance to the intermediate *Herrmann Stellung* and the fourth its breakthrough. The

⁶⁰¹ Weltkrieg 14,1, 526-530, 606.

⁶⁰² AFGG VII-1, Annexe No. 277, 307-308; Foch, *The Memoirs of Marshal Foch*, 430-432.

final phase was the war of manoeuvre that ended with the armistice on 11 November 1918. The general offensive got underway before the second step (the reduction of the threats to the vital railroad junctions) was completed, which was a pragmatic adaptation of the campaign design to the realities on the ground.

Step Two: Counterattack

The Western Front in July 1918 consisted of a protruding double salient between Reims and Arras, two smaller bulges aimed at Hazebrouck in Flanders, and one at Saint-Mihiel by the Meuse. The three first salients were the territorial results of the German spring offensives; thus, all were obvious objectives for attacks. Firstly, they threatened strategic railroad junctions and secondly, the Germans were deployed in weak defences that were manned with exhausted troops at the end of undeveloped supply lines. The Germans had also taken heavy casualties, which they could ill afford, while the Allies could count on 250,000 American soldiers arriving monthly. The German offensives had culminated. Furthermore, the strategic initiative shifted decisively with the Allied offensive on the Marne.⁶⁰³

The Reduction of the Salients

Plans for a British offensive east of Amiens had already been developed by the commander of the British Fourth Army, Lieutenant General Sir Henry Rawlinson. Foch informed Haig in a General Directive of 20 May 1918 to coordinate closely with French forces to clear the Paris-Amiens railway and the Amiens region when planning the Fourth Army's offensive. As a consequence of the success on the Marne, Haig told Rawlinson on 13 July to revise his plan. The Fourth Army was reinforced with the Canadian Corps, which was one of two elite corps in the BEF. The other was the Australian Corps already assigned to Fourth Army, alongside the British III Corps.⁶⁰⁴ The two Dominion corps would spearhead some of the most difficult British operations over the next months and earn a reputation as the BEF's best troops.⁶⁰⁵

⁶⁰³ *OHGW 1918 IV*, Sketch 1; Greenhalgh, *Foch in Command*, 418-420.

⁶⁰⁴ J. P. Harris and Niall Barr, *Amiens to the Armistice: the BEF in the Hundred Days' Campaign, 8 August-11 November 1918* (London: Brassey's, 1998), 61-66; Stevenson, *With our backs to the wall*, 118-121; Timothy Travers, *How the war was won: command and technology in the British Army on the Western Front, 1917-18* (London: Routledge, 1992), 115-116.

⁶⁰⁵ *AFGG-2-I*, Annexe No. 214, 401-403; English translation in *OHGW 1918 III*, 339-341.

Rawlinson had already used the Australian Corps and tested an improved attack form on a smaller scale at Hamel. The attack used a combined arms approach where artillery, armour and aeroplanes paved the way for and supported the infantry. The Fourth Army had allocated more than 2000 pieces of artillery, one-third of these were heavy guns, over 500 tanks and armoured cars, and 800 aeroplanes. A strict security and deception regime was imposed to ensure surprise.⁶⁰⁶ The preparations for the Amiens-Montdidier operation is an illustration of how the bottom-up approach by the Fourth Army met Foch's strategic initiative. It also an example of how the tactical optimisation of means and methods would allow for operations to achieve the strategic goal.

Foch placed the French First Army under Haig's command for the operation, which ensured unity of command of all forces involved. In his letter of 28 July, Foch also urged Haig to speed up the preparations:

Under these conditions, it would seem advisable to hasten the combined action of your Fourth Army together with our First Army. They would certainly find an enemy less prepared to confront them. I therefore ask you to advance, as far as possible, the date of this operation. I will similarly prepare for the return of your II corps. Finally, as this operation of two allied armies requires a single direction, I ask you to be willing to take the command yourself.⁶⁰⁷

This command arrangement was contrary to Ludendorff's division of command in the *Michael* operation, where the three armies that took part were divided between two army groups to allow Ludendorff a direct control of events. General Marie-Eugène Debeney, commanding the First Army, expected his mission to be to secure the right flank for Rawlinson's Fourth Army. Debeney's army group commander, General Fayolle had attached an extra corps to the First army and widened its front to the south. Debeney was also assigned the two tank battalions France had available after the Second Marne. In contrast to the British, Debeney had to rely more on artillery and infantry and would open the attack with an artillery barrage to create room for the infantry manoeuvre.⁶⁰⁸

⁶⁰⁶ *OHGW 1918 III*, 311-320; *1918 III*, 339-341; *OHGW 1918 IV*, 550-559, 573-575; Doughty, *Pyrrhic Victory*, 475-476; Harris and Niall Barr, *Amiens to the Armistice*, 73-75; Peter Hart, *1918: a very British victory* (London: Weidenfeld & Nicolson, 2008), 446-456; Lloyd, *Hundred Days*, 28-38; Martin Samuels, "Shock and friction as explanations for disaster at the Battle of Amiens, 8 August 1918," *War & Society* 35, no. 4 (2016), 278-279.

⁶⁰⁷ *AFGG VII-1-1*, Annexe No. 354, 377.

⁶⁰⁸ *AFGG VII-1*, 147-149; *AFGG VII-1-1*, Annexe No. 355, 377-378; Doughty, *Pyrrhic Victory*, 476; Goya, *Les vainqueurs*, 199-202; Harris and Niall Barr, *Amiens to the Armistice*, 83-84; Lloyd, *Hundred Days*, 33-34.

When German vulnerabilities became apparent, Foch intervened and extended the depth and scope of the operation. Fayolle also directed Debeney to conduct a converging attack, one push south-east along the British Fourth Army and one north-east further south. The French Third Army under Fayolle bordering Debeney to the south was to support the First Army with artillery and an attack along Debeney's right flank. Debeney received instructions and resources from his formal operational superior, Haig; from the strategic commander, Foch; and from his parent unit, General Fayolle's G.A.R. The net result was an extended mission, an extra corps to do the job, and a supporting attack on his southern flank.⁶⁰⁹ All of these extra measures reinforced the operation without frustrating the command arrangements or the objective, as was the case in Ludendorff's direct interference in tactical issues during the German spring offensives.

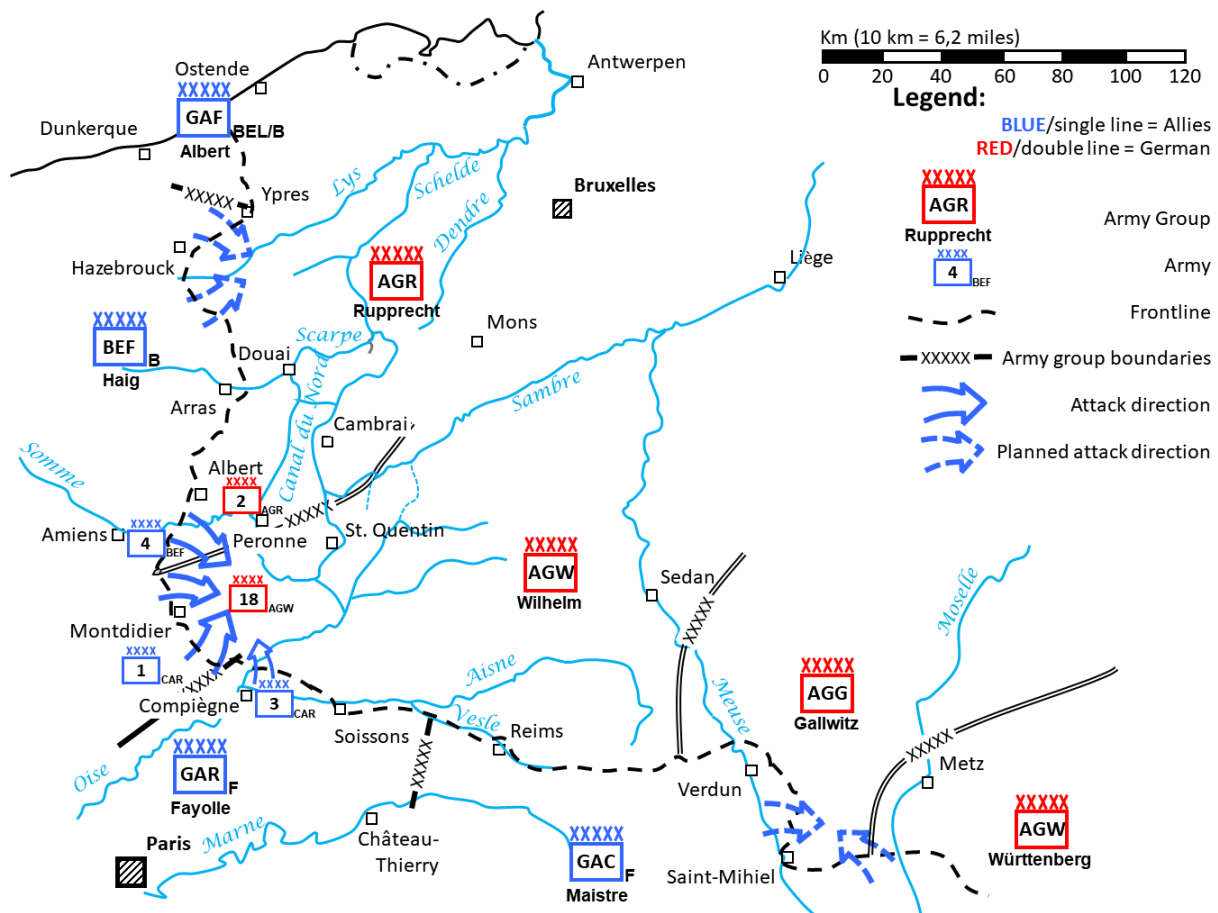
The German forward positions lay just over 15 km east of Amiens where the *Michael* offensive had ground to a halt in early April. The salient was an inviting objective for an offensive; it was the obvious place to attack. The terrain was well suited for men, horses and tanks, and the German defences were weak. The positions were manned by exhausted troops at the end of their supply lines and with faltering morale. They were short on artillery, had no tanks, no designated anti-tank weapons, and the Allies had command of the air. Any German gun that was observed from the air could be targeted by precise counter-battery fire, thus depriving the exposed infantry of their artillery support.⁶¹⁰ A fragmented and exhausted German defence was to be attacked by a comprehensive combined arms force. The Allied strategic directed operational art would allow them to fully utilise their larger resource base and provide them with a combination of combat means that the Germans could not counter.

The offensive began just after 04:00 on 8 August when the British Fourth Army attacked without a preparatory artillery barrage. The infantry and a strong tank force advanced immediately behind a creeping barrage. Tanks provided direct fire support for the infantry. The French First Army followed alongside the Canadians on the British right but lagged behind by the end of the day. Foch intervened the next day and urged Debeney to press on. Debeney had deliberately attacked to the north to draw in German reserves. When the

⁶⁰⁹ *AFGG VII-1*, 154-158; Doughty, *Pyrrhic Victory*, 476; Harris and Niall Barr, *Amiens to the Armistice*, 76-83; Lloyd, *Hundred Days*, 29-40.

⁶¹⁰ *Weltkrieg 14, I*, 549-552; Harris and Niall Barr, *Amiens to the Armistice*, 62-63, 76-77; Lloyd, *Hundred Days*, 38-40; Samuels, "Shock and friction," 281-283.

Germans were committed to halting that initial attack, the First Army attacked against the weakened German line in the south. This second attack met with instant success that was followed up by the rest of the army the next day. By the third day, the German reserves from several armies along the Western Front were arriving as complete divisions. They were deployed in planned and well-prepared defensive positions and managed to stabilise the shattered defences.



Sketch 5.2. The Western Front on 8 August 1918. The Battle of Amiens fought by the British Fourth and the French First Army, both under the command of Field Marshal Haig. Shown are also the planned operations of Foch's second step (counter-attack) against German salients at Hazebrouck and Saint-Mihiel.⁶¹¹

When the offensive met with increased resistance on 11 August and progress slowed down, Haig was urged by his subordinates to call off the offensive. He did so, despite Foch urging him to continue. The territorial gains were between 12 and 20 km deep across a 45 km wide front over four days, half the width and a little less depth than the first four days of the *Michael* offensive in March. Debeney's First Army returned to the G.A.R. on 16 August.

⁶¹¹ AFGG VII, Charte No 20, 21; OHGW 1918 IV, Sketch 1, 9.

Haig and Fayolle would immediately initiate two parallel operations north and south for the Amiens-Montdidier operation to maintain the strategic initiative.⁶¹²

The tactical conduct of the British Fourth and French First Armies differed because of the resources available. Since the British had larger numbers of tanks, they could substitute the initial artillery bombardment for the firepower of the tanks. The tanks' armour was thin and vulnerable to enemy artillery. Thus losses on the first day were more than 25 per cent. Mechanical breakdowns left less than half of the tanks ready the next day. There were another 30 per cent losses on 9 August, while 50 per cent of the remaining vehicles were lost the third day. These losses left only 38 tanks out of an initial strength of 534 operational the fourth day. As a consequence, the Fourth Army had to rely on the more traditional infantry-artillery combined arms tactics as the attack progressed. Tanks were mechanically unreliable. Crews were exhausted after one full day inside the steel hull. The early tanks had an unsilenced engine that caused the entire vehicle to vibrate and emitted poisonous fumes, while the hull took hits by field artillery and machine guns. Tanks made good progress the first day of an attack, but the vehicles and their crews were worn out by the end of that day's action and required rest and repair.⁶¹³ These physical and human factors were important in shaping tactics. They necessitated that tanks were fully exploited on the first day before exhaustion of crews and mechanical breakdowns, in addition to losses inflicted by the enemy, brought them to a standstill.

By the end of 8 August, the German AGR assembled three divisions, mostly without artillery, as a reserve, and one corps and four divisions were to arrive from the OHL the next day. The army group ruled out counter-attacks before 10 August due to lack of artillery. The OHL ordered an artillery regiment in place by the same date. The next day the OHL ordered the assigned corps and one division to be attached to the Eighteenth Army, while the AGR was free to deploy the other reserves as it saw fit. The armies under attack reported that they could

⁶¹² *AFGG VII-1*, 175-196; *BAMA PH5 I/125*; *OHGW 1918 IV*, 579-580, Sketch 4, 8-9; *Weltkrieg 14,1*, 555-567; *Weltkrieg 14, Beilagen*, Beilage 25-26; Doughty, *Pyrrhic Victory*, 477-480; Goya, *Les vainqueurs*, 201-224; *L'invention de la guerre moderne*, 405-408; Harris and Niall Barr, *Amiens to the Armistice*, 87-117; Lloyd, *Hundred Days*, 59-61.

⁶¹³ *OHGW 1918 IV*, 156; Jonathan Boff, *Winning and Losing on the Western Front: The British Third Army and the Defeat of Germany in 1918* (Cambridge: Cambridge University Press, 2012), 140-143; Goya, *Les vainqueurs*, 88-90; Harris and Niall Barr, *Amiens to the Armistice*, 46-48, 75, 111-114; Hart, *1918: a very British victory*, 324-344; Lloyd, *Hundred Days*, 44-57; John Terraine, *To win a war: 1918 : the year of victory* (London: Papermac, 1986), 109, 115-117.

not hold the line and requested to be pulled back. At the end of 9 August, the OHL allowed the AGR to pull the Eighteenth Army back to an assigned line. Reports were more optimistic the next day. Both the Second and Eighteenth Armies assessed that they were able to hold since it appeared the enemy did not possess the same combat power as on the two previous days. All available reserves were spent, thus exhausted divisions were to be returned to the rear. The army group assessed on 11 August that the attack had stalled and would be contained.⁶¹⁴ This after-action report reflects the operational role of the army group in defence as managing and husbanding the reserves, which included reinforcements sent by the OHL. The AGR, on the other hand, could not conduct operational counter-attacks, because too much artillery was lost during the Allies' rapid advance on 8 August.

The Allied gains shook the German high command on the first day of the operation. The collapse of German morale made Ludendorff name the 8 August 1918 the "the black day of the German army in the history of this war."⁶¹⁵ The number of prisoners taken was a clear indicator of faltering morale. However, it was also related to the Allied superiority in men, materiel, and supplies and the speed and shock of the initial assault. The German troops were exposed in their advanced defensive positions just as at the Marne three weeks earlier. Therefore, the OHL would still be hard-pressed to balance the need to hold terrain that was difficult to defend with the need to retire to strong defensible positions to preserve combat power. Reserves that were brought forward in daylight ran the risk of strafing and bombing from the air, so reserves often arrived piecemeal and were sent into battle as they became available.⁶¹⁶

The OHL decided on 12 August to establish a new army group, commanded by General Max von Boehn (AGB). The purpose was to better manage the most vulnerable part of the Western Front by placing the armies between Albert and Soissons under one commander. The AGB's task was to prepare a winter position approximately where the German defensive positions were situated during the 1916 Battle of the Somme. The German strategic assessment was that

⁶¹⁴ Heeresgruppe Kronprinz Rupprecht, Oberkommando, "Die Abwehrschlacht zwischen Ancre und Oise von 8. mit 12. August 1918" [The defensive battle between the Ancre and the Oise from 8 to 12 August 1918] BAMA PH 5I/124.

⁶¹⁵ Ludendorff, *My War Memories 1914-1918*, 2, 679.

⁶¹⁶ *Weltkrieg 14,1*, 555-567; Harris and Niall Barr, *Amiens to the Armistice*, 103-107; Lloyd, *Hundred Days*, 57-58, 67-73; Alistair McCluskey, "The Battle of Amiens and the Development of British Air-Land Battle, 1918-45," in *Changing War The British Army, the Hundred Days Campaign and the Birth of the Royal Air Force, 1918*, ed. Gary Sheffield and Peter Gray (London: Bloomsbury, 2013), 231-235.

the armies in Flanders should expect a major enemy attack. But German intelligence was unable to detect the Allied focus of effort (*Kräfteverteilung*). The front of Army Group Crown Prince Wilhelm was calm, while no attacks were expected to the east and south.⁶¹⁷

Contrary to the German spring offensives, the Amiens-Montdidier operation was called off when progress was checked. It became apparent that further attacks would yield little more than increased casualties. The process of calling off the offensive is an illustrative example of the constructive tension between the strategic ambitions, tactics, and administration: in other words, the “material of operational art”.⁶¹⁸ Foch wanted the operation to continue to keep up the pressure on the defenders and maintain the initiative. Haig, who was influenced by the views of his Generals, Fourth Army commander Rawlinson and Arthur Currie, commanding the Canadian Corps, argued to end the attacks. The increased resistance had almost halted the advance and increased casualties significantly. The Allied operation had culminated; the German defence had become stronger than the Allied attacks and progress was halted. Foch acceded to Haig. As the senior British officer in France, Haig was followed closely by London. He therefore also had to consider the domestic political dimensions of British casualties.⁶¹⁹

After the Amiens-Montdidier operation was halted, Foch would continue the campaign by mounting operations at other parts of the front. Since the Allies had the initiative and therefore could choose where and when to attack, the Germans were left guessing. The German reserves that had been spent to halt the Amiens-Montdidier operation could not easily be released, reconstituted, and moved to the next area of operations in time. To keep the Germans busy and in the dark, the British Second Army south of Ypres was ordered by Haig on 21 August to:

continue minor enterprises, in order to gain ground towards Mont Kemmel and keep the enemy in expectation of an attack against that place, which if he were compelled by the action of the other Armies to withdraw his reserves southward might actually materialise.⁶²⁰

⁶¹⁷ *Weltkrieg 14,1*, 570-572; *Weltkrieg 14, Beilagen*, Beilage 27a.

⁶¹⁸ Svechin, *Strategy*, 69.

⁶¹⁹ *OHGW 1918 IV*, 166-172, 180; Doughty, *Pyrrhic Victory*, 478-479; Harris and Niall Barr, *Amiens to the Armistice*, 113-116, 119-120; Lloyd, *Hundred Days*, 59-67; Philpott, *Three armies on the Somme*, 279-284, 517-522; Sheffield, *The chief*, 191, 236, 247-261.

⁶²⁰ *OHGW 1918 IV*, 180, Sketch 21.

That option materialised in late August when the British Second and Fifth Armies reduced the German salient east of Hazebrouck. The largest gains came in early September when the Germans retreated to their Drocourt-Que ant fall-back position near Bapaume.⁶²¹

With Hazebrouck secure, the final element in the second step of Foch’s strategy was the reduction of the St. Mihiel salient by the First US Army (Sketch 5.3). The American Expeditionary Force (AEF) amassed three corps with a total of 18 divisions, including four French divisions, supported by 3000 pieces of artillery, 150 tanks and 1400 aeroplanes. The Americans faced the weak *Armee-Abteilung C* (Composite Army C) of 50,000 troops in 11 understrength divisions, many of them low-quality troops with faltering morale. The Germans could field only 560 guns and 200 aeroplanes. The artillery opened early on 12 September, while the attack was launched at 05:00. The Germans were pulling out when the Americans attacked, but lost more than 17,000 troops killed and over 13,000 taken prisoner over the next three days. The Germans also lost 150 guns. The OHL experienced another black day.⁶²² St. Mihiel was another tactical disaster for the German army and the final element in the second step of Foch’s strategy. The German inability to counter these offensives demonstrated that they had exhausted their resources and were losing their freedom of action.

Step three had already begun when the French Tenth Army attacked west of Soissons on 20 August and the British Third Army the following day. This overlap in steps is an example of the pragmatic opportunism in Foch’s strategy and of strategy as a practical undertaking. The question was how to utilise the resources available to end the war, “the art of combining preparations for war and the grouping of operations for achieving the goal set by the war for the armed forces.”⁶²³ The tension between Foch, as strategic director of operations, the operational commanders, and P tain, commander of the French army, illustrates how strategy meets “the practical realities of military life” at the higher command echelons.⁶²⁴ These practical realities centred on the need to find a sustainable balance between Foch’s offensive drive, the methods used by the army groups to direct the tactical combat by the armies, and

⁶²¹ *OHGW 1918 IV*, 422, Sketch 21; *OHGW 1918 V*, 1.

⁶²² *Weltkrieg 14,1*, 598-603; Goya, *Les vainqueurs*, 207-209; Lloyd, *Hundred Days*, 127-132. Lloyd refers to Pershing’s after-action report that claimed 443 guns and 16000 prisoners, while the German Official History questions a quoted contemporary American claim of 160 guns. The US Army’s official history says 15000 prisoners and 257 guns. *Organization of the American Expeditionary Forces*, vol. 1, United States Army in the World War 1917-1919 (Washington, D.C.: Center of Military History United States Army, 1988), 43.

⁶²³ Svechin, *Strategy*, 69.

⁶²⁴ Bucholz, *Hans Delbr ck*, 22-24.

finally, the ability to sustain the offensive logistically. Edmonds' *postbellum* critique of the offensive's frontal character highlights the tension between the ideal and the practical:

But, attrition apart, the success gained was only what the Germans would call an "ordinary victory" ; nothing decisive had been accomplished, except that the Germans from O.H.L. to the soldier in the ranks had lost faith in final victory. Strategically the main offensive was made at the wrong place, because the Army that was most fighting-fit happened to be holding that front. [...] an offensive east of Reims offered the best results.⁶²⁵

At this stage of the war and so early in the overall Allied offensive, an "ordinary victory" without horrendous losses was probably the best that could have been achieved. After all, the Allies won the struggle for the initiative in the transition from defence to offence, which was a strategic gain the German army was not able to reverse.

Step Three: General Offensive

The third step of Foch's four-step strategy began when the German forward defences had been broken. Germany started to pull their armies back to the *Wotan* and *Siegfried Stellung* (the Hindenburg Line to the Allies). There were overlaps between the steps as some German units were withdrawn before the Saint-Mihiel and Hazebrouck salients were reduced. Foch's stages must be understood as a general and pragmatic campaign outline where developments on the ground would determine the pace and sequencing of the operations. But the strategic objective remained central to the direction of the campaign. This section will describe and analyse the BEF, the G.A.R., and the Fifth Army on the left flank of the G.A.C. in their role as operational formations in the breakthroughs and mobile operations during the final months of the war.

⁶²⁵ *OHGW 1918 IV*, 509-510.

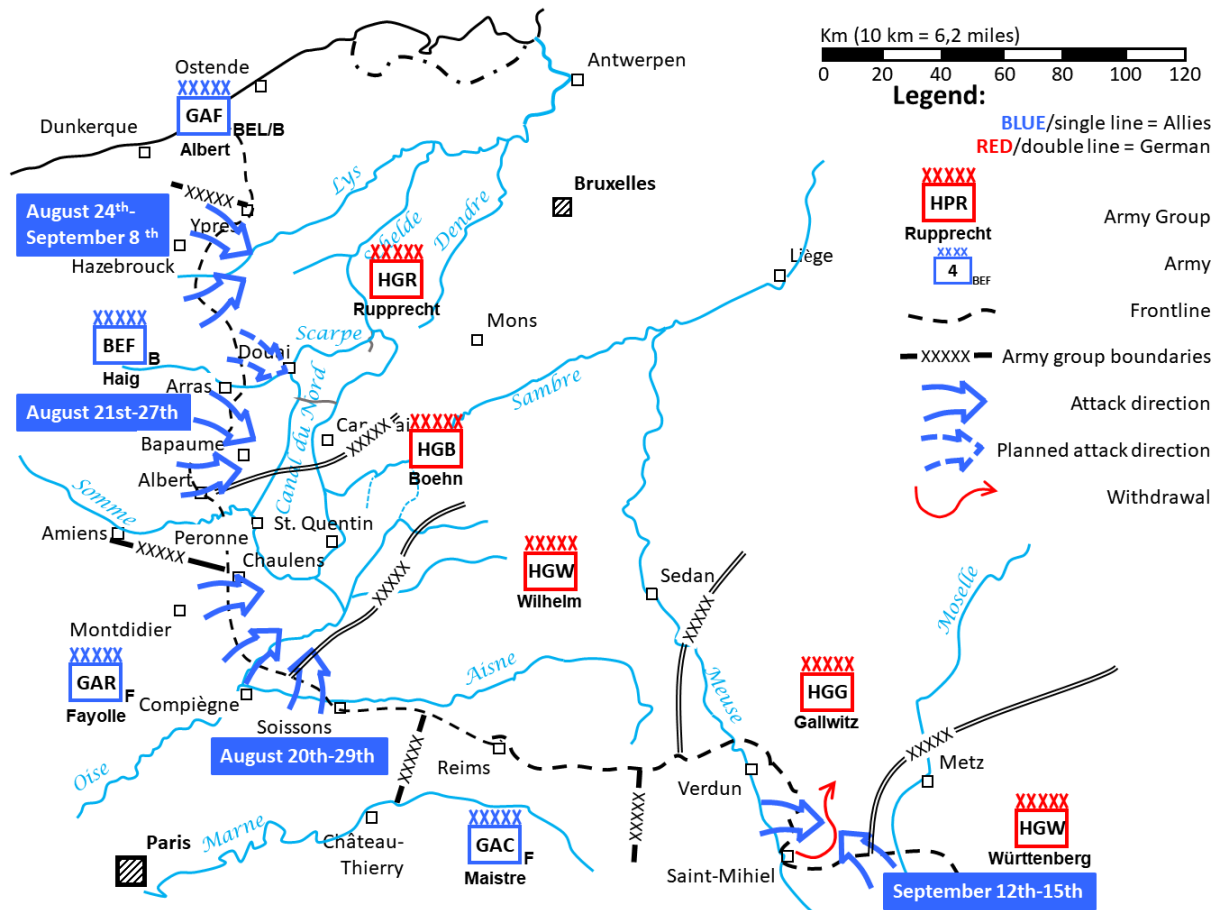
Phase I: The advance to the *Siegfried Stellung*

As the Amiens-Montdidier operation was facing increased resistance, French General Charles Mangin was ordered to hasten his preparations for an attack with his Tenth Army between the River Oise and Soissons. The Tenth Army was part of Fayolle's G.A.R. and had attacked the western shoulder of the Marne salient in mid-July. Planning and preparation followed the pattern of the previous operations, where secrecy, thorough artillery planning, and massing of ammunition were the basic elements. In the morning of 20 August, the Tenth Army attacked along its entire front and broke in and through the German tactical defence zone on the first day. By the second day, Mangin's forces had advanced well into the German defences and had reached between 5 and 12 km by the third day. The French First and Third Armies to the north launched supporting attacks between Tenth Army's left flank and the southern boundary of the BEF and extended the French offensive to a 70 km wide front.⁶²⁶

There was a tension between ambition and restraint at different levels of command. In this instance, Mangin's desire to continue the advance was in conflict with Pétain's priority to limit casualties and preserve the French army. There was also the difference in Mangin's tactical ambition of deep penetration and the step-by-step approach to reach the strategic ambition of the campaign. The deep penetration that Mangin was urging would cost too much in casualties and undermined the purpose of mounting a continuous line of successive operations to wear down and keep the enemy off balance while forcing him to retreat. The challenge was still to balance the progress of the campaign and to keep casualties relatively low. Therefore, the operations had to be conducted with these dual aims of keeping the enemy off balance and shielding the attacking forces from excessive casualties. Fayolle's G.A.R. had advanced 8 to 15 km deep between Soissons and Chaulens and reached the Canal du Nord and the Somme when the three-army operation was halted on 29 August.⁶²⁷

⁶²⁶ *AFGG VII-1*, 221-234, 242-255, Carte No 25; Doughty, *Pyrrhic Victory*, 480; Lloyd, *Hundred Days*, 74-77.

⁶²⁷ *Hundred Days*, 76-77.



Sketch 5.3. The Western Front August-September 1918. The operations against German salients at Hazebrouck and Saint-Mihiel and British and French operations following the Amiens-Montdidier operations. Note the lateral extension and sequencing of the operations.

The British Third Army, commanded by Sir Julian Byng had on 13 August been ordered by Haig to plan an attack between Albert and Arras. It was reinforced with five infantry and two cavalry divisions in addition to two tank brigades. When the Germans showed signs of pulling out of their defences during the Amiens-Montdidier operation, Haig urged Byng by to attack vigorously and “without delay”.⁶²⁸ Byng attacked on 21 August and advanced more gradually than the Fourth Army at Amiens, while keeping up a steady pressure on the defending German Seventeenth Army. The advance took on the character of a moving battle of attrition, but by the sixth day, the front had reached the outskirts of Bapaume. Byng’s cautious advance came up against Haig’s urge to press through the German defences. The successful execution of his attack is another example of a fruitful compromise between opposing views. The British First Army to the north was reinforced with the Canadian corps on the boundary to the Third Army. It had been ordered to “take advantage of any withdrawal” to follow up any

⁶²⁸ *OHGW 1918 IV*, 172-184, 584-585; Boff, *Winning and Losing on the Western Front*, 24-26; Harris and Niall Barr, *Amiens to the Armistice*, 120-126.

success of the Third Army. The Canadians attacked the same day as the Third Army reached Bapaume and was alongside the Third Army on 27 August, facing the Drocourt-Quéant line, a northern extension of the *Siegfried Stellung*.⁶²⁹

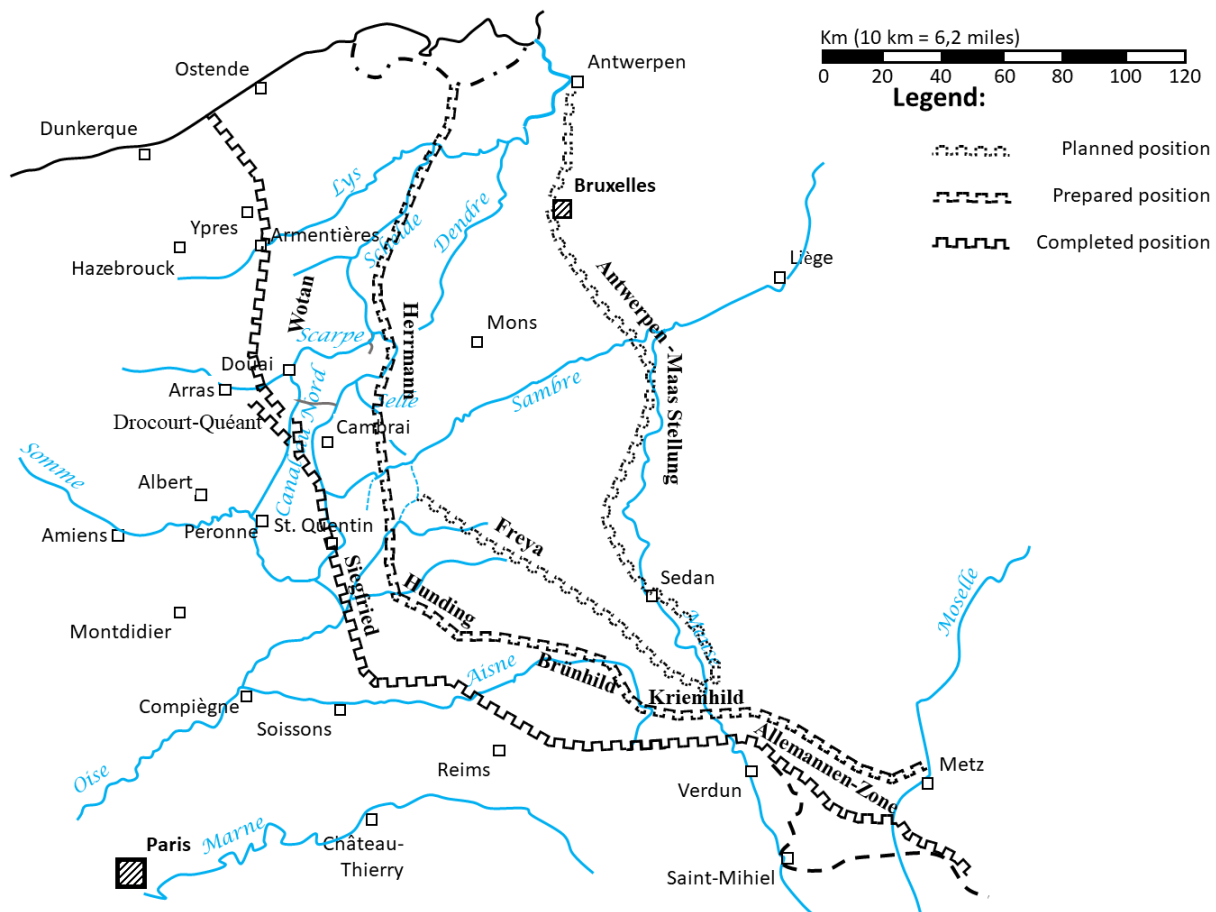
The Drocourt-Quéant line was a deep defensive zone of trenches, concrete bunkers and barbed wire obstacles. After an artillery bombardment over five days, the Canadian attack began at 05:00 on 2 September. Since little armour was available to support the infantry, the attack took the form of an aggressive infantry assault. The attack opened with the support of a rolling barrage. But when the Canadians entered the German trench-system, the attack developed into a chaotic close battle. By the evening of the same day, the Drocourt-Quéant line was broken through. Two days later the Canadians reached the Canal du Nord. The OHL had ordered the Seventeenth Army to break contact and retire immediately to the *Siegfried Stellung* on 2 September. The German armies to the south followed suit under pressure from the British Fourth Army. In less than a month all the German territorial gains in the spring offensives had been lost. Worse still, the only strategic option, the elaborate defensive system of the *Wotan* and *Siegfried Stellung*, had been unhinged by the Canadian Corps at Canal du Nord and by the Australian Corps at Peronne.⁶³⁰

The entire British Third Army reached the *Siegfried Stellung* on 7 September. Casualties had reached 23 per cent of the army during the two weeks' advance. Byng needed time to replace of troops and equipment. Additional supplies for a deliberate attack against the German defences also had to be brought forward. The British Second and Fifth Armies reduced the Hazebrouck salient during the last week of August and the first week of September. On 2 September the OHL decided to conduct a sequenced withdrawal of its armies to the *Siegfried Stellung* and to prepare another defensive position 15-20 km further east.⁶³¹

⁶²⁹ *OHGW 1918 IV*, Sketch 14, 16, 18; Harris and Niall Barr, *Amiens to the Armistice*, 121-143; Lloyd, *Hundred Days*, 79-85; Boff, *Winning and Losing on the Western Front*, 24-28.

⁶³⁰ *OHGW 1918 IV*, 396-403; Doughty, *Pyrrhic Victory*, 480-481; Harris and Niall Barr, *Amiens to the Armistice*, 162-170; Lloyd, *Hundred Days*, 97-102.

⁶³¹ *OHGW 1918 IV*, Sketch 26; *Weltkrieg 14, I*, 584-594; Boff, *Winning and Losing on the Western Front*, 28-30.



Sketch 5.4. The Western Front, German fortifications. The *Wotan* and the *Siegfried-Stellung* (The Hindenburg line) north of the Oise had obstacles, shelters and artillery positions, but few trenches. The defences between the Oise and Verdun were better and had some depth, but had been neglected during the previous winter and there was a lack of depth further east. Positions east of the main *Siegfried-Wotan* line were only prepared or planned. None of the positions had any tank obstacles. Too many were sited on forwarding slopes or in the lowland by the canals.⁶³²

With the St. Mihiel salient reduced and the forward corps of the BEF through the northern hinge of the *Siegfried Stellung*, Foch had completed his second step. The third step of his campaign, the general offensive, was also well underway. Nevertheless, the *Siegfried Stellung* had to be broken completely for the offensive to gain momentum. The German armies withdrew or were pushed towards their defensive system during the second week of September. On 18 September, the BEF ordered its First, Third, and Fourth armies to “establish themselves within striking distance of the enemy’s main defences on the general

⁶³² OHGW 1918 V, Endpaper B, *Weltkrieg 14,1*, 568-570; *Weltkrieg 14, Beilagen*, Beilage 27a; Greenhalgh, *Foch in Command*, 444; Harris and Niall Barr, *Amiens to the Armistice*, 207-208, 219; Lloyd, *Hundred Days*, 112-114, 143-145.

line St. Quentin-Cambrai.”⁶³³ Haig approached Foch to secure the cooperation of the French First Army on the flank of the Fourth Army. Foch responded by altering the boundaries between the British Fourth and the French First Armies. The purpose was to give the Fourth Army crucial terrain for the offensive and make sure Debeney would attack to secure the Fourth Army’s flank. Fayolle followed suit with an order to ensure that the French First Army was reinforced with artillery and ordered to support the British Fourth Army.⁶³⁴ The offensive began on 18 September with some initial but uneven progress, but sufficient to be followed by a general offensive to close up to the German defensive line. The BEF established itself close to the German defences to rest and to restore combat power before the defences were to be breached in a deliberate attack. Haig then reported to Foch that the BEF was ready to launch the breakthrough assault on the central part of the German defences.⁶³⁵

The German responses to the Allied offensive in late August and September were mainly tactical. There was very little the strategic (OHL) and operational (army group) commands could do but order a general withdrawal since their reserves were depleted. The attrition of German first-line units during the spring offensives and the remaining reserves in the initial Allied offensives, left them with few resources to counter the Allied operations. Their defensive system lacked the necessary depth and uncommitted reserves to counter-attack and plug tactical or operational gaps.⁶³⁶ The Germans were therefore left to counter the Allied strategic and operational combat system with nothing but the depleted armies in their trenches. Major von Stülpnagel, chief of the Operations Department in the OHL wrote that the

assessments of the situation of the army groups and armies indicate that strong attacks are expected almost all over the Western Front. Agents and reconnaissance results are not able to clarify the picture. We are dependent on the enemy, whose goal must be to deceive us on the whole front over the expected direction of the main thrust.⁶³⁷

These German limitations in reserves reinforced the Allied advantages to exploit the initiative and mass strategic and operational resources, such as heavy artillery and logistics, to increase the chances of success for the front-line troops who were to assault the German defences.

⁶³³ *OHGW 1918 IV*, 474.

⁶³⁴ *AFGG VII-1-2*, Annexe No. 1022, 488, Annexe No. 1151, 509, Annexe No. 1228, 595-596.

⁶³⁵ *OHGW 1918 IV*, 473-508, Sketches, 23, 24, 26, 28; Boff, *Winning and Losing on the Western Front*, 27-29.

⁶³⁶ Timothy T. Lupfer, *The Dynamics of Doctrine: The Changes in German Tactical Doctrine During the First World War* (Fort Leavenworth, KS: Combat Studies Institute, 1981).

⁶³⁷ Quoted in *Weltkrieg 14,1*, 606.

Compared to the operations in the previous months, the major difference was that the Allies now faced German defences that were constructed in deep fighting zones, with elaborate barbed-wire obstacles and shell-proof fortifications. The German defence in depth was designed to be more resistant to artillery and to break up attack formations and defeat them by machinegun and artillery fire within the defensive system. The initial Allied successes caused the OHL to improve their defences and defensive tactics, especially against armour. German defensive doctrine was adapted continuously and improved as the Germans gained experience from the Allied offensive. However, the constant attrition of the German army did not leave them with enough troops of sufficient quality to make the most of the improved defences. The static German defences were thus unable to counter Allied combined arms attacks that were strategically and operationally coordinated to destroy the German high command's ability to respond. It left them the choice of either withdrawing or being destroyed in their trenches.⁶³⁸

The *Wotan* and *Siegfried-Stellung* had already been unhinged by the Canadian Corps' assault on the Drocourt-Quéant line on 2 September. It suffered from defects in trenches, obstacles, and shelters. These inadequate defences were manned by exhausted, tired and hungry troops that suffered under a crumbling logistical system. The German defensive tactics were basically the same as in 1917, but the trenches were manned by units that had been badly depleted by heavy overall losses. The number of machineguns was increased, which improved the infantry's firepower, but the counter-attack divisions faced a much more comprehensive Allied attack system than the previous years. There was little the Germans could do to counter the Allied superiority in artillery, armour, and airpower, as long as the Allies maintained the initiative and could choose the time and place for the next operation.⁶³⁹

The first phase of Foch's third step was the transition from individual operational counterattacks to an offensive campaign. The strategic direction consisted of timing the operations so that the attacks struck separate parts of the German front at different times, to wear down the defenders and stretch their reserves thin. Foch pushed to advance the date for the attacks to keep the offensive going without pauses. The aim was to deny the Germans time to recover. But the strategic ambitions had to be balanced against the need for planning and preparations and the need to ensure that attacking forces were resupplied and ready to resume

⁶³⁸ *OHGW 1918 V*, 12-13; *Weltkrieg 14,1*, 526-530; Boff, *Winning and Losing on the Western Front*, 165-178.

⁶³⁹ *Weltkrieg 14,1*, 569-570; Lloyd, *Hundred Days*, 112-114, 143-145; Goya, *Les vainqueurs*, 213-217; Stevenson, *With our backs to the wall*, 127,138-139.

the offensive. This tension between the ambitions of the campaign and the realities on the ground illustrates well how the dynamics and interactions between the levels of command developed.

Phase II: Breaking through the *Wotan* and *Siegfried Stellung* and the advance to the *Herrmann Stellung*

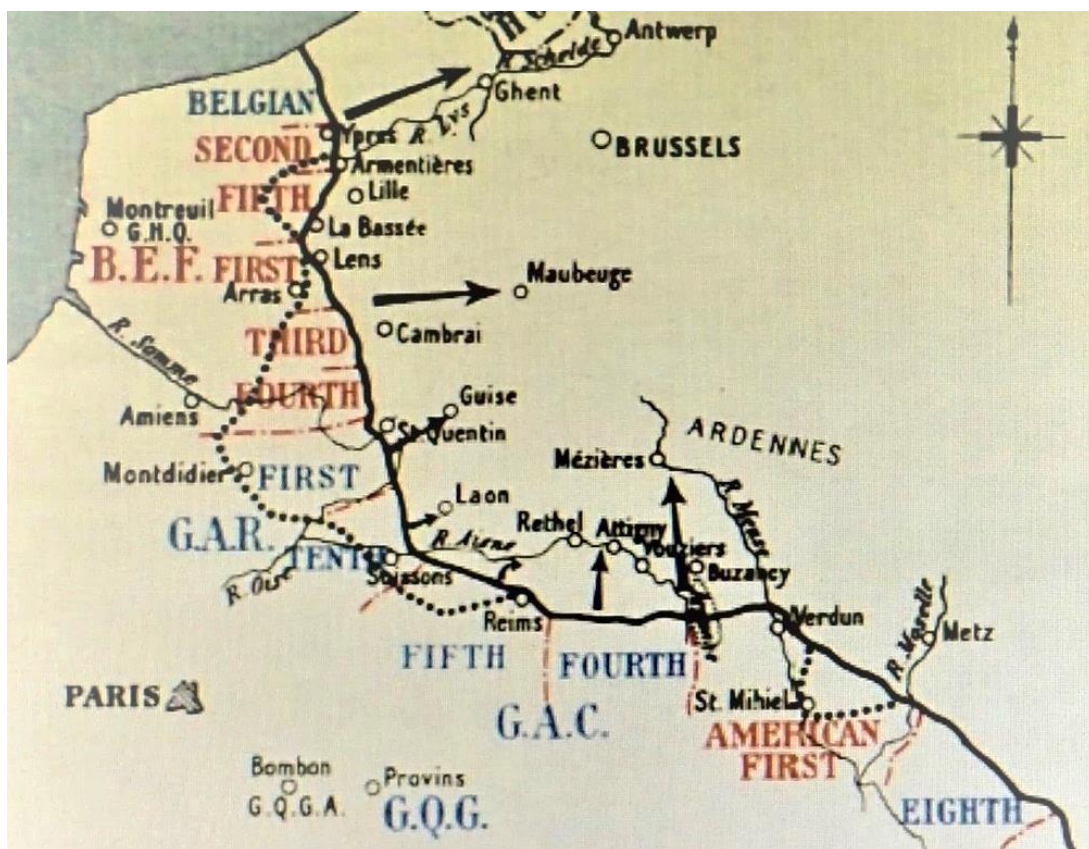
The German intelligence assessment of the Allied intentions in late September 1918 was that there would be strong attacks. German counter-actions were dependent on the Allies, who had the initiative and who sought to hide their intentions. The most likely offensive was expected to be towards Champagne, while direct offensives towards Alsace and Lorraine were less likely. The OHL strived to balance its forces between those in defensive positions in fighting zones and reserves that were to be pushed forward to counter Allied breakthroughs. Further discussions ended with Ludendorff accepting that the greatest threat was a direct Allied thrust towards Lorraine and Germany, while Champagne was less likely. Measures were taken to transfer forces to strengthen the defence in the east. British landings on the Dutch coast were ruled out.⁶⁴⁰

Foch's plan for a converging strategic manoeuvre was presented in a note to US General Pershing on August 30 and in the directive to Haig, Pétain, and Pershing on 3 September. Supported by the left of the French armies, the BEF was to continue to attack in the general direction of Cambrai and Saint-Quentin. The centre of the French army would "continue its energetic actions to throw the enemy beyond the Aisne", while the AEF along with the French Fourth Army, was to operate along the Meuse and advance to Mézières. The purpose was to advance the flanks to manoeuvre the German army out of its strong defences in front of the BEF and the G.A.R. in the centre. The Army Group Flanders, G.A.F. and the French Fourth Army, together with the AEF, would constitute the flank attacks. Sustained pressure on both flanks would threaten the centre with encirclement, threaten the railway junctions at Mézières, and force the Germans to retire or draw troops from the centre to strengthen the flanks. The

⁶⁴⁰ *Weltkrieg 14, I*, 606-607.

last option would expose the centre for a renewed Allied thrust by the BEF and the G.A.R. A final objective was to wear down the German reserves.⁶⁴¹

In the north, King Albert of Belgium was in command of the Army Group Flanders (*Le groupe d'armées des Flandres* (G.A.F.)). The G.A.F. was established on 12 September 1918 as *Le groupement des Flandres* and renamed on 15 October. It consisted of the Belgian army on the coast, the French Sixth Army (from 15 October renamed *d'armée française de Belgique* (the French Army of Belgium)) and the British Second Army.⁶⁴² Even before the G.A.F. was formally established, it was on 9 September directed by Foch to advance along the coast through Ghent and clear the northern flank to the Dutch border.⁶⁴³



Sketch 5.5 Foch's strategy of converging operations.⁶⁴⁴

⁶⁴¹ AFGG VII-1-2, Annexe No. 898, 218-219, Annexe No. 938, 259-260; Goya, *Les vainqueurs*, 217-220; Harris and Niall Barr, *Amiens to the Armistice*, 182-187.

⁶⁴² AFGG VII-1, 10; AFGG X-1, 31-33; OHGW 1918 V, 2; Bryn Hammond, "War of Liberation: British Second Army and Coalition Warfare in Flanders in the Hundred Days," in *Changing war: the British Army, the Hundred Days Campaign and the birth of the Royal Air Force, 1918*, ed. G. D. Sheffield and Peter W. Gray (London: Bloomsbury, 2013), 93-94.

⁶⁴³ AFGG VII-1-2, Annexe No. 1043, 400-401; Annexe No. 1074, 432; AFGG X-1, 35-37; OHGW 1918 V, 1-9; Doughty, *Pyrrhic Victory*, 481-488; Harris and Niall Barr, *Amiens to the Armistice*, 185; Lloyd, *Hundred Days*, 137-140.

⁶⁴⁴ Extract from OHGW 1918 V, 1-3, Sketch 1.

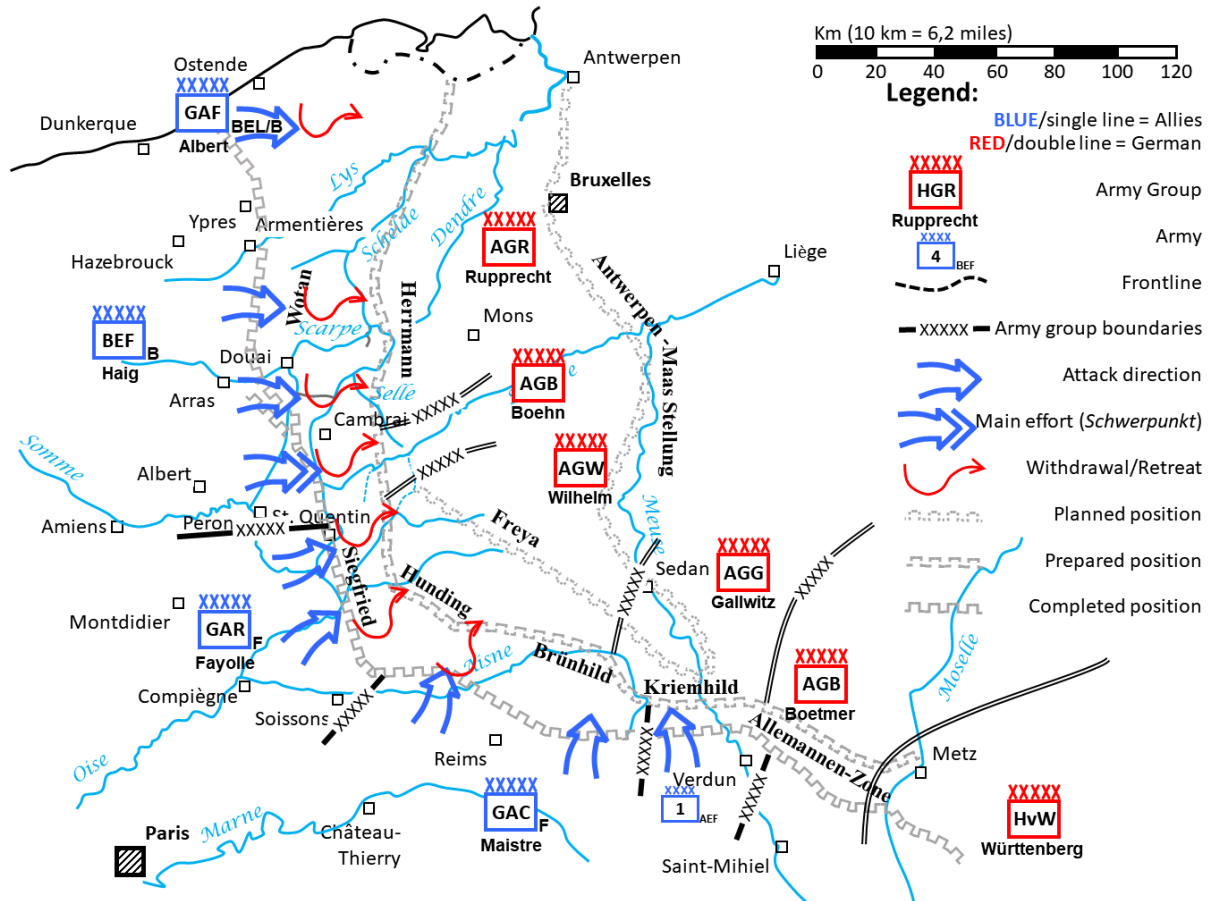
The British and French armies in the centre were to break through the *Siegfried-Stellung* before the general advance could commence. The beginning of the offensive operations was sequenced so that the AEF and the French Fourth Army would begin on 26 September, the British Third and First armies on the 27, the G.A.F. on the 28, and the British Fourth and French First armies on 29 September. This section will analyse the BEF's operation and its role as an operational command within Foch's strategy, emphasising the Fourth Army as the BEF's focus of effort. The other operations will be briefly outlined to present the context and progress of the campaign.

In the early hours of 26 September before the troops moved out, the AEF and the French Fourth Army began a three-hour artillery bombardment. The German defences in the wooded hills of the Argonne were elaborate and slowed the attack until it became bogged down. A breakthrough west of the Meuse would unhinge the entire *Siegfried Stellung* and had, therefore, to be prevented at all costs. Despite Foch's high hopes for the offensive, it became an exhaustive and slow advance that wore down the attacker as well as the defender. Synchronisation both within and between the two armies was lacking, so the operation progressed slowly until the German defenders finally succumbed under the massive pressure by the end of October. The importance of the operation became apparent in late October when American artillery bombarded the German strategic railroad lines in the vicinity of Sedan across the Meuse. The First US Army was finally able to advance to cut one of two German strategic supply lines to the Western Front.⁶⁴⁵

The G.A.F. attacked on 28 September across Flanders, which were still devastated after the Battles of Ypres. The operation began at 02:30 with a three-hour artillery barrage. A creeping barrage then paved the way for the assault troops. Counter-battery fire severely limited German artillery support. The initial German defences were overcome by the end of the day. The first line of the Flanders defences was broken the next day and the second Flanders line was pierced on the first day of October. Logistics just as much as enemy action slowed the operation when the Belgian and British Second Armies fought their way through the German defences and transitioned into mobile warfare. While the OHL ordered the coast to be held, the AGR ordered its armies to free up as big a labour force as possible to improve the

⁶⁴⁵*OHGW 1918 V*, Sketch 21; *Weltkrieg 14,1*, 614-615, 629; Doughty, *Pyrrhic Victory*, 487-499; Harris and Niall Barr, *Amiens to the Armistice*, 187-188, 230; Lloyd, *Hundred Days*, 150-166, 203-207, 241-242.

Herrman Stellung further east. The emphasis of construction work on the next defensive line was another indicator that Flanders would have to be abandoned. The Flanders offensive was halted against mounting resistance and growing supply problems on 2 October. It was renewed with the opening of the Battle of Courtrai on 14 October. Although progress within the G.A.F. was uneven, the British Second Army exploited an initial success, and on 20 October the entire army had crossed the River Lys. When the British attack developed a mobile character, the Belgian coast was subsequently cleared of German troops.⁶⁴⁶



Sketch 5.6. The Western Front on 26 September to mid-October. The French-American offensive in the Argonne (below right), the G.A.F. offensive along the coast, and the British-French assault on the main German defences in the centre. The Germans retreated to their next position, except in the Argonne, where they conducted a stubborn defence to avoid strategic outflanking.⁶⁴⁷

The strategic breakthrough operation was to be conducted by the southern three armies of the BEF. The main effort was to be the Fourth Army to the south, while the First Army to the north was to attack with its right wing south of the Sensée Canal and protect the Third Army's

⁶⁴⁶ *OHGW 1918 V*, Sketches 9, 22-24; *Weltkrieg 14,1*, 617-620, 641-642; Hammond, "War of Liberation," 93-103; Harris and Niall Barr, *Amiens to the Armistice*, 230; Lloyd, *Hundred Days*, 175-177.

⁶⁴⁷ *AFGG VII-I*, Charte No 33; *GRDP WW-I*, Akte Nr. 261, 263.

flank. The Third Army in the middle was to cooperate with the First Army and advance to cross the Schelde Canal and act together with the Fourth Army to the south. With its left protected by the Third Army and its right by the French First Army, the Fourth Army was to “deliver the main attack against the enemy’s defences” after a three-day artillery preparation.⁶⁴⁸ The majority of the tanks were allocated to the Fourth Army, together with most of the armoured cars. The British *Official History of the Great War* (OHGW) stated that tank officers wanted to use the tanks *en masse*, but the tanks were distributed to the armies and directed to support the infantry. The aeroplanes were more evenly distributed, but the Fourth Army received about one third more than the two other armies. The Royal Air Force (RAF) was given several tasks, ranging from reporting progress of own forces to interdiction of enemy railway stations and reserves. The Fourth Army had the advantage of a detailed map of the German defences that had been captured by armoured cars on 8 August. The map allowed Fourth Army to direct their artillery preparations precisely on selected targets.⁶⁴⁹

The British plan for the breakthrough of the southern part of the *Wotan Stellung* and the main part of the *Siegfried Stellung*, mirrored the Fourth Army’s plan for the Battle of Amiens. The main difference was that while the Amiens-Montdidier operation was a surprise attack against an exposed and weakly fortified part of the German front, this operation would be a long-expected assault against the most robust German defences on the Western Front. If successful, a breakthrough would be a powerful strategic psychological blow by destroying the German army’s final hope to stem the Allied offensive. The operational elements of the plan were the deliberate concentration of forces for the breakthrough, the reinforcement of the Fourth Army with additional resources, and the harmonisation of the missions given to the BEF’s First, Third and Fourth armies. The French First Army would again attack along the Fourth Army’s southern flank. The entire operation of the BEF was limited to breaking through the German defences, which indicates that ambitions were adjusted to the realities experienced on the ground. The exploitation of the breakthrough was the role of subsequent operations.⁶⁵⁰

⁶⁴⁸ BEF G.H.Q. order of operations quoted in *OHGW 1918 V*, 14-15; Harris and Niall Barr, *Amiens to the Armistice*, 188.

⁶⁴⁹ *OHGW 1918 V*, 14-17; Harris and Niall Barr, *Amiens to the Armistice*, 209-210; Lloyd, "Allied Operational Art in the Hundred Days, 1918," 181-182.

⁶⁵⁰ *OHGW 1918 V*, 14-17; Harris and Niall Barr, *Amiens to the Armistice*, 210-216; Travers, *How the war was won*, 157-160.

The operation began on 27 September by the attacks of the First and Third armies. The First Army was attached the Canadian Corps, which spearheaded the assault. The Canadians launched a high-risk attack across a narrow dry part of the Canal du Nord behind a creeping barrage and secured the first day's objectives. Bridges were laid across the canal at first light and by the end of the day, some units had even surpassed the final objectives for the attack. The Canadians made little progress the next day against strong German resistance and counter-attacks but advanced in the south alongside the neighbouring Third Army.⁶⁵¹ The Third Army was faced with an elaborate German defence in depth and would need persistent and deliberate fighting to penetrate the defences. The Army made some initial gains the first day, but the complicated and deep defences demanded closer coordination of its units and resources. The next day yielded greater gains with the greatest progress on the left alongside the Canadian Corps, where the lead units reached the Schelde Canal and crossed it on 30 September.⁶⁵² The main force of the Third Army followed suit, captured the canal on 29 September, and expanded the bridgehead the following day. The northern part of the British operation had broken into and partly through the German defences by the first two days. The Third Army was stretched thin and had to pause for a week, but had to some extent consumed the German reserves, thus preparing the field for the Fourth Army's main thrust.⁶⁵³

The Fourth Army began deliberate artillery preparations on 26 September, when the other armies attacked. The bombardment lasted three days. Then the artillery shifted to a creeping barrage to blast the way for the assault troops and tanks. The German defences were known as the Hindenburg main, support, and reserve lines, with the latter two less developed than the first. The Fourth Army's concentrated its army corps in its northern sector and planned for a sequenced assault, where units would leap-frog and assist one another to keep up the momentum. The Army had its III Corps in the north and the IX in the south, with the Australian and II US Corps deployed for a breakthrough in the centre.⁶⁵⁴ The assault was initially hampered by the inability of all units to reach the starting line in time, which

⁶⁵¹ *OHGW 1918 V*, 19-29, 52-56, Sketch 4; *Weltkrieg 14,1*, 615-618; Ian M. Brown, "Not Glamorous, But Effective: The Canadian Corps and the Set-Piece Attack, 1917-1918," *The Journal of military history* 58, no. 3 (1994), 437-441; Harris and Niall Barr, *Amiens to the Armistice*, 188, 194-197; Lloyd, *Hundred Days*, 167-170; Travers, *How the war was won*, 160-163.

⁶⁵² *OHGW 1918 V*, 30-52, Sketch 6; *Weltkrieg 14,1*, 616-618; Boff, *Winning and Losing on the Western Front*, 30; Harris and Niall Barr, *Amiens to the Armistice*, 231; Lloyd, *Hundred Days*, 170-176.

⁶⁵³ *OHGW 1918 V*, 46, 115-123; *Weltkrieg 14,1*, 618-619; Boff, *Winning and Losing on the Western Front*, 30-31.

⁶⁵⁴ *OHGW 1918 V*, 95-99, 638-639, Sketch 10; Lloyd, *Hundred Days*, 181-183.

disrupted some of the artillery preparations. It was also frustrated by the elaborate defences and strong German resistance, including novel anti-tank measures. The initial set-backs also highlight the crucial role of artillery in assaults on fortified positions. Yet, by the end of 29 September, the St. Quentin Canal was captured together with its bridges. The Hindenburg main and support lines were broken to a depth of 5 km.⁶⁵⁵

The offensive continued over the next days as the Fourth Army cleared the main Hindenburg line and support line while being held up in the south due to the French First Army's lack of progress. Foch intervened directly, reminding Fayolle, CO G.A.R., that the “main mission of the First Army is constantly to support at all costs the right of the British Fourth Army” and ordered him to direct Debeney to attack immediately in support of the British Fourth Army. Pétain simultaneously urged Fayolle to support the British and Fayolle transmitted these orders to Debeney directly the same day.⁶⁵⁶ This exchange of orders and directives underscores the decisive role given to the British Fourth Army. It was to be given every possible support. Debeney’s order of operations, issued 21:00 the same day, reflects both the superior importance attached to close coordination along the Western Front.⁶⁵⁷

The French attack made some progress, St. Quentin was taken on 2 October, which took some pressure of the British left flank. The German defenders were unable to block the continued advance of the Allied armies and had to give up the main *Siegfried Stellung* when the defences gave in. As early as 30 September, the OHL assigned the army groups the responsibility to lead the operations since the OHL no longer possessed any means to influence the situation. It had no strategic reserves left. The same day the OHL decided to establish a new retreat position, the *Antwerpen/Maas-Stellung* (Sketch 5.4), an implicit acknowledgement that their main defences on the Western Front were shattered.⁶⁵⁸

The Fourth Army attacked the final part of the *Siegfried-Stellung*, the Hindenburg reserve position, on 3 October. The Army’s objective lay just beyond the line. The defences consisted

⁶⁵⁵ *OHGW 1918 V*, 99-111; Harris and Niall Barr, *Amiens to the Armistice*, 218-225; Lloyd, *Hundred Days*, 183-188; Terraine, *To win a war: 1918*, 162-174.

⁶⁵⁶ *AFGG VII-2*, Annexe No. 138, 215, Annexe No. 140, 217-218, Annexe No. 142, 219-220; Goya, *Les vainqueurs*, 237-239.

⁶⁵⁷ *AFGG VII-2*, Annexe No. 144, 222.

⁶⁵⁸ *BAMA PH 5-I/27*, 1-9; *OHGW 1918 V*, 131-145, Sketch 12; *Weltkrieg 14,1*, 620-621, 639-643; Doughty, *Pyrrhic Victory*, 489; Lloyd, *Hundred Days*, 191-192.

of two lines of trenches and concrete pillboxes, where the backbone of the defence was a large number of machine guns deployed in depth. While the line was crossed on the Army's entire front, the lack of progress of the Third Army to the north and the French First to the south, in addition to strong German counterattacks, hampered the attack. On 5 October, the British Fourth Army seized its objective and secured the past few days' gains.⁶⁵⁹ The Fourth Army's order on 4 October for the follow-up attack and especially the distribution of Whippets light tanks for pursuit, demonstrated its ability to adapt to the new situation of mobile warfare:

4. [...]

(b) Whippets will follow up the barrage with, or close behind, the infantry and as soon as the protective barrage lifts of the Red Line they will push on at once independently, and exploit to the Green Line, beyond which the general line they should not go. They will assist the infantry and Cavalry Corps to reach, and the Cavalry Corps to pass, the Green Line.

(c) R.A.F. will arrange direct with Corps for covering the advance of the Tanks to their starting line.⁶⁶⁰

The German field commanders admitted that their armies no longer were able to defend against the Allied onslaught. The Kaiser announced publicly the same day that Germany was seeking peace terms from the Allies. The new Chancellor, Prince Max von Baden, had wired the first telegram to President Wilson two days earlier.⁶⁶¹

Foch's strategy to outflank the German defences in the west was a textbook manoeuvre. But did not take into account the strong defences on the flanks in Argonne and to a lesser degree along the Belgian coast. The outflanking stalled. The decisive operational results were by contrast in the centre. It were more a matter of where the most capable units were positioned and where the ground allowed for offensive operations. This situation mirrored, to some extent, Edmonds' critique of the place and purpose of the Amiens-Montdidier operation.⁶⁶² The lack of progress on the flanks made frontal breaching operations in the centre necessary to maintain both the initiative and the momentum. Foch's strategy, the operational capabilities of the BEF and French army groups, and the fighting qualities of their armies were sufficiently robust to allow for such pragmatic adjustments when plans went awry.

⁶⁵⁹ *OHGW 1918 V*, 158-182, Sketch 13, 14; *Weltkrieg 14,1*, 642-645; Harris and Niall Barr, *Amiens to the Armistice*, 234-237; Lloyd, *Hundred Days*, 207.

⁶⁶⁰ *OHGW 1918 V*, 639-640, Sketch 15.

⁶⁶¹ *OHGW 1918 V*, 181-182; *Weltkrieg 14,1*, 636-639; Lloyd, *Hundred Days*, 198.

⁶⁶² *OHGW 1918 IV*, 509-513.

The deliberate breaching character of the assault on the *Siegfried-Stellung* demanded an even more thorough attack approach than the initial offensives, due to the deep character of the defences. This character had some operational qualities in the sense that the tactical assault units could be absorbed in the depth of the defences and defeated by deliberate use of operationally controlled resources, such as reserves and artillery. The German Major Frank Reiser observed in his Staff College study:

On the other hand, it appears that the concept of operational art, as stated in the introduction, is predominately build around offensive actions. Even though Clausewitz named the defensive as the stronger form of warfare, military commanders always compete over the initiative. Offensive operations are decisive. This is depicted in the language Clausewitz used, as in the language of today`s military doctrines.⁹⁵ By analyzing a solely defensive type of warfighting, the German “Abwehrschlacht,” the language of operational art appeared not to match the conditions of the defensive, as well as it applies to the offensive.⁶⁶³

The continued attrition of the German front line forces, as well as their reserves, had broken the ability of the Germans to act strategically or operationally. The Allied strategic and operational coordination of their attacks in time and space further negated any effective German responses. The problem faced by Major Reiser in his study was that the German defences in 1918 lacked any operational qualities outside the depth of their defensive zones. Since there were no reserves to manoeuvre in response to Allied operations, there were no means to force the enemy offensive to culminate. Terms and doctrine of operational art may well match defensive operations if the defences were constructed and manned so that operational reserves or fires can be put into action. The German defences in 1918 was on the other hand deprived of all their operational qualities by the Allied offensive, which had worn down the enemy`s forces, consumed his reserves, and tied the remaining German troops to their trenches.

⁶⁶³ Frank Reiser, *Operational Art in the Defense: The German “Abwehrschlachten” in 1918* (Fort Leavenworth, KS: US Army Command and General Staff College, 2012), 39-40.

Phase III: Mobile warfare – to the *Herrmann Stellung*

Armentières, a critical junction in the German defences, fell on 4 October when the British First and Third Armies continued their attacks in parallel with the Fourth. The character of the offensive changed from breakthrough to pursuit. On 8 October the OHL ordered their armies in the *Siegfried-Stellung* to disengage and withdraw to an intermediate position. Orders were prepared for a general withdrawal to the *Hermann* and *Brünhild (Gudrun)-Stellung*. The defence in the Argonne against the Americans and the French Fourth Army was to continue, especially during this period when there was diplomatic contact between Germany and President Wilson. Such diplomacy required that the German army maintained its strength and occupied as much foreign ground as possible to as a bargaining tool. The OHL ordered the continued development of the *Antwerpen-Maas* retreat position in case the *Hermann* and *Brünhild (Gudrun)-Stellung* fell.⁶⁶⁴

When the British armies recognized that the Germans had begun a general retreat, the planned assaults were halted. The armies issued new orders and made good progress against weak opposition. Even in retreat, the Germans were able to mount strong local counter-attacks. But these were not able to influence the Allied advance. The Fourth Army sent cavalry forward. By this time the combat zone was so fluid that even cavalry was able to mount several successful attacks. Some units attacked supported by the usual artillery barrage, while others adapted to the fluidity of mobile warfare and let field artillery follow close behind the infantry.⁶⁶⁵ The German concentration against the BEF allowed for French army commanders to press forward and pursue the retreating enemy. The pursuit was to be covered by artillery and take the form of deliberate advances by successive leaps.⁶⁶⁶ General Fayolle, commanding the G.A.R., issued instructions to the First and Tenth Armies to organize and coordinate pursuit of the retreating enemy. Because the Germans used darkness to disengage, it was imperative to maintain contact even at night “so as not to allow the enemy to retreat freely and at leisure.” The First Army was to maintain contact with the British Fourth on its left and the French Tenth Army to its right. The aim was to keep up a steady pressure on the

⁶⁶⁴ *Weltkrieg 14,1*, 647-650; Harris and Niall Barr, *Amiens to the Armistice*, 237-240; Lloyd, *Hundred Days*, 207-208.

⁶⁶⁵ *OHGW 1918 V*, 212-227; Harris and Niall Barr, *Amiens to the Armistice*, 240-242.

⁶⁶⁶ *AFGG VII-2*, Annexe No. 161, 247-248, Annexe No. 162, 248, Annexe No. 172, 269-272, Annexe No. 177, 278-279.

retreating Germans and deny them any chance to reform or regroup. The means to do so were to maintain close contact with neighbouring units, to advance in concert, and to keep the enemy engaged along the entire front constantly.⁶⁶⁷ This approach resembles the offensives and breakthrough operations in July and August.

As the Allies began to manoeuvre in pursuit of the retreating German armies, Foch issued a directive on 10 October that confirmed a strategy of convergence. The advance in Belgium was to continue; furthermore, the front of the combined American-French advance along the Meuse was to be widened. Foch directed Pétain to reinforce the centre and prioritize tanks to the First Army to outflank the line of the River Serre, a tributary of the Oise to the east south of St. Quentin.⁶⁶⁸ Although the Germans had no forces to block the offensive effectively, they were able to frustrate and delay it. In the Allied pursuit, artillery was distributed to battalion level to keep up the momentum when they faced German rear guards. The rear guards were normally machinegun detachments that could be defeated by a battalion that used artillery in direct support. River line defences were reinforced and had to be breached by the same methods as when breaking through the *Siegfried-Stellung*. The first river to be encountered by the BEF was the Selle, while the French First and Tenth Armies were facing the Germans on the Serre.⁶⁶⁹

Foch issued a revised strategic directive on 19 October that adapted former directives to the latest developments. The G.A.F. was to drive on Brussels; the BEF was to push the Germans towards the hilly terrain of the Ardennes and in doing so, cut their main railroad. The French First Army was tasked to support the BEF, while the Fifth and Fourth Armies, together with the First US Army, were to move on Messiers, Sedan and the Upper Meuse.⁶⁷⁰ These adjustments meant that the British Fourth Army's front was reduced and its right flank protected by the Sambre Canal. It was imperative to maintain the coordinated pressure on the Germans under the more fluent realities of mobile warfare.⁶⁷¹

⁶⁶⁷ AFGG VII-2, Annexe No. 199, 314-315.

⁶⁶⁸ AFGG VII-2, Annexe No. 207, 327-328; OHGW 1918 V, 230-234; Doughty, *Pyrrhic Victory*, 227-228.

⁶⁶⁹ OHGW 1918 V, 244-245; Harris and Niall Barr, *Amiens to the Armistice*, 242-245; Lloyd, *Hundred Days*, 228-229.

⁶⁷⁰ AFGG VII-2-1, Annexe No. 307, 481.

⁶⁷¹ AFGG VII-2-1, Annexe No. 234, 370-371, Annexe No. 256, 408-409, Annexe No. 261, 415-417.

The French Fifth Army breached the German defences of the Serre on 15 October. Despite an unsuccessful French attack two days later, the Germans withdrew into their *Hunding-Stellung*. A second attack on 26 October broke through the *Hunding-Stellung* and forced the Germans to abandon it and pull further back.⁶⁷² Fifth Army's operations order clearly stated that it would exploit the German retreat. To keep up the tempo of the exploitation the Army delegated the authority to conduct the pursuit to its corps:

[I]V. – The Third, Fifth, and First Corps will be ready to exploit without delay the results obtained by the corps in the centre. A manoeuvre will be prepared in each division in these army corps to expel the light rear-guards that the enemy might leave to cover his retreat from the *Hunding* position.

The corps commanders will carry this out by deploying one or more battalions, supported by the maximum amount of artillery, at favourable points.

All arrangements will be made to initiate these actions immediately.

[...]

VI. – It remains understood that in case of the withdrawal of the enemy, the only concern of the units will be to push forward to gain the most ground possible. They will have to ensure the security of their flanks without trying to align with neighbouring units.⁶⁷³

As this order from the French Fifth Army illustrates, the Allied operational response to the German retreat was to delegate the task of organising the pursuit to tactical units. The corps would be aware of the tactical alterations in the field more quickly and could respond directly to these changes without having to wait for further orders. The relative fluidity of the pursuit demanded greater flexibility than the thoroughly orchestrated breaching of the defensive lines. This was the best practical compromise between speed, flexibility, and control, given the slow and static means of communications. The character assumed by operational art in the pursuit of a retreating enemy was relatively hands-off. Initiative and responsibility were delegated to a lower tactical level, while operational control was limited to provide boundaries and direction.

Ludendorff wrote a directive for future operations on 19 October that was only partly conditioned by the developments of the recent peace moves. Continued work on defensive positions was imperative to continue the war. However, there were doubts as to whether the *Herrmann/Gudrun-Stellung* could serve as a long-term position, given the strength of enemy

⁶⁷² AFGG VII-2, 166-173; OHGW 1918 V, 266, Sketch 26; Doughty, *Pyrrhic Victory*, 499; Lloyd, *Hundred Days*, 228.

⁶⁷³ AFGG VII-2-1, Annexe No. 410, 645-646.

attacks. The Herrmann/Gudrun-Stellung defences were in the main improvised field fortifications of rifle pits and foxholes. There were no bomb-proof shelters or any of the elaborate defensive systems compared to previous defensive lines. The mass of the available work-force was to be used on the *Antwerpen/Maas-Stellung* to make it defensible. Preparations for a withdrawal were to be made but the actual withdrawal was to be delayed and adapted to circumstances. The continued attrition of the German armies had further reduced their combat power and their ability to hold defensive positions over time.⁶⁷⁴

Phase IV: Breaking the *Herrmann* and *Hunding Stellung*

The Herrmann-Stellung forced the BEF to launch a full-scale assault across the Selle west of Cambrai. BEF orders on 11 October directed the Fourth Army as the “principal effort” in cooperation with the French First Army to push “strong advance guards to the Sambre and the Oise Canal” 10 km further on. The Third Army would secure a passage over the Selle, while the First Army was to would protect the Third Army’s left flank. Besides, the cavalry corps should “be ready to pursue in the general direction of Mons” if the enemy retired. All these preparations necessitated a build-up of supplies over several days. Artillery shells were in great demand since artillery were used to gain better starting positions for the next operation and to respond to enemy counterattacks. The civilian population in the liberated areas also had to be fed, which further strained the supply system. Delays in supply build-up also gave the Germans more time to improve their positions, improvements the Fourth Army had failed to detect. The terrain and built-up areas east of the river reinforced the German defences. There were also several rested and reasonably strong divisions in the German armies manning the *Herrmann-Stellung*.⁶⁷⁵

The BEF HQ issued a formal operations order on 17 October directing the First, Third, and Fourth Armies “with the French First Army co-operating,” on 21 October to reach “the line Sambre Canal—the western edge of the Forest of Mormal and northwards to the Schelde.”⁶⁷⁶ The CO French First Army issued his operations order No. 1012 the same day, copied to the

⁶⁷⁴ *Weltkrieg 14,1*, 654-656.

⁶⁷⁵ *OHGW 1918 V*, 244-246; Boff, *Winning and Losing on the Western Front*, 31-32; Harris and Niall Barr, *Amiens to the Armistice*, 246-249.

⁶⁷⁶ *OHGW 1918 V*, 315.

British Fourth Army, directing his left wing to proceed in parallel with the British advance.⁶⁷⁷ The Fourth Army crossed the Selle on 17 October and made “steady progress” over the next days against strong German defences and division-sized counter-attacks. Fourth Army could not take advantage of these gains because of “the lack of an arm of pursuit—for cavalry was no longer able to fulfil this function, and the tank, its successor, was too weak both in speed and structure”.⁶⁷⁸ The First French Army advanced alongside the Fourth Army to the south and had by 19 October advanced to a point 4 to 5 km from the Sambre Canal. The British First and Third Armies crossed the canal on 20 October, but the BEF was not able to continue due to supply problems. Logistics became an increasingly limiting factor for the Allies as they moved further away from their railheads.⁶⁷⁹

The BEF attacked again on 23 October after a two days’ delay due to late arrival of munitions. Its progress was good despite difficult ground and enemy artillery, but it took another day to reach and secure the objectives. The BEF now stood along the Schelde Canal to the Sambre Canal, with the Fourth Army through parts of the *Herrmann-Stellung*. At this stage, the Army required an operational pause for a week and a half to rest and reconstitute the fighting power of the formations involved in these attacks.⁶⁸⁰ Further south, the French First Army was held up by bad weather, but finally attacked two days later and breached the *Hunding-Stellung*. The French Fifth Army to the south captured the rest of it.⁶⁸¹

The three southern British armies attacked again on 4 November alongside the French First Army. The French faced strong resistance over the Sambre and the Oise Canal and also struggled to cross the Oise, but managed to establish themselves on the east side by the evening.⁶⁸² The British Fourth Army crossed the Sambre and Oise Canal and established itself solidly on the enemy side, while the Third Army had similarly reached all its objectives.⁶⁸³

⁶⁷⁷ AFGG VII-2-1, Annexe No. 285, 445.

⁶⁷⁸ OHGW 1918 V, 318; Harris and Niall Barr, *Amiens to the Armistice*, 249-251.

⁶⁷⁹ Ibid., 244-246, 295-315; Boff, *Winning and Losing on the Western Front*, 32-33, 74-91; Harris and Niall Barr, *Amiens to the Armistice*, 251-252.

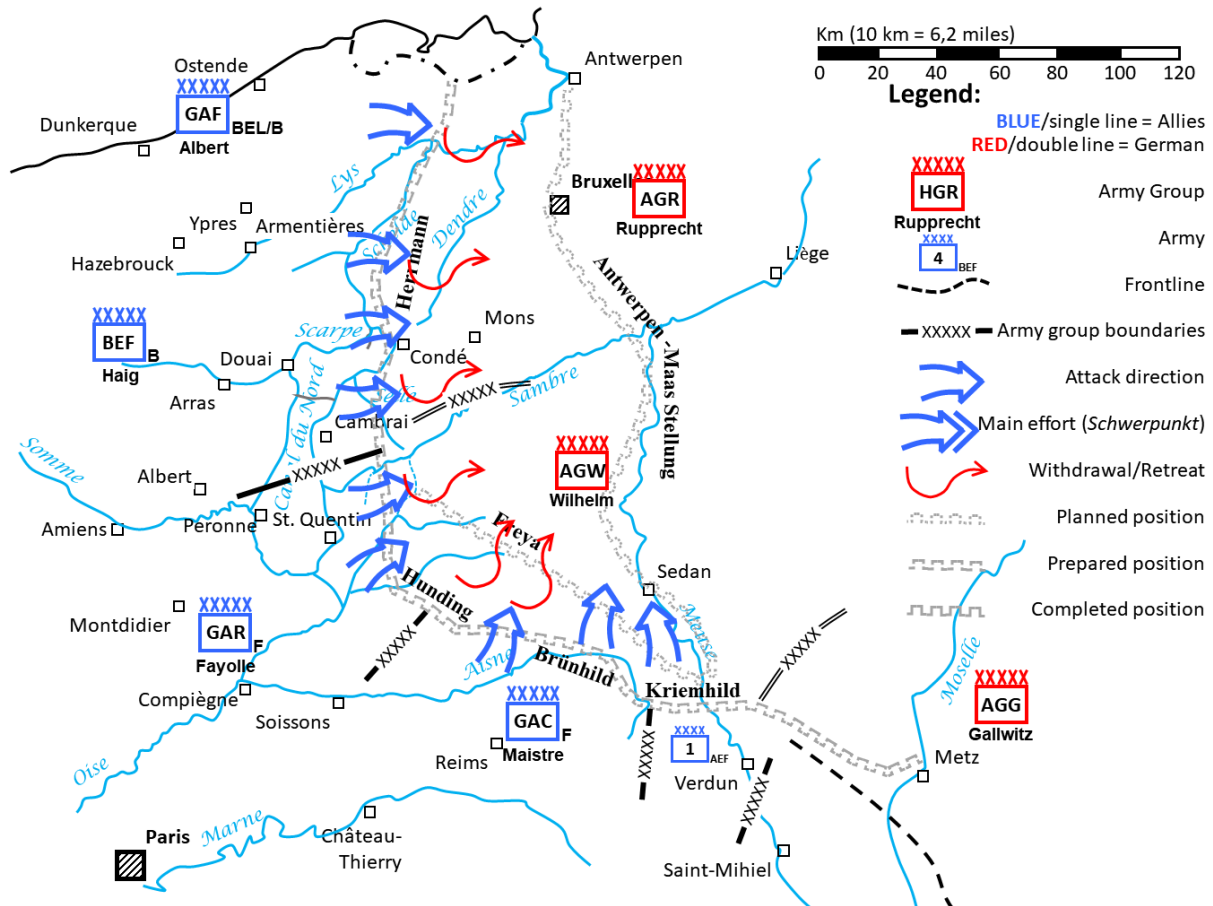
⁶⁸⁰ OHGW 1918 V, 351-397.

⁶⁸¹ AFGG VII-2, 166-173, 187-196; OHGW 1918 V, 353; Harris and Niall Barr, *Amiens to the Armistice*, 260-263.

⁶⁸² AFGG VII-2, 281-287.

⁶⁸³ OHGW 1918 V, 463-488; Harris and Niall Barr, *Amiens to the Armistice*, 272-283.

The First Army kept one corps in the north on the defensive, while the southern corps were engaged in pursuit of an enemy that had already started to pull back.⁶⁸⁴



Sketch 5.7. The Western Front on 4 to 11 November. The break-throughs of the *Herrmann* and *Hunding Stellung* and pursuit to the armistice.⁶⁸⁵

Events were now moving fast on the German side. Ludendorff was replaced by General Wilhelm Groener on 26 October, who reviewed the situation and on 1 November understood that the front would not hold. The Allied attacks on 4 November that broke deep into three German armies caused the OHL to order a general retreat along the front from Condé to Sedan. After Groener met with the government the next day, the OHL finally ordered a general retreat to the *Antwerpen/Maas-Stellung* to begin on 6 November.⁶⁸⁶

⁶⁸⁴ Ibid., 488-489; Boff, *Winning and Losing on the Western Front*, 34-35; Doughty, *Pyrrhic Victory*, 506-507; Lloyd, *Hundred Days*, 247-251.

⁶⁸⁵ *AFGG VII-I*, Charte No 33; *GRDP WW-I*, Akte Nr. 264, 265.

⁶⁸⁶ *Weltkrieg 14,1*, 692-701; Boff, *Winning and Losing on the Western Front*, 34-35; Harris and Niall Barr, *Amiens to the Armistice*, 284-285; Lloyd, *Hundred Days*, 234-238.

The Allied tactical and operational approaches to breaching the *Herrmann-* and *Hunding-Stellung* were similar to previous breachings. The German defences were no longer as formidable as the *Siegfried-Stellung*. Logistics became the main limiting factor due to reduced transport capacity. The British Fourth Army undertook the main effort and the other armies followed suit. However, the transition to pursuit became more sudden when the Germans decided to expand the retreat along the entire front.

Phase V: Mobile warfare

The extent of the German retreat was initially not known to the BEF. Its orders for 5 November were to continue the advance that began the day before. The objective was the main road Avesnes-Maubeuge-Mons, but progress was slow due to wet weather that caused the heavy traffic to turn roads into almost impassable mud tracks. French patrols reported gaps in enemy lines and weakened resistance. The French First Army moved out at first light. The advance was slow but steady. The lead elements were in contact with German rear-guards, and the resistance was primarily from machine-gun detachments. To the south, the Third Army was to advance by divisions without any concern for alignment, letting the troops keep up a steady advance against the retreating Germans.⁶⁸⁷

The German armies used the unusually dark nights to disengage and left machine guns and snipers behind to delay and disrupt the pursuit. Artillery shells were rigged as improvised explosive devices with delayed fuses and were left behind to explode after the Allies had occupied the area. Demolitions of roads and bridges were more deliberate than in previous retreats. Nevertheless, much of the artillery had to be left behind due to the lack of horses. Battalions were down to barely 150 men (out of 800), a clear indication of the toll the recent fighting had taken on the German armies. The aim was to reach an intermediate position, stretching from Maubeuge over Hirson to south of Charleroi on 6 November. The plan was then to hold this line for a few days before falling back to the *Antwerpen/Maas-Stellung*.⁶⁸⁸

The Allies identified the general German retreat in the evening of 5 November and orders were issued by the army groups for 6 November to continue the pursuit. The advance on 5

⁶⁸⁷ *AFGG VII-2*, 287-289, 300-302; *OHGW 1918 V*, 492-499.

⁶⁸⁸ *OHGW 1918 V*, 493, 513, 559; *Weltkrieg 14,1*, 699-700.

November had varied from a steady advance in some places led by the cavalry to forced crossings of streams and the occasional deliberate attacks supported by massed artillery. As the offensive moved more steadily forward, units at corps level and below operated more independently within their designated areas. Detailed orders from army group and armies were no longer needed to keep up the advance. General Maistre, commanding the G.A.C., ordered Fourth and Fifth Armies to exploit the situation without delay and manoeuvre rapidly towards known enemy points of resistance. The Fifth Army ran into strong defences on 7 and 8 November that had to be overcome by division size attacks. Progress until the armistice was steady and met only sporadic machinegun fire since the Germans were retreating all along the front.⁶⁸⁹

The French First and Third Armies⁶⁹⁰ in the G.A.R. were in a similar position and received updated orders late on 5 November. There was heavy resistance along the main Paris-Maubeuge Road on 8 November. When the advance resumed in the morning the resistance was weak to non-existent until 10 November, when artillery had to be brought forward to regain the momentum.⁶⁹¹ The Third Army continued the advance in pursuit of the retreating Germans through 6 November and was informed that it was to detach units to the strategic reserve since their front had narrowed. It was forced to a halt by strong resistance along the Aube and Thon rivers on 7 November. Instructions arrived the same day to detach more divisions to the reserve. When the German retreat resumed the day after, the entire army was in pursuit until armistice went into force at 11:00 on 11 November.⁶⁹²

The BEF continued the pursuit with cavalry and infantry. Tanks or armoured cars that tried to advance were not able to continue among the numerous ditches and craters. The manoeuvre was fluid, but the situation changed so quickly that orders for relief and replacements at the front were overtaken by events and often not carried out. The tempo of the pursuit was limited by bad roads, obstacles, and rain, while resistance came mainly from machineguns covering demolition parties. The majority of German forces showed only token resistance. But the

⁶⁸⁹ *AFGG VII-2*, 272-280; *AFGG VII-2 Annexe No. 498*, 773.

⁶⁹⁰ The French 3rd Army was renamed the Army of Leuilly (d'armée de Leuilly) October 27th 1918. Both names are used in the *AFGG* series, but 3rd Army will be used in this chapter for the sake of simplicity. Ministère des Armées, "Répertoire numérique des journaux des marches et opérations (1914-1918)," ed. Jean Nicot (Paris: Service historique de l'Armée, 1967), 30.

⁶⁹¹ *AFGG VII-2*, 290-298; *AFGG VII-2-1*, 774.

⁶⁹² *AFGG VII-2*, 300-309; *AFGG VII-2-1*, 789-790, 808-810.

British First Army encountered resistance by German units that had to be dislodged by deliberate division attacks supported by artillery. On 8 November the ground was covered in fog, while the Germans had pulled back during the night. The British Fourth Army advanced with cavalry and bicycles in front to gain contact with the enemy, but flooded streams and low visibility slowed the advance. The bad roads made it impossible to bring forward artillery and heavy bridging equipment was also delayed. The First and Third Armies also experienced enemy resistance in the form of machineguns and artillery fire, before demolitions were executed and the defenders pulled out.⁶⁹³

The progress was steady over the next days. Orders carrying news of the armistice and instructions of how to proceed reached the armies on 11 November 06:30. The armies were to continue their advance until the armistice took effect at 11:00 and then establish defensive positions. Third and Fourth Armies sent forward advance guards and mobile forces, while First Army advanced in line to catch up with their forward elements east of Mons. Detailed instructions of how to handle the transition from combat to armistice had arrived from the BEF HQ a few hours earlier.⁶⁹⁴

There were numerous black days for the German army before and after 8 August 1918. The first was actually on 18 July, the first day of the Second Marne. The conclusion of the German official history of the Western Front acknowledged that 9 November was the blackest day. Not only for the army but also the Reich: “*Der 9. November 1918 wurde zum schwärzesten Tage in der Geschichte des Deutschen Reiches und seines Heeres.*”⁶⁹⁵

Operational elements

Brigadier-General Sir James E. Edmonds, the editor in chief of the British Official History, commented on the form of the Allied offensive in the final book of the volume on 1918. First, he described the strategy of “a frontal pressure against every active sector of the front” as very different from the planning and execution of “old style strategy” and different from the “prolonged effort at penetration at one or more vital places”. The frontal pressure kept the

⁶⁹³ *OHGW 1918 V*, 492-514.

⁶⁹⁴ *Ibid.*, 552-554, 557-559.

⁶⁹⁵ “The 9 November was the blackest day in the history of the German Reich and its Army.” *Weltkrieg, 14, I*, 719

Germans on the defensive after Amiens. It also allowed them to escape encirclement by large-scale withdrawals along the entire front.⁶⁹⁶ Edmonds acknowledged that there was limited opportunity for an individual attacking army to obtain a strategic advantage. They instead took advantage of a neighbouring army's progress to force a withdrawal to avoid being outflanked. Divisions and brigades, conversely, were able to profit from flank attacks to turn defenders out of their positions.⁶⁹⁷ Edmonds stated that the practical room for operational manoeuvre was limited for the army group commander. The only manoeuvring was to zigzag forward by sequencing the advance of the armies. His analysis of the prospects for mobile warfare ruled out any deep exploitation by either armour or cavalry, due to enemy countermeasures and immature tank technology.⁶⁹⁸

Edmonds further discussed the issue of breakthrough and the option of a deep advance from Verdun through the Argonne to cut off the German Armies' principal railroad. He then referred to Foch's Chief of Staff, General Maxime Weygand, who confirmed that Foch never "believed in the possibility of a 'breakthrough', with decisive results, between two armies of equal fighting value." Weygand referred to the failed German offensives between March and July. He argued that Foch did not aim for breakthrough, but planned instead to widen the front successively.⁶⁹⁹ Edmonds referred to Foch's aim to exploit the success of the British Fourth Army at Amiens in August and develop the initial attack into a deep penetration. As noted above, Haig halted the attacks after meeting Fourth Army commander Rawlinson and had to convince Foch himself that breaking off the operation against mounting resistance was the correct decision.⁷⁰⁰

The strategic-operational relations between Foch, as supreme Allied commander, the senior national representatives, and the army group commanders during the Allied offensive, were not without friction. However, disagreements were sufficiently well-managed to keep the operations within the agreed strategic ambition. Edmonds' observation is illustrative:

It need not be emphasized that the Generalissimo [Foch] was handicapped by the fact that his command consisted of four national contingents, each with its own lines of communication, and with different natures of armament, ammunition and rations, so

⁶⁹⁶ *OHGW 1918 V*, 570.

⁶⁹⁷ *Ibid.*, 573-574. *OHGW 1918 IV*, 514-515.

⁶⁹⁸ *OHGW 1918 V*, 574.

⁶⁹⁹ Translated and quoted in *OHGW 1918 V*, 572 note 1.

⁷⁰⁰ *OHGW 1918 IV*, 167-171; Doughty, *Pyrrhic Victory*, 478-479; Lloyd, *Hundred Days*, 64-67.

that their formations were not homogenous and interchangeable as were the German divisions.⁷⁰¹

While the heterogeneous Allied command and force structure was not as unified and flexible as that of the Germans, it was more than sufficient to manage the Allied forces in the offensive. As Elizabeth Greenhalgh concluded, “it is undeniable that the allied solutions to the logistics problems were war-winning.”⁷⁰² Even as there were tensions and mutual scepticism at various levels of command and among the troops, the strategic-operational interactions and relations allowed the Allies to regain the initiative in July 1918 and maintain a steady offensive until the Germans unexpectedly asked for an armistice. The Allied offensive balanced the aim with the means available and with methods that were sustainable against the German army that was deployed in strongly fortified defensive belts. The operational method was to mount operations that were limited in time and space. The purpose was to achieve the best balance between manoeuvre, attrition of enemy forces, keeping one’s own casualties low, and sustaining the momentum of the campaign.

The operational-tactical interaction was mainly between national commanders and their army generals. But there were exceptions. The army groups conducted operations to reach objectives defined by the Allied supreme commander, Ferdinand Foch. These objectives were, at times, modified or limited by the army group commanders according to the situation. The army groups had their assigned armies, which occasionally were rotated or allocated to another army group for a specific operation, such as when the French First Army was attached to BEF for the Amiens-Montdidier operation. For the duration of the offensive, the army groups would mainly use their organic resources. An army group would reinforce the army that was to mount the main effort. It might also receive some strategic assets for an attack, such as tanks, heavy artillery, and combat aeroplanes. This system operated across the entire width of the Western Front.

The role of operational art was to plan, conduct, lead, and sustain operations. The planning was based on the assigned objective, the part of the army group in the overall strategy, which again determined the resources available. The mission of adjacent army groups also had to be taken into account. These missions spanned from deliberate breakthrough operations against

⁷⁰¹ *OHGW 1918 V*, 572.

⁷⁰² Greenhalgh, *Victory through coalition*, 263.

the enemy's fortified lines on the one hand, to the pursuit of a retreating enemy on the other. The former mission demanded a high degree of centralized planning and preparations, while the latter called for smaller mobile forces that operated independently within the framework of the operation. Logistics became the prime factor that determined the pace of the offensives as weather and infrastructure deteriorated. Supplies had to be built up over weeks for a major breakthrough operation, while pursuit forces had to limit their speed of advance to allow logistics to catch up. Food and other supplies to the civilian population in the liberated areas added to the demands on the logistics system.

The "war of manoeuvre" on the Western Front in the late autumn of 1918 differed considerably from the manoeuvres in the first months of the war. The conditions were fundamentally different from previous wars. There was a continuous front to consider and no gaps in the front or open flanks to exploit. Although the front moved as the Germans retired, they had sufficient firepower available in the form of machine guns and artillery to preclude any large movements of masses of unprotected soldiers. An army's mobility was also defined by the speed at which its combat forces could move. In 1918 that was marching speed, even tanks moved at the pace of the infantry. This meant that a defender could slow the attacker by fire and retreat faster than the attacker could advance, thereby avoiding outflanking, encirclement, and annihilation. Logistics made the difference at the operational level by sustaining movement over a prolonged period. An attacker that had an advantage in supplies could move faster than a defender if he could exhaust the defender's logistical system. This was difficult since a retreating defender could fall back on his supplies and the attacker had few combat means with the speed, range, and combat power to destroy supplies behind the front. When the Allied offensive progressed, the armies moved further away from their railheads. The supply situation deteriorated further when dirt-roads turned into mud in the autumn rain.

The mobile war in the autumn of 1918 approached the character of a continuous breakthrough operation and was not like any of the pre-war ideas of *Bewegungskrieg* or mobile warfare. Firepower determined the battlefield, but the technology that early in the war contributed to the stalemate of the trenches had been developed into systems that could return mobility to the modern battlefield. It was a very different kind of mobility, though, one that was defined just as much by the ability to integrate fire and movement as by the ability to move troops. Jonathan Boff has a revealing description of the character of offensive warfare in 1918 in his

book on the British Third Army: “The positional attrition of 1915–17 gave way, not to manoeuvre warfare, but to a form of mobile attrition.”⁷⁰³ Mobile attrition differed from positional attrition since it also gained ground and allowed the attacker to maintain the initiative and force his strategy on the defender that was forced to either retreat or die in his trenches.⁷⁰⁴

But attrition is just one side of the coin. The other is mobility. While the Germans tried to return to 1914 style mobility in their stormtroop offensives, the Allies developed “1918 style” mobility. The premises for the new mobility were related to all levels of command, but without strategic direction, operational and tactical attempts to restore mobility would have proved futile and resulted in severe losses. This had been the case in the previous years; the Russians in 1916 and Germany in the spring of 1918. The Allied success was dependent on more than just that “Foch had developed an appropriate attritional method that was to make the difference between the two sides in their most intensive campaign to date.”⁷⁰⁵

Nick Lloyd argues that the allied 1918 offensive was “[a] victory of superior operational art; the ability to combine divergent operations together, across a huge width of front, into something greater than the sum of their parts. This is what Foch managed to do during the Hundred Days.”⁷⁰⁶ This statement is more of an argument for superior strategy. It was the strategic direction by Foch that combined the operations to achieve the strategic objective. The rationale for the statement appears to be that he bases his analysis on British doctrine, where operational art is to “attain strategic goals through the design, organization, integration and conduct of campaigns or major operations.” The doctrine also defines the operational level as “the level of war at which campaigns are planned”.⁷⁰⁷ Lloyd’s article is a very good account of Allied strategy and operational art on the Western Front. However, the way he frames his analysis within a twenty-first doctrinal paradigm causes him to conflate the two in his conclusion.

⁷⁰³ Boff, *Winning and Losing on the Western Front*, 37.

⁷⁰⁴ Craig Gibson, "Amiens to the Armistice: The BEF in the Hundred Days' Campaign, 8 August-11 November 1918 (Book Review)," *History* Vol. 278, Issue 85 (2000), 371-372.

⁷⁰⁵ Philpott, *War of Attrition*, 324.

⁷⁰⁶ Lloyd, "Allied Operational Art in the Hundred Days, 1918," 125.

⁷⁰⁷ Joint Warfare Publication 0-01, quoted in *ibid.*, 118.

The offensive “attritional methods” had been used in the past two years, but they were tactical and only capable of limited tactical results. Foch’s most significant victory was to be entrusted with “the strategic direction of operations”. It was the new role of operations to direct the limited attritional offensive thrusts; the bite and holds and *attaque brusque*, towards intermediate objectives that Foch laid out in his strategic offensive. The tactical attrition would have gained nothing but attrition by itself. It was the operational bridging of the attacks to the campaign’s purpose that made it a war-winning effort. Compared to Nick Lloyd’s view discussed above, the role of operational art was to combine tactics together within the operation. Lloyd’s use of modern doctrine as an analytical tool made him include Foch’s strategic direction of operations in his understanding of operational art.

The Soviet theorist Georgii S. Isserson dismissed the Allied operations in the 1918 offensive as examples of operational art:

Our operational thought cannot fixate on the experience of the World War. This exhausting system of attrition battles, which failed to solve the problem of operationally breaching a front, and whose very slow offensive tempo, requiring four months during 1918 for the allies to push the Germans back only 100 kilometers, cannot become the sole point of departure for developing our theory on the conduct of operations.⁷⁰⁸

Alexandr Svechin explained Germany’s defeat by the political and military breakdown of morale and the Allies' superior material resources. He downplayed the importance of the Allied offensive to the defeat of Germany.⁷⁰⁹ At the same time, when he explained the defining characteristics of modern operations, he described the Allied operations in 1918.⁷¹⁰ Soviet theorists were wrong in their rejection of the operations in the Allied 1918 offensive as operational art because they failed to consider the physical realities of the Western Front. Nor has the Allied 1918 offensive been studied in the framework of operational art by many other scholars.⁷¹¹ It is usually placed well inside the tradition of attrition, although newer books acknowledge some unique qualities outside the framework of mass slaughter. The Allied

⁷⁰⁸ Isserson, *The Evolution of Operational Art* 13-14.

⁷⁰⁹ Svechin, "Sokrusheniye i izmor," 312; *ibid.*, 301; Svechin, "U Istokov operativnoy mysli," 378-380; "Otpor i oborona," 471-482; "U Istokov operativnoy mysli," 377-379.

⁷¹⁰ *Strategy*, 81-82, 295, 300.

⁷¹¹ Some good examples are Doughty, "French Operational Art: 1888–1940."; Lloyd, "Allied Operational Art in the Hundred Days, 1918."

qualities in the offensive have for the most part been described in the tactical domain and as unit narratives.⁷¹²

The Soviet interpretations have to be read partly in their contemporary political and security context of the Soviet Union, but they also reflected the writers' own preferences, whether those preferences were a strategy of exhaustion or one of destruction that included large-scale operations deep into the enemy rear areas. To a great extent, western writers of operational art have equalled operational art with deep operations and described and criticised military operations based on their idealised pattern of swiftness and depth. What is usually missing is an understanding, or acceptance, of the unique conditions that shaped warfare on the Western Front. These conditions caused strategy and operational art, as well as tactics, to take on the character they did. Not sweeping deep operations, but slow wide manoeuvres of mobile attrition.

Conclusion

There was a continuous line in the Allied 1918 offensive war from the nations' cabinets, through the Supreme War Council and the various military organisations, into the tactical forces that did the fighting. Foch stood in the "unequal dialogue" between policy and politics, on the one hand, and the physical realities of the industrialized battlefield on the other.⁷¹³ When Svechin defined operational art as the third military discipline, bridging strategy and tactics, he made it clear that operational art must be seen as just one element of warfare. He also argued that any division of war into separate disciplines has an arbitrary element that might cause one to lose sight of the entirety.⁷¹⁴ The Allied offensive of 1918 had this element of totality. But it took a long and costly road to get there. It required combining successful tactical actions into an operation. Then to direct operations within the campaign to reach the strategic objective, which then had to align itself with the war's political aims and purpose. Finally, the objective had to be within what was possible, given the means available.⁷¹⁵

⁷¹² Boff, *Winning and Losing on the Western Front*; Harris and Niall Barr, *Amiens to the Armistice*; Lloyd, *Hundred Days*; Neiberg, *The Second Battle of the Marne*; Philpott, *War of Attrition*, 323-339.

⁷¹³ Cohen, *Supreme Command, Soldiers, Statesmen, and Leadership in Wartime* 12, 66-86.

⁷¹⁴ Svechin, *Strategiia*. 13-14.

⁷¹⁵ Jonathan Krause, "Ferdinand Foch and the Scientific Battle," *The RUSI Journal* 159, no. 4 (2014).

The conduct of the Allied offensive preceded Svechin's lay-out of strategy and operations in modern war by a decade:

The duty of strategy is to keep offensive operations from getting drawn out to the last gasp; great leadership ability is required to stop an offensive in time without getting distracted by minor partial successes which could still be achieved.

[...]

When strategic intensity begins to diminish when the enemy's front is deprived of major reserves, rendered punchless, when it becomes quite incapable of launching major counterattacks and is only able to offer passive—in these conditions strategic work on exterior lines is even advantageous and a decisive offensive will be dictated by the situation.

Small separate attacks may be even more economical than a single major operation. They make it possible to avoid the loss of time and effort, which are always the excess cost of a major concentration, [...]. If the enemy's reserves have been exhausted and small operations are undertaken simultaneously, the latter have the opportunity to maintain the initiative that have been seized almost as long as major operations. Foch's offensive in the second half of 1918 had this kind of divided nature.⁷¹⁶

This continuum shows clearly that the nature of operational art was prevalent in the entire Allied campaign of 1918. This was evident in the functional interactions between strategy and operational art, between Foch and the army group commanders. Similarly, the functional interaction between operational art and tactics, between the army groups and their tactical units, was effective to the point that it managed to solve the tension between the need to maintain the offensive and the mounting casualties as resistance hardened. The various forms the offensive took, which varied from deliberate breaching of heavily fortified defences to mobile pursuit of a retreating foe, are all examples of the different characters operational art can assume within a campaign. Despite the above-mentioned Soviet critique, the operations' character of mobile attrition was conditioned by the combination of factors that shaped warfare on the Western Front. These factors ranged from the policies of the Allied nations to the unique character of the individual Allied armies, to tactical elements and physical conditions, such as terrain, weather, and, not least, the qualities of the enemy.

The Allied operations during the offensive did not resemble the deep offensive operations Isserson perceived in a future war. They did not correspond to the operational art that was promoted by the western "maneuvrists", such as Luttwak and Lind, or the US Army in AirLand Battle concepts and doctrines.⁷¹⁷ The character of the operations in the Allied

⁷¹⁶ Svechin, *Strategy*, 295, 300.

⁷¹⁷ TRADOC, *TRADOC Pam 525-5*; "FM 100-5 Operations."; "FM 100-5 Operations."

offensive was more of a mobile trench war than some of the dashing armoured thrusts in the Second World War. The operations in 1918 were determined by the physical realities of the combat conditions in Belgium and northern France. It was operational art, although it did not resemble the image of operational art that has been constructed as a defining element of the twentieth century's idealised deep operations.

The operational art conducted by the Allied army groups in 1918 worked because it was part of the strategic-operational-tactical totality placed at the service of political aims. Previous attempts, from the German offensives in 1914 to the attrition from 1915 through 1917, to Ludendorff's spring offensives in 1918, all failed because one or more elements of this totality either were missing or misapplied. The form of the Allied operations in 1918 varied from tightly controlled and deliberate breakthrough offensives to more loosely directed operations. Both the strategic-operational and the operational-tactical interactions were maintained to the extent that was necessary and practical, given the character the operations developed.

The strategic-tactical gap in modern war was bridged by operational art in the autumn of 1918 by the same forces that had caused the tectonic rift between strategy and tactics during the previous half-century. The bridging was assisted by an enemy that still clung to his archaic and militaristic pursuit of the idealised decisive battle of Cannae and exhausted himself in the process to the point where the German army was "well placed to be chopped."⁷¹⁸ What was missing at war's end was a developed definition and theoretical understanding of this new discipline of war. But that work was to be carried out over the next decades by the Worker's and Peasant's Red Army in the new Soviet state that emerged from the ashes of the Russian Empire.⁷¹⁹

⁷¹⁸ A familiar Norse phrase from the Icelandic saga *Flateyjarbók*, where the answer "he was so well placed to be chopped" was given by Torgeir Håvarsson, explaining why he cut off the head of a shepherd he just passed.

⁷¹⁹ Menning, "Operational Art's Origins," 3-9.

Chapter 6: Perceptions and definition

The primary purpose of any theory is to clarify concepts and ideas that have become, as it were, confused and entangled. Not until terms and concepts have been defined can one hope to make any progress in examining the question clearly and simply and expect the reader to share one's views.

Carl von Clausewitz⁷²⁰

This chapter will examine and analyse how military operations were understood institutionally after the First World War and how these understandings influenced military theory and doctrine. It will describe how differently some of the major participants understood the First World War and how these understandings were developed into concepts and doctrine. The emphasis is firstly on the Soviet Union's Red Army. The understanding of modern war will also be examined in some other armed forces that did not develop explicit operational theory or terminology. These developments demonstrate that operational art as a military discipline was not a preordained result of shared experiences of modern war. On the one hand, these experiences led to the development of operational art in the Soviet Union. The French army, on the other, never went beyond their refinement of the methodical battle (*bataille conduite*) of 1918.

In the inter-war years, the Red Army and the United States Army and Navy developed their understandings of modern war in two very different manners. The Red Army developed sophisticated new operational theory and terminology that was written into explicit operational doctrine. Massive force structures tailored to execute the operations that the doctrine prescribed were established in peace-time. On the other hand, the Americans developed specific plans for campaigns and operations against likely future enemies within a pre-existing strategic-tactical paradigm. They planned without existing force structures and developed concepts and doctrines for armed forces that had to be built and mobilised when the war began. Nevertheless, the campaigns and operations conducted by US and Soviet forces in the last half of the Second World War shared so many similarities that they seem to have been cast from the same mould. The outward appearance of the large Soviet land operations and the American joint operations in the Pacific and Western Europe were very different due to vastly different operating environments. The similarities lay in the political-

⁷²⁰ Clausewitz, *On War: Indexed Edition*, 132.

strategic interactions that defined strategy and its priorities, how campaigns directed operations, and how battles and engagements were harnessed within the operation.

The French army will be used as a comparison. In the inter-war years, it did not develop the successful strategic-operational interaction during the 1918 offensive but concentrated on tactics.⁷²¹ Both the German and French cases are in different ways contrasts to the Soviet and American development of the operational dimension of war. The German approach was a continuation of their operational concept of rapid, decisive tactical offensives. The French Army discarded its successful operational practice in 1918 and concentrated on developing the orchestrated battle. Foch's offensive strategic drive was replaced with Pétain's emphasis on careful management of tactics.

Were early twentieth-century military theory and terminology able to describe the new realities of war? Could nineteenth-century terms explain the changed character of warfare that twentieth-century operations represented? Operational understanding is an awareness of what constituted operational art, but not necessarily the unique theory and terminology the Soviets developed. While the Red Army, especially Alexandr A. Svechin and other Soviet military thinkers, are the main subjects for this chapter, the emergence of operational understanding in other great powers' armed forces will be compared to that of the Red Army. The US Army and Navy developed a pragmatic approach to modern joint and combined operations acclaimed as American operational art.⁷²² The American case will be studied with an emphasis on the institutional processes that led the US Army and Navy to fight the Second World War in ways in which they had no previous experience. The purpose of this chapter to explore and compare two fundamentally different approaches to modern warfare that appears to have reached similar conclusions regarding operational art.

⁷²¹ Eugenia C. Kiesling, *Arming against Hitler: France and the Limits of Military Planning*. Lawrence, Kansas: University Press of Kansas, 1996, 136-172.

⁷²² Matheny, *Carrying the war to the enemy*. Joint operations are operations where two or more services participate and combined is multinational, where multinational has become the preferred term in NATO, see NATO, AAP-06, *NATO Glossary*, 28, 70.

The Soviet Union

The newly established Workers' and Peasants' Red Army began to analyse recent years' war experiences while it was still fighting in the Russian Civil War. From the very beginning, the military debates became an element in the internal power struggles within the Communist Party. When Lenin was incapacitated by illness in 1922, Leo Trotsky and Josef Stalin's internal contest was no longer curbed by Lenin's authority. Debates over the development of the Red Army's doctrine, structure, and force composition were significantly influenced by the power struggle between Stalin and Trotsky. The questions of military doctrine and planning became politicised and highly polemic and often led to outright disloyalty charges against the persons involved. Such accusations could wreck careers and cause arrest, deportation, and execution. The political-military relations in the Soviet Union reached their nadir in the great purge of 1937-1938 when the officer corps of the Red Army was literally decapitated.⁷²³ This section will focus on the first ten years of the Soviet state when "when open debate in professional military periodicals was tolerated and even encouraged (1917-28)".⁷²⁴

The primary sources of the Red Army's military theoretical and doctrinal debates must therefore be read in the context of this unique political environment. Many of the positions that actors took in the discussions, their opinions, their rhetorical form, and their choice of sources and arguments, must also be considered in the same context. The fact that only very few of the central theorists survived the purges is a stark reminder of the atmosphere at the time. This unique political climate underlines the need for the kind of caution that Skinner puts forward in his approach to the study of the history of ideas.⁷²⁵ An entire array of arguments might, for example, mainly have been designed to protect the proponents' necks from the secret police. This section will not enter the internal debates on strategy, force structure, operational concepts, and military doctrine, which other authors have described eloquently in previous studies.⁷²⁶ It will rather emphasise the early theoretical texts where the

⁷²³ Erickson, *The Soviet high command*, 124-138, 449-473; Harrison, *The Russian Way of War*, 120-126, 218-224; Rudolf Ströbinger, *Stalin enthauptet die Rote Armee : der Fall Tuchatschewskij* (Stuttgart: Deutsche Verlags-Anstalt, 1990), 211-280.

⁷²⁴ Kipp, "Operational Art and the Curoius Narrative," 212.

⁷²⁵ Ibid., 206-209; Skinner, "Meaning and Understanding in the History of Ideas."

⁷²⁶ Erickson, *The Soviet high command*, 202-213; Harrison, *The Russian Way of War; Architect of Soviet Victory in World War II : The Life and Theories of G.S. Isserson*; Jacob W. Kipp, "Mass, Mobility, and the Red Army's Road to Operational Art, 1918-1936," (Fort Leavenworth, KS: Soviet Army Studies Office, U.S. Army

fundamental definitions and character of operational art as a new military discipline were developed in regard to the interpretations of the First World War.

Central to this story are the works of Alexandr A. Svechin, who first defined and developed the theoretical foundations for operational art. Svechin was acknowledged as the originator of operational art by his peers and is accredited the same way today. The emphasis will be on Svechin's theoretical understanding of operational art and less on how it later was developed into specific doctrines and force structures. Svechin (1878-1938) was a general staff officer in the Imperial Russian Army. He commanded a regiment and a division and served in higher headquarters in the First World War. Svechin entered service as a military specialist in the Red Army in 1918. He served in held higher staff and command positions in the first year of the Civil War and at the General Staff Academy and Red Army Headquarters until arrest and execution in 1938.⁷²⁷

Svechin had the unique background of a classically educated general staff officer who served in both combat and higher staff assignments. He was widely read in both Russian and international military history and other literature and published his own experiences and analysis of modern war as a captain. Among the last things Svechin did before his final arrest was to finalise editing the Russian translation of Clausewitz' *On War* and write a popularised biography of the Prussian thinker.⁷²⁸ When operational art was defined as a new military discipline, it was an innovation based on classical general staff education and first-hand experience of modern war.

The defining war for Svechin was the First World War. He chaired the Military Historical Commission for the First World War, which made him aware of all of the lessons to be drawn

Combined Arms Center, 1989); "The Tsarist and Soviet Operational Art, 1853-1991," in *The Evolution of Operational Art From Napoleon to the Present*, ed. John Andreas Olsen and Martin van Creveld (Oxford: Oxford University Press, 2011), 65-72; Stoecker, *Forging Stalin's Army*; Stone, *Hammer and Rifle*.

⁷²⁷ Harrison, *The Russian Way of War*, 139-143; Kipp, "The Tsarist and Soviet Operational Art, 1853-1991,"; N. Ye. Varfolomeyev, "Strategy in an Academic Formulation," in *The Evolution of Soviet operational art 1927-1991 : the documetary basis : V.1 : Operational art, 1927-1964*, ed. Harold S. Orenstein (London: Frank Cass, 1995); A.A. Kokoshin and V.V. Larionev, "Origins of the Intellectual Rehabilitation of A.A. Svechin," in *Alexandr A. Svechin: Strategy*, ed. Kent D. Lee (Minneapolis, MN.: Eastview, 2004), 1-7; Yuriy Fedorovich Dumbi, *Voyenaya i nauchanaya deyatel'nost Alexandra Andrevicha Svechina* [Military and academic activities of Alexander Andreyevich Svechin] (Moscow: Moscow State Academy of Instrument Engineering and Computer Science 2000), 22-34, 69-82, 276-297.

⁷²⁸ Dumbi, *Voyenaya i nauchanaya deyatel'nost Alexandra Andrevicha Svechina*, 95.

from it.⁷²⁹ He was sceptical of imitating other armies and argued that the next war would not be a continuation of the First World War. It would be fought by another generation and have its own unique properties. After warning that for the Soviet Union imitation of bourgeois states was unacceptable both for strategic and political reasons. Svechin then emphasised that

one's military thought must be based directly on historical reality, not on the refraction of this reality in the views of an alien army. The study of the [First] World War seems to us especially important for the Red Army, since only it can be a prerequisite for independent creativity in the art of war. Works of the [Russian] Civil War cannot compensate for gaps in the study of World War;

[...]

Any direction in the art of war, which will be chosen by the Red Army, will be one way or another an interpretation of the experience of the World War. The World War provides the majority of that particular material, which will contribute to our military thought for a long time.⁷³⁰

Even if Svechin based his understanding of modern strategy and operational art on the Allied 1918 offensive, his assessments of it were critical to the point of accepting that the German army was not defeated, only forced to retreat.⁷³¹ His analysis of the Allied attacks in 1918 was almost mocking: "Despite the obvious collapse of the German front and an emerging victory, the French were only capable of sluggish attacks and could not break through the German front anywhere."⁷³² Even if this critique was published as early as in 1926, it reflected the peculiarities of the debate climate in the Soviet Union, and particularly in the Red Army.

Terminology and translation

Svechin's book *Strategy* contained the first printed expression of operational art. It was the result of Svechin's own experience in the field, in the headquarters of army and front, and service in the Imperial Russian General Staff, in addition to his studies and lectures.⁷³³

Svechin wrote the book to explain strategy in the modern world. Operational art was the new military discipline that would bridge strategy and tactics. Svechin drew on classic texts, such as Clausewitz and Delbrück, Russian analysis and debate before the First World War,

⁷²⁹ Dumbi, *Voyenaya i nauchnaya deyatel'nost Alexandra Andrevicha Svechina*, 177-178; Kipp, "General-Major A.A. Svechin and Modern Warfare," 32-33.

⁷³⁰ Svechin, "Mirovaya voyna", 237-238.

⁷³¹ "Vtoraya chast' mirovoy voyny", 245-247.

⁷³² Ibid., 247.

⁷³³ Ibid., 22-95; Kipp, "General-Major A.A. Svechin and Modern Warfare", 24-37; Varfolomeyev, "Strategy in an Academic Formulation," 32-38.

international military literature, contemporary debates and discussion and recent war experience, including the Russian Civil War. The book was a part of the strategic debate in the 1920s, which explains the polemics and rhetorical style in some of the chapters.⁷³⁴

The first chapter acknowledged that modern war involved much more than combat. Political, geographical, technological, administrative, and organisational issues had become equally important.⁷³⁵ Svechin then limited his book to warfighting, since it "has become so broad and so significant that currently we consider the conduct of military operations to be the art of war in the narrow sense of the word."⁷³⁶

These paragraphs themselves and the context in which they were written, gave the impression that warfare had become military operations and operational art. This perception is a translation issue in the first subsection "A classification of Military Disciplines" in the English 2004 edition. Military activities that span from warfare in general to tactical actions and engagements were all translated as "military operations". This choice in translation gives the reader the impression that Svechin regarded all military issues in modern war to be about operations and operational art. But for Svechin, operations and operational art were only discrete elements in the conduct of war.

The term in question is the phrase *iskusstvo vedeniya voyennykh deystviy*, which literally means "(the) art of conducting actions of war" or "the art of military actions". This translation of the term also corresponds to the subsection's aim of setting the framework for the contemporary study of war and not just for military operations. A more precise translation of the passage will therefore be (to the right, *my italics*):

⁷³⁴ Harrison, *The Russian Way of War*, 130-137, 220-227; Kipp, "General-Major A.A. Svechin and Modern Warfare," 48-51.

⁷³⁵ Svechin, *Strategy*, 67.

⁷³⁶ *Ibid.*

The English 2004 translation

This aspect of the art of war has become so broad and so significant that currently we consider the conduct of military operations to be the art of war in the narrow sense of the word.

The art of conducting military operations cannot be divided by any clear boundaries into completely independent and delineated sections. It is a single whole which includes the assignments of missions to fronts and armies and leading a small reconnaissance patrol. [...] Hence it would be quite reasonable to divide the art of conducting military operations into several individual parts on the condition that we do not ignore the close relationship between them and do not forget the arbitrary nature of such a division.⁷³⁷

Translated from the Russian 1927 edition

This part of the art of war has now expanded to such an extent and gained such self-sufficient significance that under military art, in a narrow sense, we mean at the present time precisely *the art of military actions*.

The art of military actions cannot be divided by any clear boundaries into completely independent and delineated sections. It is a single whole which includes the assignments of missions to fronts and armies and leading a small mounted patrol, sent out to recon the enemy. [...] Therefore, it is quite reasonable to divide *the art of military actions* into several individual parts, provided that we do not miss the close relationship between them and do not forget a certain arbitrariness of such a division.⁷³⁸

The 2004 English translator's use of the specific term operations for the general term "military actions" may lead the reader to believe that Svechin meant that operational art and operations covered the entire conduct of war. As the paragraph demonstrates, this was not what Svechin meant and may explain why some western doctrine writers had perceived operational art to include strategy and tactics as well as operations.⁷³⁹ The translation resembles the English translation of Clausewitz' *On War* as discussed in chapter 2, where also western operational terminology was superimposed into a classic text.⁷⁴⁰

Svechin was consistent in his use of terms, especially those related to operational art and the new role of operations, where "the efforts of the troops are directed towards the achievement of a certain intermediate goal in a certain theatre of operations, without any interruptions". Similarly, he used precise terminology in the description of the modern content of operations: "a conglomerate of quite different actions: namely, drawing up the plan for the operation;

⁷³⁷ Ibid.

⁷³⁸ Svechin, *Strategiia*. 13-14 (my italics).

⁷³⁹ "Operational art / art opérationnel The employment of forces to attain strategic and/or operational objectives through the design, organization, integration and conduct of strategies, campaigns, major operations and battles", NATO, AAP-06, *NATO Glossary*, 91.

⁷⁴⁰ See Scheipers, *On small war: Carl Von Clausewitz and people's war*, 7-8, 147; Strachan, "Strategy or Alibi? Obama, McChrystal and the Operational Level of War," 160-161.

logistical preparations, [...] etc.”⁷⁴¹ Both Svechin and Clausewitz were precise in their use of terminology to explain and argue for their views. Therefore, translations must be equally exact to allow the nuances in their critical arguments to come to the forefront. In several instances where the term *voyennykh deystviy* denotes “military actions” or “actions of war”, it is translated as operations, combat operations, or military operations.⁷⁴² This translation may well give the reader a different understanding of the terms' content and meaning than the historical authors intended.⁷⁴³

Svechin stressed that operational art was an integral part of warfare as a totality.⁷⁴⁴

Furthermore, the division of warfare into three disciplines demanded caution and an eye for the entirety.

We notice that the art of military actions most naturally falls into the art of warfare, of conducting an operation and of conducting combat actions. The requirements of a modern battle, a modern operation and the war as a whole, represent three relatively definite stages, according to which it is most natural to justify the classification of military disciplines.⁷⁴⁵

There is also a tendency in the English edition to translate *voyennykh deystviy* as operations in sections discussing tactics, operational art, and strategy. This practice also gives the impression that operational art and operations covered all aspects of warfare.⁷⁴⁶ The English 2004 edition is, on the other hand, consistent with the original in the translation of specific military terms, such as operational art and operations. Thus, the challenge for a thorough study of the relations between operational art, strategy, and tactics in the English translation, is to understand whether the term operation translates from the general term *voyennykh deystviy* or the specific *operatsii*.

The Imperial Russian Army's thinking about operational elements before 1914 was among the aspects of the Russian intellectual efforts that matured into Svechin's definition of operational. A clear example is Alexander V. Gerua's term *operatika* and the emerging understanding of modern operations after the Russian-Japanese War. Several writers have

⁷⁴¹ Svechin, *Strategy*, 69.

⁷⁴² Cf. *Ibid.*, 67-70, 74-75, 77-79, 84; Svechin, *Strategiia*. 13-16, 20-21, 23, 23-25, 29-30.

⁷⁴³ Cf. Skinner, "Meaning and Understanding in the History of Ideas," 6-8, 11-12, 22-25.

⁷⁴⁴ Isserson made the same argument: Isserson, *The Evolution of Operational Art* 12.

⁷⁴⁵ Svechin, *Strategiia*. 14.

⁷⁴⁶ *Strategy*, 68-70.

explained and discussed the broad and deep military experience and intellectual effort on which Svechin's remodelling of military theory was based.⁷⁴⁷ The width of the Russian military intellectual tradition is also evident in publications by the Russian diaspora after the Revolution and Civil War. Émigré and philosopher Anton Kersnovsky's *Philosophy of War* from 1939 included the chapter "Strategy, Operatika and Tactics".⁷⁴⁸ His understanding of operatika was along the same lines as Svechin's definition of operational art. Kersnovsky described operatika as a new military discipline intersected between strategy and tactics to plan and conduct operations: "Strategy orients operatika politically, just as operatika orients Tactics strategically. As Strategy should be subordinated to Policy, operatika should be subordinated to Strategy, Tactics – operatika."⁷⁴⁹ Kersnovsky used the missing interrelations between strategy, operatika and tactics to criticise recent warfare; the Russian conduct of the First World War, Ludendorff's 1918 spring offensives, and the white general Wrangel in the Russian Civil War. Kersnovsky's critique was in line with Soviet theorists, such as Svechin and Georgii S. Isserson.⁷⁵⁰

Kersnovsky's book was also the source for western scholars' knowledge of Gerua's pre-war term *operatika*.⁷⁵¹ Gerua did not use operational art in his post-war book published in 1923. This was a book he wrote in exile and dedicated to the disarmament of the "peoples in arms" societies that caused the previous decade of carnage.⁷⁵² Another Imperial army general staff officer, Alexander A. Neznamov, who sided with the Red Army in the Civil War and served in military academic positions in the Red Army, used neither *operatika* nor operational art in his two volumes work entitled *Modern Warfare*.⁷⁵³ The second volume was published in 1921, while the first volume was published in two editions before the the First World War and again in 1922. His understanding of the modern operation, on the other hand, was in line with

⁷⁴⁷ Kipp, "General-Major A.A. Svechin and Modern Warfare."; Dyke, *Russian Imperial Military Doctrine and Education, 1832-1914*; Kipp, "The Tsarist and Soviet Operational Art, 1853-1991," 64-69; Menning, *Bayonets before bullets*, 200-217; Harrison, *The Russian Way of War*, 23-39.

⁷⁴⁸ Anton Antonovich Kersnovsky, *Filosofiya voyny* [The Philosophy of War], (Moskva, Izdatel'stvo Moskovskoy Patriarkhii, 2010 [1939]), 62-74.

⁷⁴⁹ *Ibid.*, 42.

⁷⁵⁰ Isserson, *The Evolution of Operational Art*

⁷⁵¹ See Menning, *Bayonets before bullets*, 205, note 221.

⁷⁵² A. Gerua, *Polchishcha* [Hordes], (Sofia, Bulgaria: Rossiysko-Bolgarskoye Knigoizdatel'stvo K-vo, 1923), 3, *passim*.

⁷⁵³ A.V. Ganin, *Korpus ofitserov General'nogo shtaba v gody Grazhdanskoy voyny 1917–1922 gg.: Spravochnyye materialy* [General Staff Officers during the Civil War 1917–1922: Reference materials] (Moscow: Russkiy put', 2009), 290, 673.

Svechin and so was his use of the terms operation and operational.⁷⁵⁴ Neznamov's books are another example of how the terminology and understanding of modern war from the Imperial General Staff were continued by the military specialists in the Red Army. The fact that both volumes were published before Svechin coined operational art as a term, may well explain why Neznamov did not use that expression.

Colonel Eugene E. Messner was a World War One and Russian Civil War veteran and a central actor among the Russian military émigrés. He knew and worked with Gerua as part of the military diaspora in Bucharest.⁷⁵⁵ Messner wrote that in the 1930s, he began to introduce the third element operatika in addition to strategy and tactics based on his studies of the First World War. Still, he did not relate the term to Gerua, who had coined it after the Japanese-Russian War.⁷⁵⁶ In an article in 1938, Messner wrote that operatika was the same as operational art, which "is more than conducting battles, it is the art of conducting large-scale operations, each of which consists of a multitude of battles and a multitude of measures to the supply of troops for battle."⁷⁵⁷

The understanding of operational art and associated terminology by the Russian military diaspora confirms that the continuity of the Imperial Russian Army's nascent operational thought into the inter-war period was through individuals. Individuals who either sided with the Red Army and became military specialists or opposed the Soviet State and chose to leave Mother Russia after the Civil War.⁷⁵⁸ Both the military diaspora and the military specialists in the Red Army based their operational thinking on the nascent pre-war attempts of the Imperial General Staff. Experiences and lessons from the First World War and the Russian Civil War were incorporated in later studies. Except for different terms, the results for both groups were identical. This indicates that the pre-war operational thinking was so thorough that it led to similar outcomes. Both operational art and operatics were two names on the same subject; the newly defined third military discipline.

⁷⁵⁴ Neznamov, *Sovremennaya voyna*, 2 Vols., vol. 1, III-IV, 8-14, 27-35; *Sovremennaya voyna* [Modern War], 2 Vols., vol. 2 (Moskva: Vysshii voyennyi redaktsionnyi sovet 1921), 3.

⁷⁵⁵ I.V. Domnin, "Oy mervoy mirovoy do «tret'yey vsemirnoy» Zhiznenny put' General'nogo shtaba polkovnika Ye.E. Messnera" [From the First World to the «Third World» The life General Staff Colonel E.E. Messner], in *Khochesh' mira, pobedi myatezhevoyuu! Tvorcheskoye naslediy E.E. Messner*, ed. V.I. Marchenkov and I.V. Domnin, Rossiyskogo voyennogo sbornika (Moscow: Russkii put', 2005), 23-51.

⁷⁵⁶ Evgenii É. Messner, "Poluvsemirnaya voyna," *ibid.*, 187.

⁷⁵⁷ "Sverkhstrategiya Anglii," 288-289.

⁷⁵⁸ Kipp, "General-Major A.A. Svechin and Modern Warfare," 31.

Strategies of destruction and exhaustion

A central premise for Svechin was that the modern industrialised people's war had become a war of exhaustion.⁷⁵⁹ The idealised battle of destruction (battle of annihilation, *Vernichtungsschlacht*) had subsequently been reduced to a very rare occurrence. Svechin continued Hans Delbrück's *Strategiestreit* by other means on Russian soil and developed Delbrück's line of arguments.⁷⁶⁰ Delbrück was involved in a controversy regarding the use of history by the German Great General Staff. He challenged the applicatory method of teaching history and the use of selected interpretations of history to legitimise doctrine. One crucial question in the debate was whether Frederick the Great pursued a strategy of destruction (*Vernichtung*) or exhaustion (*Ermattung*). Delbrück debated strategy and used the German term *Ermattung*, of which exhaustion is a more precise translation than the more commonly attrition.⁷⁶¹ The Russian term used by Svechin, *izmor*, starvation in English, which is closer to the German term *Ermattung* than to attrition. Attrition is an operational and tactical term regarding the physical destruction of enemy forces in combat through accumulated losses, also referred to as wearing down.⁷⁶²

Svechin stated that “the task of strategy is greatly simplified if we or the enemy, following Napoleon and Moltke's examples try to end a war with a destructive strike.”⁷⁶³ He described a strategy of destruction as characterised by “a unity of purpose, time, place and action. Examples of a strategy of destruction are truly classical in terms of their style, simplicity and consistency.” Further, “a strategy of destruction requires yet another premise, namely the extraordinary victory.”⁷⁶⁴ In modern industrialised wars, logistics and the “short range of modern operations” had “placed major limitations on a strategy of destructions.” Another limitation was that in modern wars, the beginning of the war was no longer “the culmination of strategic intensity.” Modern industrialised societies could mobilise their economy and military forces. They would therefore be able to equip and replace troops lost in the initial

⁷⁵⁹ Exhaustion: “The action of using something up or the state of being used up” and “A state of extreme physical or mental tiredness.” <https://en.oxforddictionaries.com/definition/exhaustion>

⁷⁶⁰ See chapter 2; Bucholz, *Hans Delbrück*; Lange, *Strategiestreit*.

⁷⁶¹ Attrition: “The process of reducing something's strength or effectiveness through sustained attack or pressure.” <https://en.oxforddictionaries.com/definition/attrition>

⁷⁶² See Harris and Niall Barr, *Amiens to the Armistice*, 103-104.

⁷⁶³ Svechin, *Strategy*, 240.

⁷⁶⁴ *Ibid.*, 241.

battles. Svechin used France's ability to raise new armies after the Emperor capitulated in 1870, which forced the Germans to fight new armies mobilised by the Republic.⁷⁶⁵ In discussing the advisability of an operation, Svechin inverted the common critique of choosing Amiens as the direction for Ludendorff's Michael Offensive: "In a strategy of destruction the direction of an assault is less important than its scale." On the other hand, he criticised the lack of massing of combat power in one decisive strike, as opposed to the series of offensives Ludendorff orchestrated: "On the contrary, Ludendorff's subsequent attempts on new sectors, which were in part demonstrative, clearly contradicted a strategy of destruction."⁷⁶⁶ Svechin had for all practical purposes discarded the strategically decisive victory by destruction in modern war.

Strategies of exhaustion were more complex and diverse than a strategy of destruction: "The term attrition [original: *izmor*, exhaustion] is a very poor expression of all the different shades of different strategic methods outside the realm of destruction."⁷⁶⁷ Svechin emphasised that destruction and exhaustion were not opposites, like black and white, but rather white and non-white. Still, he highlighted the contrast between them:

A strategy of destruction is unified and allows for only one correct decision (white). In a strategy of attrition [*izmor*, exhaustion] the intensity of armed conflict may vary and thus each level of intensity may have its own correct decision. One can determine the level of intensity required by a given situation only through very careful study of economic and political conditions. A very broad range is opened up for politics, and strategy should be very flexible."⁷⁶⁸

A strategy of exhaustion did not exclude operations aimed to destroy enemy forces, but that would only be one task, not the entire mission. One key argument for Svechin was that operations were only stages; they had limited goals, and were just elements in "a struggle for positions on the armed, political and economic fronts".⁷⁶⁹

Svechin's discussion of strategies of destruction and exhaustion was more than just listing the pros and cons of different methods. He argued that modern wars, such as the First World War, had begun to pursue a strategy of destruction, but changed into a war of exhaustion after the

⁷⁶⁵ Ibid., 244.

⁷⁶⁶ Ibid., 244-245.

⁷⁶⁷ Ibid., 246; Svechin, *Strategiia*. 178.

⁷⁶⁸ *Strategy*, 246.

⁷⁶⁹ Ibid., 248.

initial clashes. The main reason was that modern industrialised states could absorb initial defeats and then mobilise their resources and raise new armies. These armies had to be defeated over time by gradual attrition and their industrial base strangled by blockade or the physical destruction of industry, raw materials, infrastructure, and food supplies. Modern operations would, therefore, no longer chase the decisive battle. The character of modern war had changed into a war of exhaustion. Modern operational art would pursue limited objectives within the framework of a campaign to wear down enemy forces by fires and manoeuvre, forcing him to exhaust his resources in the process. This was an accurate description of the operations in the Allied 1918 offensive.

Strategy and operational art in modern war

The interdependency between strategy and operational art was a *Leitmotiv* in Svechin's book. The pre-modern operation "was clearly divided into two parts: the maneuver designed to put our forces in the most advantageous position at the time of the decisive clash, and the battle itself." The modern operation, on the other hand, "means a combination of different actions aimed at achieving a goal set forth by strategy."⁷⁷⁰ A strategy that Svechin expected more often than not would be one of exhaustion. "The battle itself" was discarded as a concept,

because today battles, which are a phenomenon of the historical past, do not exist, and if these terms are still used, they are used only as expressions that reveal a preference for the vividness of a concept rather than the accuracy of its formulation. Now the general battle has become dispersed over a large part of an operation.⁷⁷¹

Svechin rubbed further it in and stated that "'the battle of the Marne' and 'the battle at Tannenberg' were literary figures of speech that the victor uses to publicise his successes among the masses". He mocked "several young historians of the Civil War, who have looked for similar specific phenomena in the Civil War and have been unable to find them because such phenomena belong to the historical past along with the 19th century." On the other hand, he did acknowledge the propaganda effect of the creative naming of military successes.⁷⁷² For Svechin, these statements were elements in his argument that twentieth-century war was fundamentally different, while the old perception of decisive battle had to give way to the modern operation.

⁷⁷⁰ Ibid., 200.

⁷⁷¹ Ibid., 270-271.

⁷⁷² Ibid.

In the decades between Moltke the Elder and the First World War, the strategic headquarters planned and conducted operations and directly commanded subordinate armies. But the size of the armies and the scale of the operations had made it impossible to lead the entire force from one headquarters. When Germany launched its invasion of Belgium in 1914, the German Army's High Command (*Oberste Heeresleitung* (OHL), directed an operation of seven armies spanning a front from the Swiss border to Brussels. An essential task for OHL was to coordinate the three armies on the strong right wing that were wheeling through Belgium and the two armies advancing through Luxembourg. It became an impossible task. The sources of friction were many; independent-minded and headstrong army commanders who adapted their manoeuvre to the local situation, a command infrastructure that was unable to keep the OHL updated, and corps commanders marching to the sound of the guns instead of as directed by orders.

Finally, German doctrine allowed subordinate commanders freedom of action within the commander's intent, which often caused tactical necessity to trump strategic direction. The inability to control the forces caused the armies in front to be out of sync and opened a gap on the Marne River that gave the French and British the opportunity for to counterattack. Besides, came physical realities; insufficient logistics, ambitious and exhaustive marching over weeks, and an incomplete situational awareness. The command issues alone made it almost impossible for the OHL to manage the complexity of the operation. The loss of control was partly solved by the establishment of *Heeresgruppen* (army groups) as de facto operational commands in late November 1914.⁷⁷³ The French army established the first provisory army group, the *groupe provisoire du Nord* on 4 October 1914 and organised three regular army groups by June 1915. An army group would typically command from two to four armies, including air units.⁷⁷⁴

Svechin observed that the front (the army group), had become “an even newer echelon of operational leadership in the Russian forces”, but was not convinced it was a wise way of organising the forces: “Every extra echelon is an unconditional evil.”⁷⁷⁵ He drew on recent experience: “The reality of the front over six years (1914–1920) raises some doubts; its [the

⁷⁷³ *Weltkrieg 6*, 371-374; Groß, *Mythos und Wirklichkeit*, 105-119; Sigg, *Der Unterführer als Feldherr im Taschenformat*, 207-213.

⁷⁷⁴ *AFGG X-1*, 13-28; *Weltkrieg 5*, 254-257.

⁷⁷⁵ Svechin, *Strategy*, 334.

front] short history is not fraught with organisational achievements.”⁷⁷⁶ He cited German and Russian failures in their attempts of strategic coordination of *Heeresgruppen* and fronts and the Soviet failure to coordinate the Western and South-Western Fronts in August 1920 during the war against Poland. Svechin’s main concern was that the front commanders would challenge the authority of the high command, especially if it only had two fronts to coordinate, such as Russia in 1914 and the Red Army in Poland in 1920. He also referred to the German experience with their *Heeresgruppen* and how strong personalities undermined command authority. He continued his line of arguments in the next section on friction, emphasising command and command relations.⁷⁷⁷

Svechin did not mention or analyse the Allied ability to strategically coordinate and direct four army groups after Foch became supreme commander in the spring of 1918. Foch’s strategic direction of operations was the counter-case to the dysfunctions in the German, Russian, and Soviet leadership that Svechin criticised. The successful Allied strategic-operational interactions on the Western Front in 1918 were, on the other hand, not present in Svechin’s book, nor his other published studies.⁷⁷⁸ Svechin had some very valid and critical observations on both the German and Allied offensives in 1918, but only a few comments on the Allied campaign, and none on the Allied command arrangements. The Allied command arrangements should have been of interest since the Allies were a heterogeneous coalition force, where up to four nations held operational commands.⁷⁷⁹ Foch’s ability to direct four army groups in the offensive; one led by the Belgian king, one British and two French generals, would have been an interesting argument in the discussion mentioned above. Besides, were two of the army groups multinational, the BEF had strong dominion contingents, and there were national interests from London, Paris, and Washington to consider.

Svechin briefly discussed the method of sequenced limited offensives during the 1918 Allied campaign in “Chapter 4. The Strategic Line of Conduct”, where he explored the role of

⁷⁷⁶ Ibid.

⁷⁷⁷ Ibid., 334-336; Svechin, "Vtoraya chast' mirovov voyny," 238-251; "Sokrusheniye i izmor," 311-312.

⁷⁷⁸ See A.E. Savinkin, ed. *Postizheniye voyennogo iskusstva*.

⁷⁷⁹ The Belgian King Albert commanded the Belgium Army, a British, and a French army, Field Marshal Haig had four combined British and Dominion armies that included the Australian and Canadian corps, which was shifted between different armies during the campaign. The two French army groups included French colonial troops and the First US Army, before the US Army Group was established mid-October.

operations in modern war. He began by dismissing the case of the one-operation war as “exceptional conditions”, where strategy became irrelevant since the war was expected to be won by just one operation. The rest of the chapter dealt with the new normality: wars of exhaustion. In these, the high command will have to direct and manage several operations with limited goals. Svechin’s description of strategy in modern wars was a reflection of Foch’s direction of military operations in 1918:

The duty of strategy is to keep offensive operations from getting drawn out to the last gasp; great leadership ability is required to stop an offensive in time without getting distracted by minor partial successes which could still be achieved.⁷⁸⁰

Foch was initially not inclined to halt an operation, but accepted both arguments and decisions by operational and tactical commanders as long there were other ways to continue the offensive and maintain the initiative.⁷⁸¹ The Allied 1918 offensive was conducted according to Svechin’s description of a modern war of exhaustion, where “small separate attacks may be even more economical than a single major operation.”⁷⁸²

Svechin set forth to discuss the consequences for warfare when the operation had replaced the battle as the means to achieve the aim of the war. At the beginning of the chapter “Combining Operations for Achieving the Ultimate Goal of the War”, he initially stated that pre-war strategic thought of a geographic operational line could not bring clarity to the conduct of the First World War.⁷⁸³ In the next paragraph, which for some unknown reason has been omitted in the English edition, Svechin replaced the geographic operational line with

a strategic line of conduct, the logic that ties the goals of individual operations together towards the ultimate success, and which, would represent too large kinks and breaks to be called a geographic line.”⁷⁸⁴

He summed up the paragraph: “We reduce the whole essence of the strategic art of warfare to an understanding of the logic of grouping operations to achieve the goals of the war.”⁷⁸⁵ This summary statement represents the same logic that defined Foch’s authority as supreme commander responsible for “the strategic direction of military operations”. It also reflects the

⁷⁸⁰ Svechin, *Strategy*, 295.

⁷⁸¹ Cf. Chapter 4; *OHGW 1918 IV*, 167-171; Doughty, *Pyrrhic Victory*, 478-479; Lloyd, *Hundred Days*, 64-67.

⁷⁸² Svechin, *Strategy*, 300.

⁷⁸³ *Ibid.*, 239.

⁷⁸⁴ Svechin, *Strategiia*. 172.

⁷⁸⁵ *Ibid.*, 173.

changing character of strategy. Clausewitz' definition of strategy as the “*use of engagements for the object of the war*” was extended to combining and directing military operations in the campaign, where the campaign objectives served the purpose of the war.⁷⁸⁶ Finally, destruction was superseded by exhaustion, where operational and tactical attrition replaced the decisive battle. The decisive war-winning battle Ludendorff aimed for in the *Michael* operations was replaced by Foch's series of strategically directed operations with limited aims.

The fact that Svechin did not refer explicitly to the Allied offensives of summer and autumn 1918 is very strange. Svechin's definition of strategy and operational art reflected closely the way Foch directed the Allied campaign and the way the Allied army groups conducted operations. Therefore, one must consider the possibility that the Allied campaign provided inspiration for Svechin's conceptualisations, but that the politicised environment of the Red Army in the mid-1920s prevented him from crediting Foch explicitly in his writings.⁷⁸⁷ Such a possibility at least cannot be discounted, despite his critical tone: “[...] only French chauvinism would ascribe the victory of the Entente to the successes of Marshal Foch in the French theatre of operations because the Germans had vast resources for resistance.”⁷⁸⁸ A further explanation may also be Svechin's almost Tolstoyan perception of the role of the individual actor in war, where “[n]either Ludendorff, Foch nor the military men of the civil war dominated events, but were rather carried away by the maelstrom.”⁷⁸⁹

The character of Soviet operational art: Breakthrough and depth

The narrative and analysis of the development of the character of the inter-war years' Soviet operational art have been thoroughly studied in the west, where personalities, theory and doctrine development, and technology and the industrialisation of technology, have been

⁷⁸⁶ Clausewitz, *On War: Indexed Edition*, 128. Italics in original.

⁷⁸⁷ There is a muted and implicit recognition of Foch in Svechin, *Strategy*, 300.

⁷⁸⁸ *Ibid.*, 247.

⁷⁸⁹ *Ibid.*, 61. “During the whole of that period Napoleon, who seems to us to have been the leader of all these movements— as the figurehead of a ship may seem to a savage to guide the vessel— acted like a child who, holding a couple of strings inside a carriage, thinks he is driving it.” in Leo Tolstoy, *War and Peace*, (Lerner Publishing Group, 1979) *ProQuest Ebook Central*, <https://ebookcentral.proquest.com/lib/gla/detail.action?docID=5444640>, 988; Jane L. Bownas, *War, the Hero and the Will : Hardy, Tolstoy and the Napoleonic Wars*, (Eastbourne: Sussex Academic Press, 2015), 124-134.

objects of comprehensive and thorough analysis.⁷⁹⁰ Harrison's observation about the neglect of the defensive indicates that the politicisation of military thought caused doctrine to become dogma. Doctrine, understood as "institutionalised beliefs about what works in war and military operations", became a politically defined offensive dogmatism.⁷⁹¹ Some of the blame was to be shared by those military theorists who used policy and political statements to defeat their professional opponents.⁷⁹² Despite these peculiarities of the Soviet system, the Red Army were able to field large mechanised combined arms formations by the mid-1930s directed by an up-to-date operational-tactical doctrine, the *1936 Provisional Field Service Regulations* (PU-36).⁷⁹³

Harrison describes the four main themes in the Soviet military debate in the 1920s and how its outcome defined the conditions for the character of Soviet operational art. Firstly, these themes were the question of whether a future war will be a protracted war or if it could be decided quickly. Secondly, if the Red Army was to pursue an offensive or a defensive strategy. The third theme was if a future war would be a positional war or a war of manoeuvre. Finally, there was the question of whether mechanised forces or infantry would dominate. A related contested area was the debate between strategies of destruction and exhaustion. When a decision was reached by the end of the 1920s, the Red Army would pursue an offensive annihilation strategy. That decision would direct the character of Soviet operational art.⁷⁹⁴

The drawback of this politically sanctioned and dogmatic pursuit of offensive destruction was a "serious neglect of defensive preparations that would cost the army dearly in 1941."⁷⁹⁵ The chapter on defence in the PU 36 regarded defence as a temporary halt before offensive

⁷⁹⁰ Erickson, *The Soviet high command*, 325-446; Habeck, *Storm of Steel*; Harrison, *The Russian Way of War*, 121-217; Joseph A. Maiolo, *Cry havoc: the arms race and the Second World War, 1931-41* (London: John Murray, 2010), 7-22, 169-191; Stoecker, *Forging Stalin's Army*; Stone, *Hammer and Rifle*.

⁷⁹¹ Harald Høiback, "The Anatomy of Doctrine and Ways to Keep It Fit," *Journal of Strategic Studies* 39, no. 2 (2016), 187.

⁷⁹² Kipp, "General-Major A.A. Svechin and Modern Warfare," 46-51; Dumbi, *Voyenaya i nauchanaya deyatel'nost Alexandra Andrevicha Svechina*, 155-156, 203.

⁷⁹³ "Vremennyi Polevoy Ustav RKKA 1936 (PU 36)," ed. Narkomata Oborony SSSR (Moscow: Gosudarstvennoye voyennoye izdatel'stvo, 1937); V. V. Muray, "Ustavy Sukhoputnykh Voysk Krasnoy Armii," [Field Service Regulations of the Red Army.] *Voенно-istoricheskii zhurnal*, no. 4 (2012), 8-10. See also the English translation: *Provisional Field Regulations of the RKKA 1936 (FR 36)*, ed. The Workers' and Peasants' Red Army (Moscow: The Peoples Commissar for Defense of the USSR, 1937; repr., 1986).

⁷⁹⁴ Harrison, *The Russian Way of War*, 126-139.

⁷⁹⁵ *Ibid.*, 139.

operations were resumed. The defence would be against modern forces, including mechanised and air forces, and chemical weapons. Each branch was given its specific roles in the defence, where modern means were emphasised, such as armour, chemical weapons, engineers, and combined arms combat. Despite Harrison's critique of the lack of the overall emphasis of the offensive, the operational doctrine thoroughly covered the conduct of defence.⁷⁹⁶

The Soviet theorists that explored operational art from the late 1920s onwards were primarily developing theories and concepts for the officially approved offensive strategy of destruction. The initial strategic debate was settled and so was also the issue of doctrine. The Red Army faced the challenge of developing its initial conceptual understanding of operational art into applicable operational methods that would work in a future war. Two issues are illustrative of how the character of Soviet operational art was developed: the questions of breakthrough and depth. Both issues were departures from how the Allied 1918 offensive was conducted and illustrate how the Red Army developed operational concepts and doctrines for a different kind of war. The character of the future operations was thus very different from those from which Svechin derived operational art and modern strategy. Nevertheless, the interrelations between strategy and operational art were maintained, while both operational art and tactics were developed in the framework of Soviet military science. Some military theorists from the late 1920s will illustrate the new character of soviet operational art. Their choice of historical examples further demonstrates how Svechin's perception of Allied 1918 style of sequenced operations with limited objectives in a strategy of exhaustion was superseded by deep, decisive operations in a strategy of annihilation.

Vladimir K. Triandafillov rose through the ranks to captain in the Imperial army during the First World War and joined the Red Army in the Civil War. He graduated from the Red Army General Staff Academy in 1923 and was imperative in the initial development of modern deep operations theory. His book *The Nature of the Operations of Modern Armies*, was published in 1929.⁷⁹⁷ Triandafillov was killed in an air accident in 1931 but had already established himself as a leading theorist of modern operations, while his writings influenced further development.⁷⁹⁸

⁷⁹⁶ *Provisional Field Regulations of the RKKA 1936 (FR 36)*, 73-89.

⁷⁹⁷ V. K. Triandafillov, *Kharakter operatsiy sovremennykh armiy* [The Nature of the Operations of Modern Armies], 3 ed. (Moscow: Gosvoenizdat, 1929).

⁷⁹⁸ Harrison, *The Russian Way of War*, 143; Jacob W. Kipp, "Foreword," in *The Nature of the Operations of Modern Armies.*, ed. Jacob W. Kipp (Ilford, Essex: Frank Cass, 1994), vii-xiv.

Two central themes in Triandafillov's book were the problem of break-through of a fortified front (trench system) and the subsequent exploitation of the breakthrough. The method for the breakthrough was to create a strong all-arms shock army for a wide breakthrough. It was to some extent modelled on Brusilov's Galicia operation in 1916 and the Allied 1918 offensive. The German March 1918 offensive was criticised for its narrow frontage and the inability to engage the width of the Allied front, which left the Allies free to concentrate their reserves against Ludendorff's storm-troopers. Triandafillov argued that the penetration of the enemy defences was to be echeloned, supported by large numbers of artillery and tanks, and finally by tying up enemy defences outside the breakthrough sector.⁷⁹⁹ His method of tactical breakthrough was a mirror image of the British and French offensive operations on the Western Front in 1918. The next step aimed further than what was physically possible on the Western Front; deep thrusts into the rear of the enemy's defences.

The theory of consecutive operations emerged from the search for solutions to overcome the problems of destroying modern armies by a single operation. The German and Allied operations in 1918 and the Red Army's series of operations during the Civil War, gave rise to the notion that campaigns with multiple consecutive operations would make it possible to destroy an enemy army in one campaign.⁸⁰⁰ Before Triandafillov discussed the operational elements of successive operations, he elaborated on the preconditions. He concluded that the present level of transport technology did not allow for the scale of operations needed for the "powerful crushing blow". However, new means of mobility would be available shortly.⁸⁰¹ Triandafillov and his contemporaries moved away from Svechin's limited operations and towards large decisive operations deep into the enemy's rear areas. The means were future developments of mechanised forces and motorised logistics.

Nikolai N. Movchin discussed the role of the front (army group) in managing complex consecutive operations in his book *Posledovatel'nye Operatsii Po Opytu Marny I Visly* (Consecutive Operations According to the Experience of the Marne and the Vistula). He based his studies on the German invasion of France in 1914 and the Soviet offensive against Poland in 1920.⁸⁰² Movchin was a lieutenant in the Imperial army, joined the Red Army, and

⁷⁹⁹ Harrison, *The Russian Way of War*, 144-148; Triandafillov, *The Nature of the Operations*, 90-118.

⁸⁰⁰ Harrison, *The Russian Way of War*, 152-168.

⁸⁰¹ Triandafillov, *The Nature of the Operations*, 127-148.

⁸⁰² Harrison, *The Russian Way of War*, 157-158; Movchin, *Posledovatel'nye operatsii*.

fought in the Civil War. After the Military Academy, he served in the Red Army Headquarters until his arrest in 1937. He was killed the year after.⁸⁰³

Movchin argued that the operations' complexity determined how they had to be led and managed. An army could command and manage one simple operation pursuing one objective. On the other hand, the front would command and manage several complex sequential operations to defeat a main part of the enemy force. A single army not able of such a task, although it conducted several successive operations. Front operations were not equal to the campaign, since the campaign was the totality of actions over an extended period. Movchin maintained that the correlation of army and front operations along a logical sequence had significant advantages over operations with limited objectives. Within the concept of consecutive operations, the individual operations would develop in the logical framework of a common objective. Such harnessing of operations along a logical line of conduct would prevent the disintegration of control and strategic direction the Germans experienced on the Marne and the Red Army on the Vistula.⁸⁰⁴

Movchin also discussed operational command issues and the inability to control individual armies that were not within a strategic or operational framework. Given the size and complexity of modern operations, an army as a tactical unit would solve individual tasks within the operational framework. The front, as an operational formation, would conduct several operations within the strategic direction. The central issue for Movchin was complexity management. In the specific context of large-scale industrialised war, the complexity was related to the magnitude of the forces, personnel, equipment, and sustainment. The task of armies was to be simple. The front must not be too large and cumbersome but limited to three to four armies, perhaps even five in exceptional cases. The armies would be given limited tasks to avoid that they were forced to make tactical decisions with dire strategic consequences, such as the German First and Second Armies on the Marne in 1914. "The difference between the operational and tactical orders will be that the latter sets a tactical task, but the operational order will set an objective or several consecutive objectives."⁸⁰⁵

⁸⁰³ V. V. Gradosel'skiy, "Osnovatel' Sluzhby Goryuchego," [Founder of the Fuel Service.] *Voенно-istoricheskii zhurnal*, no. 11 (2009), 41.

⁸⁰⁴ Movchin followed Svechin's reasoning, see Svechin, *Strategiia*. 172; Movchin, *Posledovatel'nye operatsii*, 116-121.

⁸⁰⁵ *Posledovatel'nye operatsii*, 119-121.

Movchin's concluded from the Schlieffen Plan and the German advance on Paris that an appropriate command system must manage the increased difficulties in manoeuvring millions of troops and harness the forces to the plan. There would still be a substantial risk to any attempts to destroy the main enemy force in one operation. Yet, given the possibility for success, these risks must be acknowledged and managed professionally.⁸⁰⁶ Movchin discussed the role of the front and the command challenges more thoroughly than Triandafilov but kept to the established Soviet understanding of operational art. His differencing between complex and simple operations was a qualitative distinction between the kinds of tasks an army, or any other tactical unit, could manage. However, the complex operations that contained an intricate multitude of tasks needed a front organisation. Complexity was a natural consequence of the modern character of war where operations had replaced battles. Each complex operation needed its front headquarters. However, it would be ill-advised to let one front manage more than one complex operation.⁸⁰⁷

Movchin wrote in his conclusion that the theory of consecutive operations was not a universal tool and not the entirety of operational art,

although the most important, it serves as the theoretical foundation for all operational art as a whole and represents the most reliable tool for solving the main tasks pursued by politics and strategy in modern warfare.⁸⁰⁸

Complexity was used as a qualitative indicator to discern whether an operation was tactical or operational. The complexity of an operation was, to a great extent, determined by the character of the war. Operations in the First World War was conducted to manage a complexity caused by how the character of warfare evolved during the war. In the Allied offensive on the Western Front in 1918, the solution was sequencing operations laterally along the entire front. The continued technological and ideological developments in the inter-war years would create new forms of complexity. As a consequence, the character of operational art had to emerge to cope with new complexities.

The issue of complexity was also a determining factor in the conclusion of Nikolay Ye. Varfolomeyev's book on the shock army from 1933. The Red Army used the term shock

⁸⁰⁶ Ibid., 31-41.

⁸⁰⁷ Ibid., 119-121.

⁸⁰⁸ Ibid., 122-123.

army for powerful combined arms armies with a central role in an offensive. Varfolomeyev was a General Staff Academy graduate and fought in the First World War. He entered the Red Army as a volunteer in March 1918 and served in staff assignments in the Civil War. After arrest and prison from 1922 to 1923, he was assigned to the Military Academy and served in educational institutions until 1936. He was again arrested in 1938 and shot the year after.⁸⁰⁹

Varfolomeyev noticed that it was the accumulated difficulties of the tasks, the available means, and the rear areas that caused the overall complexity in controlling the shock army in its mission. The shock army, like other armies, was controlled by the front. Still, referring to the Michael offensive in March 1918, the high command might well overrule the operational command and also change the army's task during the operation. The norm was that the front directed the shock army when the army shifted from one task to another or used the shock army to adjust the overall offensive direction. The shock army was usually free to solve its task without interference. In the operational-tactical interrelations, the front would manage the operational complexity and leave the shock army and other armies free to solve their tactical tasks and seize their objectives.⁸¹⁰

Varfolomeyev used the German spring offensives and the Allied offensive in 1918 to argue for the new conditions for warfare and the need for shock armies.⁸¹¹ The book is a thorough analysis of selected parts of the offensives. Despite some ideologically based explanations of the French soldiers' mutinies, it is a clear-cut example of the strong influence of the final year of the First World War on the development of Soviet operational art.⁸¹² Varfolomeyev focused his study on the German Eighteenth Army in the 1918 March offensive, the Seventh Army in May-June, and the French Tenth Army's counter-attack in the Second Battle of the Marne in July 1918. These armies had central roles in the offensives and were categorised as shock armies by Varfolomeyev. The analysis was, to a great extent, tactical. Still, the functions given to the front as an operational command to direct the shock army brought forward some essential elements in operational art's operational-tactical relations.

⁸⁰⁹ N. S. Cherushev and Iu N. Cherushev, *Rasstrel'iannaia elita RKKA, 1937-1941* [The executed elite of the Red Army, 1937-1941] (Moskva: Kuchkovo pole, 2014), 39-41. Presented at <http://1937god.info/node/1282> (accessed 14 November 2019).

⁸¹⁰ N. Ye. Varfolomeyev, *Udarnaya armiya* [The Shock Army] (Moscow: Gosudarstvennoe Izdatel'stvo, 1933), 187-189.

⁸¹¹ *Ibid.*, 15-158.

⁸¹² Cf. *Ibid.*, 152-153.

Varfolomeyev discussed the different roles of the front and its assigned armies along the same lines as Movchin, although he did not explicitly use the term complexity. He developed the operational-tactical interactions into more detail. The difference between the operational and the tactical echelons was while the front “simultaneously pursues several goals and operates in several operational directions, the army pursues one goal and operates in one operational direction.”⁸¹³ The chapter “The shock army within the front (Army group)” delved in more detail into the same kind of operational-tactical concerns that were forwarded in the conclusion. Just as Triandafilov and Movchin, Varfolomeyev maintained that practical operational art was about offensive operations to break in, break-through, and break out of an echeloned defence to advance into the rear areas of the enemy’s formation.⁸¹⁴ Their discussions of the command and control issues of the armies’ *simple* operations within the front’s *complex* operations reveal how operational art had evolved from a theoretical concept. As the example above illustrates, the terms complex and complexity were linked to specific tasks, functions, and roles at the operational and tactical levels.

On the one hand, these Soviet works on operational art were about developing the character of operational art in an offensive strategy of destruction. On the other hand, the discussions of complexity, command, and management questions explored some of the central issues of the nature of operational art. These were chiefly operational art’s part in warfare’s totality, complexity management, and its interrelations with strategy and tactics. These Soviet authors set the operations in 1918 Allied offensive as their starting point for developing the character of the future operational art for the Red Army. When Soviet strategy developed into an offensive strategy of destruction, historical cases changed accordingly. Nevertheless, operational art as a new military discipline was defined and described based on the Allied operations under Foch’s strategic direction in 1918.

Germany

After the defeat in the First World War, the Imperial German Army was replaced by the *Reichswehr*, which was severely limited in numbers and equipment by the Versailles Treaty. The Allies abolished the General Staff, but its core of general staff officers and functions was

⁸¹³ Ibid., 172.

⁸¹⁴ Ibid., 171-173.

preserved within the inner structures of the *Reichswehr*. This clandestine continuation of key personnel from the Imperial army secured a vital continuity of German military thinking, especially its operational thought.⁸¹⁵

Gerhard P. Groß describes the German military's reaction to the defeat in 1918 by an army who proclaimed itself to be "undefeated in the field", as a military crisis of reason and purpose (*eine militärische Sinnkrise*). The crisis's core issue was not the loss of the war, but whether a rapid mobile form of warfare was still possible alongside the positional trench war.⁸¹⁶ The fundamental question of whether the established operational thought of rapid mobile operations was the right one was never raised. Such questions were prevented by the personification of the debate in a search for scapegoats for the defeat. The basic German understanding was that the commander himself should quickly make the right operational decision, not an abstract staff apparatus. The person deemed responsible for the defeat was Chief of the General Staff in 1914, Helmuth von Moltke the Younger, nephew of the elder Moltke. He was accused of diverting from the original Schlieffen Plan and of indecision during the offensive in Belgium and France. Moltke died in 1916 and was unable to have his voice heard in the post-war debate.⁸¹⁷

In blaming Moltke for being indecisive (*entscheidungsschwach*), the disciples of Schlieffen could hold one specific person responsible for the defeat, instead of questioning an abstract set of intermingled causes or criticising living persons that would be able to defend themselves. By directing any critique away from the army's leadership, it was possible to save the "secret of victory". The "Schlieffen School" controlled the archives, writing the official history of the war, and could shape the public perception. This narrative emphasised Moltke's role in the defeat; therefore, operational thought did not have to be questioned or criticised. Moltke's successor, Erich von Falkenhayn, responsible for the failed Verdun offensive, was also a personified explanation of defeat. Groß asserts that psychopathological personality analysis underpinned this personification of the causes for the defeat.⁸¹⁸

⁸¹⁵ Görnitz, *The German General Staff*, 204-228.

⁸¹⁶ Groß, *Mythos und Wirklichkeit*, 145.

⁸¹⁷ *Ibid.*, 145-146.

⁸¹⁸ *Ibid.*, 146-148.

Groß further maintains there was no realistic German analysis of the military-economic potential or the strategic power relations between the great powers. The lack of such an understanding among the German military elite allowed them to continue to cling to an operational thinking independent of policy. Consequently, there was never any understanding or acceptance that strategy must be defined by policy. The belief was still that offensive operational warfare would allow Germany to outmatch the superiority in resources of an enemy coalition. The Versailles peace agreement left Germany with its 100,000 strong and lightly armed border defence force, the *Reichswehr*. On the other hand, this new reality never became any precondition for German operational thought during the Weimar Republic. German operational thinking continued unaffected by circumstances in its pre-war pattern.⁸¹⁹

After the defeat in the World War, German understandings of future war can be categorised in three main groups. The first proclaimed that future war would turn into a war of exhaustion and of mass and material. Such a war could only be won by an “an unwavering fighting spirit and tenacity of the people.” The second group was oriented towards technology, where the exploitation of all technological possibilities, such as aeroplanes and tanks, was the only way to revive mobile warfare. The third group would overcome the trench war by modifying operational thought. A stronger focus of effort (*Schwerpunktsbildung*), wider flanking movements, and more consistent exploitation of surprise and successful breakthroughs would bring the armies out of the deadlock of trench warfare. A common precondition for all groups was to win back the control over the overall leadership of the war effort from the civilian authorities.⁸²⁰

The operational thinking of the *Reichswehr* was, to a great extent, conditioned by its commanders. During Major General Reinhardt's term as head of the *Reichswehr*, the understanding of future war mirrored the Allied 1918 offensive; massive firepower and a wide breakthrough that developed slowly as artillery fire moved forward followed by tanks. This understanding was also much in line with contemporary French thinking.⁸²¹ In 1920, Reinhardt was succeeded by Colonel General Hans von Seeckt, who had completely different interpretations of the World War and thoughts about the future. Seeckt remodelled the

⁸¹⁹ Ibid., 149.

⁸²⁰ Ibid., 150.

⁸²¹ Robert A. Doughty, *The seeds of disaster : the development of French army doctrine 1919-1939* (Hamden CT: Archon Books, 1985), 72-111; *Instruction provisoire du 6 octobre 1921 sur l'emploi tactique des grandes unités*, ed. Ministère de la défense nationale et de la guerre (Paris: Charles-Lavauzelle, 1924).

100,000 strong *Reichswehr* into a training institution for a modern army. It had a high density of officers in the various staff levels. Furthermore, all regular soldiers were trained to the next higher level. Seeckt's interpretation of the World War was that the defeat was caused by the difficulties of leading an immovable mass army incapable of rapid, decisive operations. The combination of increased firepower and reduced quality of the troops due to the expansion of the mass army would inevitably lead to positional warfare. Seeckt discarded the idea of the mass army and thought of the *Reichswehr* as the cadre for a future professional army. The *Reichswehr* should be strong enough to counter a sluggish mass army, but small enough to excel in the mobile warfare that had been and remained the hallmark of the German army.⁸²²

There was a continuity of Schlieffen's strategic thought from the 1890s into the inter-war years. The core of the German operational thought was to prevail over an enemy coalition of superior resources by defeating each coalition member in turn by rapid mobile operations. This continuity of thought survived the defeat in the First World War. The means to succeed was Seeckt's professional all-arms army that could launch an offensive without prior mobilisation. The continuity of pre-war thinking was also seen in applying break-through and envelopment as the primary operational methods. Similarly, a tactical defensive engagement would always be decided by counter-attacks. The battle to secure tactical success was to follow at the end of each operation and tactics should be dovetailed with the operation. The operational breakthrough was closely tied into the offensive envelopment that. The destruction of the enemy forces would decide the outcome. Seeckt was challenged by Lt Col Joachim von Stülpnagel, a general staff officer serving as chief of the operations department of the *Truppenamt* (the Army High Command). The question was in principle if it was only the army that should wage war, as in Seeckt's view, or if, according to Stülpnagel, the entire population should be involved. Society as the whole would mobilise to exhaust and wear down the enemy in a popular war. On the other hand, Seeckt and Stülpnagel agreed that the regular army was to decide the war by encirclement and destruction. Another pre-war continuity was that neither the operational concepts nor the individual officers regarded policy as superior to strategy or operations, rather the contrary.⁸²³

⁸²² Groß, *Mythos und Wirklichkeit*, 150-153; Matthias Strohn, "Hans Von Seeckt and His Vision of a 'Modern Army'." *War in history* 12, no. 3 (2005): 318-37.

⁸²³ *Ibid.*, 155-165; William Mulligan, "Weimar and the Wars of Liberation: German and French Officers and the Politics of History." *European history quarterly* 38, no. 2 (2008), 268-270; Gil-li Vardi, "Joachim von Stülpnagel's Military Thought and Planning," *War in History* 17, no. 2 (2010);

German war games and war planning in case of a war with Poland changed somewhat when General Groener became Minister of Defence in January 1928. The inclusion of the *Kriegsmarine* (Navy) in strategic planning indicated a joint perspective at the strategic level. The series of studies for an attack to reduce the fortified Polish port of Gdynia, was, on the other hand, illustrative of the lack of actual joint planning between the Army and Navy. The planning was in parallel, but the Navy's ambitions were out of sync with the army's abilities.⁸²⁴ The army's planning sought to integrate emerging technologies, such as tanks, forbidden by the Versailles Treaty. In the period, the war games and manoeuvres emphasised the offensive to envelop and encircle enemy forces and train lower echelon leaders in rapid decision-making and offensive action.⁸²⁵ These were the fundamental qualities of the traditional German symbiotic relationship between *Auftragstaktik* and the offensive.⁸²⁶ Citino makes a point of the emergence of *Blitzkrieg* in this period as something new.⁸²⁷ However, there were more continuities than novelties in the process, an issue that Shimon Naveh emphasised in his study on operational art, especially in his chapter 4, "The Blitzkrieg Concept: A Mechanized Manipulation of Tactical Patterns".⁸²⁸

The *Wehrmacht* began the Second World War with the same doctrinal approach as the Imperial army in 1914. A practice that also was continued in the spring offensives in 1918. The new technologies of tanks and attack aeroplanes allowed for an extended operational reach, while the command culture and professionalism allowed for a maximal tactical effect to pursue extensive strategic ambitions. The German bottom-up approach that was inherited from the elder Moltke would contribute to the disconnection between policy and strategy, while the validity of the traditional operational concepts was never seriously questioned. German operational art was still nothing but an extension of the tactical space, where audacity and tactical professionalism could secure strategic gains against formidable opposition. The "strange victory" against France and Britain in 1940 is the most celebrated case. The joint *Operation Weserübung* against Denmark and Norway is a remarkable example of strategic

⁸²⁴ Robert M. Citino, *The evolution of blitzkrieg tactics: Germany defends itself against Poland, 1918-1933* (New York: Greenwood Press, 1987), 152-166; Groß, *Mythos und Wirklichkeit*, 165-169.

⁸²⁵ Citino, *The evolution of blitzkrieg tactics*, 166-191.

⁸²⁶ Groß, "The History of Auftragstaktik in the German Army," 20-38.

⁸²⁷ Citino, *The evolution of blitzkrieg tactics*, 167, 190-191.

⁸²⁸ Naveh, *In pursuit of military excellence*, 105-150.

risk-taking. Airpower ruled the waves and severely limited Allied operations at sea and on land.⁸²⁹

Gerhard P. Groß concludes that the initial victorious and unplanned “*Blitzkriegen*” disguised that the problems of mobile warfare had not yet been solved. Only 10 per cent of the Wehrmacht was motorised in 1940 and logistics were still neglected. On the other hand, the war in Russia revealed “the structural strategic deficit” in German operational thought, where the enhanced focus on the operational level had caused a neglect of the strategic.⁸³⁰ Although German operational thought was advanced and their tactical proficiency great, it was one-sided. Furthermore, its neglect of strategy disclosed an institutional understanding of the nature of operational art. The emphasis on decisive battles and the narrow focus on rapid mobile warfare ignored modern war's other dimensions. Svechin's warning about the arbitrariness of dividing war into discrete disciplines and losing sight of war's totality was lost in the one-eyed German perspective of *Bewegungskrieg*.

France

The defeat of France in 1940 generated numerous studies of what went wrong, how and when the French failed, and what the Germans did right. Almost every field of military studies, from strategic culture to technology, and from command incompetence to commander's recklessness, have been examined.⁸³¹ The Russian émigré, Major General Boris V. Gerua, brother of Alexander Gerua who coined the term *operatika*, gave words to the impact of the French defeat among former Imperial Russian General Staff officers. In his memoirs, he wrote that Ferdinand Foch must have turned in his grave after the fall of France.⁸³² Foch was

⁸²⁹ Frieser, *Blitzkrieg-Legende: der Westfeldzug 1940*; Groß, *Mythos und Wirklichkeit*, 199-217; John Kiszely, *Anatomy of a Campaign: The British Fiasco in Norway, 1940*, Cambridge University Press, 2017.; Henrik O. Lunde, *Hitler's pre-emptive war: the battle for Norway, 1940* (Havertown, Pa: Casemate, 2017).

⁸³⁰ Groß, *Mythos und Wirklichkeit*, 270-274.

⁸³¹ A comprehensive list is beyond the scope of this section, but a few examples: Ferdinand Otto Miksche, *Blitzkrieg* (London: Faber and Faber, 1941); Marc Bloch, *L'étrange défaite: témoignage écrit en 1940* (Paris: Franc-Tireur, 1946); Ernest R. May, *Strange victory: Hitler's conquest of France* (London: I.B. Tauris, 2000); Frieser, *Blitzkrieg-Legende: der Westfeldzug 1940*; Kiesling, *Arming against Hitler*; Elizabeth Kier, "Culture and Military Doctrine: France between the Wars," *International Security* 19, no. 4 (1995); Philippe Garraud, "L'idéologie de la « défensive » et ses effets stratégiques: le rôle de la dimension cognitive dans la défaite de 1940," [The Strategic Effects of Defensive Ideology: The Role of the Cognitive Dimensions in the Defeat of 1940.] *Revue française de science politique* Vol. 54, no. 5 (2004).

⁸³² Boris Vladimirovich Gerua, *Vospominaniya o Moyey Zhizni* [Memories of My Life] (Paris: Voenno-istoricheskoye izdatel'stvo «TANAIS», 1969), 267.

sidelined during the first years after the war when Philippe Pétain, commander of the French army, and Pétain's conception of war was institutionalised in the army and shared by parliament members on both sides.⁸³³

A few months after the armistice the General Headquarters published a note on the future use of tanks and artillery. The future French army was to be fully motorized. A variety of tanks would constitute its core, supported by mechanised infantry, armoured field artillery, and ground attack aviation. The new mechanised army would be a combined arms army with tanks at its core and supported by the other arms. In 1920, tanks were transferred from the artillery to the infantry. Despite the initial ideas of a motorised army, the primary mission of tanks would continue to be infantry support.⁸³⁴

The last French doctrine of operations before the Second World War was published on 12 August 1936.⁸³⁵ It covered the strategic role of army groups and armies and the tactical role of army corps and divisions. The doctrine was structured similarly as previous field service regulations that followed the 1895 edition.⁸³⁶ The strategic-tactical paradigm was constant through the editions, but the emphasis on the different levels of command and parts of the army varied between them.

The role of the doctrine was to guide the planning and conduct of operations by army groups, armies, corps, and divisions. It did not provide any "strategic direction of operations"; whether operations were to be defensive or offensive, or if France was to adopt a defensive or offensive strategy in case of war. These decisions were for the politicians and the high command to decide, as it was in other countries. The use of the term doctrine to describe and explain France's political and strategic approaches to defence and security issues is, at times, confusing since doctrine was about many things. Eugenia C. Kiesling sums up her understanding of the status of the French army in 1940:

⁸³³ Jean Doise and Maurice Vaïsse, *Diplomatie Et Outil Militaire : Politique Étrangère De La France, 1871-2015*. Points Histoire. [Nouvelle édition mise à jour] ed. Vol. 153, Paris: Éditions du Seuil, 2015, 343, 346-347.

⁸³⁴ Goya, *Les vainqueurs*, 285-287.

⁸³⁵ *Instruction sur l'emploi tactique des grandes unités*, ed. Ministère de la défense nationale et de la guerre (Paris: Imprimerie Nationale, 1940).

⁸³⁶ *Décret du 28 mai 1895 portant règlement sur le service des armées en campagne*.

However modern the hardware, the doctrine with which the army intended to fight was fundamentally that of 1918, and material incompatible with that doctrine was adopted reluctantly or not at all.⁸³⁷

Kiesling also clarifies that a doctrine is not an independent entity, but developed in a framework of constraints and possibilities. Security and defence policy and strategic direction all provide a set of constraints, direction, and a degree of freedom of choice regarding *how* to plan and conduct operations.⁸³⁸ Elizabeth Kier has a wider understanding of doctrine in her discussion of culture's role in shaping French doctrine between the wars. For Kier, doctrine is more a matter of strategic orientation than just a field manual for operations. Still, her argument about how culture influenced the framework for the development of doctrine expands Kiesling's perspective.⁸³⁹ Phillippe Garraud defines and discusses doctrine as operational doctrine (*doctrine opérationnelle*) and argues for the "role of ideas", in the form of "the conceptions that structured defence politics far beyond the conduct of contemporary military operations" to explain the fall of France.⁸⁴⁰ Such a conception, "a thinking framework that allows order and significance for pieces of information relevant for a proper understanding of a concrete problem", can serve as a structuring tool, but also severely limit critical information or new interpretations that challenge established doctrinal pattern.⁸⁴¹

After the First World War, the French army developed its tactical conduct during the war's final years into doctrine. This doctrine emphasised the tightly and centrally controlled cooperation between artillery and limited manoeuvre by infantry and armour. Robert Doughty concludes in his introduction to the chapter on France in Krause and Phillips' *Historical perspectives of the operational art*:

Despite their interest in large formations, the French failed to develop a sophisticated understanding of the operational art of war. Even worse, they deformed its very nature by having operational concepts distort their tactical methods before World War I and by having tactical concepts distort their operational methods before World War II. These distortions significantly affected the performance of the French Army in both wars.⁸⁴²

⁸³⁷ Eugenia C. Kiesling, "If It Ain't Broke, Don't Fix It': French Military Doctrine Between the World Wars," *War in History* 3, no. 2 (1996), 222.

⁸³⁸ *Ibid.*, 210-212.

⁸³⁹ Kier, "Culture and Military Doctrine: France between the Wars."

⁸⁴⁰ Garraud, "L'idéologie de la « défensive » et ses effets stratégiques".

⁸⁴¹ Uri Bar-Joseph, *The watchman fell asleep : the surprise of Yom Kippur and its sources*, SUNY series in Israeli studies (Albany: State University of New York Press, 2005), 45.

⁸⁴² Doughty, "French Operational Art: 1888–1940," 69.

The French army only developed the tactical experience from 1918 and not Foch's strategic direction or the operations of the army groups. They excluded other theatres outside the Western Front and the experiences of other armies. Michel Goya describes the first post-war doctrine as very self-centred and linked to the past, which might have precluded critical analysis of the experiences before the 1918 offensives or the validity of new developments.⁸⁴³ The strategic role Foch had in directing the operations of the army groups was not elaborated in French doctrine after 1918. Similarly, the function of army groups was understood within the realm of tactics. Doughty initially recounts the development of the term grand tactics, which was elaborated by Jean Colin in 1911. Colin wrote that "[t]his new part of the art of war takes its place between strategy and tactics. It melts into the one and the other."⁸⁴⁴ He defined neither the nature nor the content of grand tactics any further.

Furthermore, the concept of grand tactics was not used in any French high-level doctrines before either world war. In this sense, the doctrinal terminology was in line with Derrécagaix' *La guerre moderne*.⁸⁴⁵ The French army's doctrine understood warfare in the framework of strategy and tactics. At the same time, the term operation was used to refer to military actions at all levels, both offensive and defensive.⁸⁴⁶ Sabine Marie Decoup presents another problem in studying French operational art: the term operational had not been precisely defined, while French historians did not agree on its meaning.⁸⁴⁷

The French army emphasised the tactical conduct of the methodical battle in the 1918 offensive in their post-war doctrine. It developed rigid and mechanical procedures to control and coordinate the complicated systems of fire and movement. The idealised model was the Battle of Montdidier that was fought by Debeney's First Army parallel with the battle of Amiens on August 8 to 11 1918 and taught at the *École supérieure de guerre*, the French Staff College. Doughty draws attention to the risk of a "dangerous degree of rigidity within their system for command and control". The majority of decisions had to be made and coordinated

⁸⁴³ Goya, *Les vainqueurs*, 290-291.

⁸⁴⁴ Doughty, "French Operational Art: 1888–1940," 69-71; Colin, *The Transformations of War*, 215. The French original *Les transformations de la guerre* was published in 1911.

⁸⁴⁵ Derrécagaix, *La guerre moderne Première partie Stratégie; La Guerre moderne. Deuxième partie, Tactique*.

⁸⁴⁶ *Conduite des grandes unités (1913); Instruction provisoire du 6 octobre 1921 sur l'emploi tactique des grandes unités; Instruction sur l'emploi tactique des grandes unités (1940)*.

⁸⁴⁷ Sabine Marie Decoup, "Operational Methods of the French Armed Forces, 1945-1970," in *The operational art : developments in the theories of war*, ed. B. J. C. McKercher and Michael A. Hennessy (Westport, Connecticut: Praeger, 1996), 103.

at the highest level of command. This system of “rigid centralization and strict obedience” severely reduced the ability to adapt to changes of enemy action outside the defined paradigm that the doctrine, force structure, and equipment were designed to handle.⁸⁴⁸ Doughty’s statement that the French army “failed to develop a sophisticated understanding of the operational art of war” appears as an understatement, since the French focused to such an extent on tactical management of combat.⁸⁴⁹ Goya argues along the same lines that the dominant so-called “material” school “replaces operational and tactical thinking with the application of ever more precise fire-management schemes.”⁸⁵⁰

The first doctrine after the First World War, *Instruction provisoire du 6 octobre 1921 sur l'emploi tactique des grandes unités* (the Provisional instructions on the tactical employment of large units of 6 October 1921), only mentioned the army group once. It was just an option for the high command of leading armies, which were “the fundamental unit of the strategic manoeuvre.”⁸⁵¹ The doctrine presented the lessons learned from the war and the implications for future conflicts. The doctrine’s outlook was to avoid a repetition of 1914 by emphasising the primacy of fire in manoeuvre caused by the strength of the defence, and centralised control.⁸⁵² The omission of an explicit role for the army group is remarkable, especially regarding the part the army groups had in managing both the defensive and the offensive operations in 1918. The 1913 doctrine had an entire chapter about the army group, stating its role and its primary purpose to “impose on the enemy the general battle in conditions likely to produce decisive results to end the war.”⁸⁵³ In light of the emerging role of the army groups as an operational command during the war, the omission of its role underlines the tactical focus of the 1921 doctrine.

Doughty asserts that the tactical battle of Montdidier became the archetype battle in French military education. Any other lessons were subordinated to this preferred model.⁸⁵⁴ General Debeney, who commanded the First Army at Montdidier, was president of the editorial

⁸⁴⁸ Doughty, *The seeds of disaster : the development of French army doctrine 1919-1939*, 72-89; “French Operational Art: 1888–1940,” 87-92.

⁸⁴⁹ “French Operational Art: 1888–1940,” 69.

⁸⁵⁰ Goya, *Les vainqueurs*, 302; Doughty, *The seeds of disaster : the development of French army doctrine 1919-1939*, 91-111.

⁸⁵¹ *Instruction provisoire du 6 octobre 1921 sur l'emploi tactique des grandes unités*, 64.

⁸⁵² Doise and Vaïsse, *Diplomatie Et Outil Militaire*, 339-344.

⁸⁵³ *Conduite des grandes unités (1913)*, 18-20.

⁸⁵⁴ Doughty, *The seeds of disaster : the development of French army doctrine 1919-1939*, 9-11, 72-90.

committee for the 1921 doctrine, which was led by Marshal Philippe Pétain.⁸⁵⁵ None of the army group commanders in 1918 was part of the commission, neither was Marshal Ferdinand Foch. Pétain was the only member who had commanded an army group, the *Groupe des armées du centre*, from May 1916 to May 1917. However, that was before the army groups were directed strategically by an Allied supreme commander. Pétain and members of *la maison Pétain* were to define the defence concept for the next decades.⁸⁵⁶

Goya explains further how the French generals that won the war influenced doctrine and the attitude of defensiveness, by staying in high office over the next decades and maintaining the concept of the methodological battle. The debate between Pétain and Foch on the issue of an offensive element, a sword in addition to the defensive shield, did not lead to any changes in the dominating defensive conception. The lack of funding reinforced the defensiveness since there was little room to develop new offensive capabilities. Foreign and domestic political developments also reinforced the emphasis on defence. The Maginot line consumed a significant part of the funds that would otherwise have allowed for a modernization of the army, leaving it static and unable to respond to Germany's re-militarisation of Rhineland in 1936. Foch argued again that a defensive belt like the Maginot Line would allow for offensive operations elsewhere.⁸⁵⁷

The 1936 Tactical instructions for large units was up-to-date in its understanding of modern warfare.⁸⁵⁸ It acknowledged the development of motorised and mechanised units, anti-tank capabilities, airpower and air defence, and communications technologies. Its introduction underlined these developments as the most critical issues that had changed since the 1921 edition it replaced. The instructions specified that one of its aims was to set general rules for the new motorised and mechanised large units (divisions).⁸⁵⁹ There was no explicit French operational terminology comparable to the Soviet or German terms, such as operational art or

⁸⁵⁵ Goya, *Les vainqueurs*, 289-290.

⁸⁵⁶ AFGG X-I, 19; Doise and Vaïsse, *Diplomatie Et Outil Militaire*, 346-347; Doughty, *The seeds of disaster : the development of French army doctrine 1919-1939*, 9-10, 81-83; *Conduite des grandes unités (1913)*, 15.

⁸⁵⁷ Martin S. Alexander, "In Defence of the Maginot Line: Security Policy, Domestic Politics and the Economic Depression in France" in *French Foreign and Defence Policy, 1918-1940 : The Decline and Fall of a Great Power*, edited by Robert Boyce (London: Routledge, 1998), 165-170; ; Doise and Vaïsse, *Diplomatie Et Outil Militaire*, 340-341; Goya, *Les vainqueurs*, 289-296.

⁸⁵⁸ *Instruction sur l'emploi tactique des grandes unités (1940)*.

⁸⁵⁹ *Ibid.*, 15-21.

operativ. The term operation was used in the tradition of Jomini as a general term for military activities and not related to any level of command or a specific form of military action.

In light of the role of a culture of “defensiveness”, the content of the 1936 doctrine was, on the other hand, evenly balanced between offence and defence.⁸⁶⁰ It stated clearly that the offensive was the only form that could yield positive results and defence was only temporary until offensive action could be resumed.⁸⁶¹ In this respect, it mirrored similar doctrines, such as the 1939 *US Army FM 100-5, Tentative Field Service Regulations, Operations*.⁸⁶² The chapter on the offensive said that the form of the attack would depend on the context. It would be a hasty attack if it followed a successful manoeuvre or methodical if launched against a stabilised front. Although the doctrine prescribed the methodical approach of a phased attack, the commander should adapt according to the situation and mission. No time should be wasted if the opportunity to exploit success presented itself.⁸⁶³ If both forces were manoeuvring, it was imperative to exploit the meeting engagement to gain an immediate advantage to defeat the enemy.⁸⁶⁴ The methodical approach was only valid when the enemy had established fortified defences. However, even then, the attack should “press on immediately to prevent [the enemy] from reconstituting itself” when his front was broken.⁸⁶⁵ The chapter on the employment of tanks described their different ways of use, which varied from infantry support, on the one hand, to penetration by large tank forces into the depth of the enemy on the other. Tanks should primarily operate in combined arms formations and be given central roles by the commanders of large units.⁸⁶⁶

The army group was still an optional large unit that might be formed when several armies operate in the same theatre of operations. Although the army group's mission was primarily strategic, the army “is the fundamental unit of strategic manoeuvre.”⁸⁶⁷ The army group was just briefly described in two paragraphs and its role to “direct and coordinate the operations of

⁸⁶⁰ See *ibid.*, Title V, 76-103.

⁸⁶¹ *Ibid.*, 52.

⁸⁶² “FM 100-5, Tentative Field Service Regulations, Operations,” ed. War Department (Washington DC1939), 28.

⁸⁶³ *Instruction sur l'emploi tactique des grandes unités (1940)*, 52-53, 76-99.

⁸⁶⁴ Meeting engagement: Combat or battle that starts when both forces are advancing, meet head-on and engage directly in combat.

⁸⁶⁵ *Instruction sur l'emploi tactique des grandes unités (1940)*, 75. For a comparison, see also: “A Manual for Commanders of Large Units (provisional),” ed. War Department (Washington DC1930), 10-11.

⁸⁶⁶ *Instruction sur l'emploi tactique des grandes unités (1940)*, 20, 36, 81-83.

⁸⁶⁷ *Ibid.*, 47.

[its] armies”.⁸⁶⁸ The army group was the highest field command, subordinated to the high command. It would by default serve an operational role, although operational terminology was not explicitly used.

French army groups served operational roles under the strategic direction of Ferdinand Foch in 1918, even then without operational terms. The commander’s position was reflected in the doctrine’s very first paragraph: “The personality of the chief has a major influence on the design and conduct of military operations.”⁸⁶⁹ The 1918 experience illustrates that the personalities of all the chiefs involved strongly influenced the planning conduct of operations. The different personalities of Foch and Pétain, the various army group commanders, and even army commanders, such as the aggressive Mangin, competed to exert influence on operations. The point is that doctrine is usually open to interpretations. As a norm, it is “*authoritative but requires judgment in application.*”⁸⁷⁰ Commanders’ judgement is influenced by more than personalities, not least the political and strategic context within which they operate. Henry Dutaillly asserts that for General Gamelin, the French army commander after 1935, “the regulations are more than a simple guide; they express a doctrine of employment. The rule and its interpretations thus become masters of the action.” Dutaillly further suggests that the experience of the fighting in 1940 proved that most senior officers applied the “receipt” and not the intentions (*l’esprit*) of the doctrine.⁸⁷¹

Although the 1936 French doctrine for operations was a doctrine that emphasized the methodical battle, the text did not necessarily prescribe it for anything but breaking a fortified front. The doctrine did not favour or prohibit any particular form of operation, but it could not compensate for the conception of defensiveness or ill-suited strategic choices. But the doctrine also maintained the defensive outlook of its predecessor by stating that the new material conditions did not alter the conceptual direction of the 1921 instructions. Dutaillly highlights a revealing contradiction between the principles introducing the 1936 doctrine and the detailed prescriptions for a 1918-style methodical battle. He concludes that the doctrine

⁸⁶⁸ Ibid., 49.

⁸⁶⁹ This is commanders of large unites, army group to division. Ibid., 25.

⁸⁷⁰ NATO, *AJP-01(E)VI: Allied Joint Doctrine*, 1-1.

⁸⁷¹ Henry Dutaillly, *Les problèmes de l’armée de terre française : (1935-1939)* [The problems of the French army: (1935-1939)] (Paris: Imprimerie Nationale, 1980), 175-176.

initially had imagined future war, but then the writing commission set out to codify the past.⁸⁷²

Doughty emphasized the context of the 1936 doctrine and that despite its new, modern and offensive-oriented terms and expressions; it was not implemented as anything but a default continuation of the *de facto* methodical battle doctrine of the past. Garraud's explanations of "the conceptions" as the framework within which the doctrine would function reinforces Doughty's argument. When doctrine is understood as "institutionalised beliefs about what works in war and military operations", a doctrinal text is barely worth the paper it is written on, if there is no consensus about its practical use.⁸⁷³ According to Harald Høiback, one pitfall of doctrine is that "[d]octrine-like patterns of thought and cultural idiosyncrasies pop up and flourish whether we like it or not. By developing doctrine formally, we get a kind of control."⁸⁷⁴

Despite its formal and authoritative status, French doctrine could not escape the prevailing conception of "defensiveness". Petain defined the inter-war development of the army's approach to modern war, while the influence of Foch was marginalised. The 1930s marked the decisive victory of the *maison Pétain* over Foch and any competing military thought. The French institutionalised tactical continuity did not leave any place for operational thinking or operational art, nor the tactical adaptations to the future war the doctrine envisioned. Whether a French understanding of operational art would have mattered within the contextual framework of defensiveness that influenced French operations in 1940, lies outside this study.

The United States

In his book *Carrying the war to the enemy : American operational art to 1945*, Michael R. Matheny describes how the US Army and Navy developed "American operational art" in the services' higher educational institutions.⁸⁷⁵ The planning, plans, war-gaming, and doctrines laid the foundations for the conduct of campaigns and operations in the Second World War by the Americans and their allies. The main difference between the US and the Soviet is the lack

⁸⁷² Ibid., 182-183.

⁸⁷³ Høiback, "The Anatomy of Doctrine and Ways to Keep It Fit," 187.

⁸⁷⁴ Ibid., 192.

⁸⁷⁵ Matheny, *Carrying the war to the enemy*.

of operational terminology and theory in the American case. That did not stop the Americans from conducting major operations that were even more complex than those of the Soviets, especially the large joint operations that included amphibious assaults. Therefore, the US case is interesting compared to the Soviet approach to operational art because it illustrates how experiences from the 1918 Allied offensive shaped the American understanding of modern war. The American Expeditionary Force (AEF) took an independent part in two operations in the 1918 offensive at St. Mihiel and in the Argonne. Individual American divisions and corps were also detached to British and French armies during the offensive.

While the Red Army developed sophisticated theory and new terminology that allowed operational art to “be publicly articulated and discussed”, the Americans appears to “have been speaking prose without knowing anything about it”.⁸⁷⁶ Matheny’s thesis is that the US Army and Navy developed operational art as a *de facto* new military discipline that was at least as sophisticated as the Red Army’s but without the “terms and concepts”⁸⁷⁷ considered necessary to make it work.

The US Army entered the First World War with “no plan for how America might contribute to the Allies, how an expeditionary force might be organized, or even how the War Department itself might be expanded.”⁸⁷⁸ After the war, the US Army and Navy analysed their experiences and began a learning process that culminated in the extensive US joint operations in the Second World War. The army decided to use its Command and General Staff School (later College) and War College to develop high-level doctrine, write the Field Service Regulations, and write and war-game the war plans. The Staff School educated its students through academic and military theoretical courses and trained them in the planning and conduct of operations using war plans and associated scenarios.⁸⁷⁹

Matheny describes William K. Naylor’s book, *Principles of Strategy*, as the first indigenous American book on military theoretical subjects. Naylor wrote in the Jominian tradition and referred to Victor-Bernard Derrécagaix and von der Goltz, whom he often paraphrased.⁸⁸⁰

⁸⁷⁶ Molière, *Le bourgeois gentilhomme*, 31; Skinner, *The foundations of modern political thought*, 352.

⁸⁷⁷ Clausewitz, *On War: Indexed Edition*, 132.

⁸⁷⁸ Matheny, *Carrying the war to the enemy*, 28.

⁸⁷⁹ *Ibid.*, 45-55.

⁸⁸⁰ *Ibid.*, 50-51.

Derrécagaix also directly quoted and paraphrased von der Goltz' *The Nation in Arms* and maintained Jomini's understanding of strategy and tactics.⁸⁸¹ Naylor's understood military operations as

certain groups of actions, in the same theater of war, consisting of concentrations, marches, occupations of positions, and combats that follow each other in logical order, each successive one inseparably growing out of the preceding one. This group then would be called an operation and the plan would be called the plan of operations.⁸⁸²

This description of operations contained many of the same elements that Svechin had in his definitions, which formed the basis for the Soviet development of operational concepts and doctrine. Although Svechin elaborated more on theoretical issues and definitions, the basic understanding of operations by the Soviets and Americans was all the same.⁸⁸³ The difference was that the Soviets refined the theoretical elements and explicitly developed operational art as the third military discipline.

Naylor was more ambiguous in his definition of "campaign" and took some precautions based on recent historical experience:

We cannot draw a very definite distinction between an operation and a campaign other than to say that when the events within a theater or theaters of war form a certain combination unbroken as it progresses, it is usually properly called a campaign. And, when, as a result of some more or less great change or catastrophe, new combinations begin to develop, or are developed, we have a break in that campaign and another begins.⁸⁸⁴

These observations must not be taken literally to indicate that there was little consensus on these terms. But, they must instead be understood as an academic discussion to clarify the meaning and content of terminology in the emerging modern character of war.

Naylor also stated that battles were related to tactics, while operations were parts of strategy.⁸⁸⁵ Campaigns were also within the domain of strategy. Compared to the Red Army, there was no distinct operational terminology. Naylor continued Jomini's strategy-tactics paradigm in his book:

⁸⁸¹ Derrécagaix, *Modern War Part I. Strategy*, 3-5, 369-372.

⁸⁸² William K. Naylor, *Principles of Strategy*, (Fort Leavenworth, KS: The General Services Schools, 1921), 18.

⁸⁸³ Svechin, *Strategy*, 69, 269-271.

⁸⁸⁴ Naylor, *Principles of Strategy*, 19.

⁸⁸⁵ *Ibid.*, 11-12.

For the purposes of this study, the definition of Jomini seems to be sufficient. He says "strategy is the art of maneuvering armies in the theater of operations ; tactics, the art of disposing them upon the battlefield." It will be understood that this is an incomplete definition but serves the purpose until a more detailed discussion of the subject is taken in its proper place.⁸⁸⁶

Naylor did not conduct a more detailed discussion in his book but maintained his modern perception of the three elements campaign, operations and battles within the military disciplines of strategy and tactics.

In *The fundamentals of military strategy*, published in 1928, Oliver Prescott Robinson maintained Naylor's interpretation of operation and campaign. The book was based on his lectures at the US Army Command and Staff College and used in the inter-war years at both the Army and Naval War and Staff Colleges.⁸⁸⁷ Robinson began his book by discussing the role of the battle and modernised Clausewitz's definition of strategy by simply replacing battle with "operations of war",

which includes all those things which precede and lead up to the battle and the threat of battle, as well as the battle itself, there results the all-inclusive definition: "Strategy is the use of the operations of war to gain the end of the war."⁸⁸⁸

Robinson stated its purpose to "attain the national or political object through the complete, partial or threatened achievement of the military aim, under the existing political, economic and military conditions."⁸⁸⁹ Strategy solved its purpose by conducting operations that "by directing the armies and their concentration on the battlefield, provides tactics with the tools for fighting and assures the probability of victory;"⁸⁹⁰ The strategic-tactical duality was consistent. Operations were defined as parts of strategy, although both Naylor and Robinson mentioned tactical operations in the context of the strategic defensive.⁸⁹¹ Neither Naylor nor Robinson used any moderating terms, such as grand, major, or minor tactics, although Naylor briefly stated that tactics was sometimes called grand tactics.⁸⁹² None of these elements conflicted with the existing strategy-tactics paradigm.

⁸⁸⁶ Ibid., 13.

⁸⁸⁷ Matheny, *Carrying the war to the enemy*, 52-53; Robinson, *The fundamentals of military strategy*, 25-26.

⁸⁸⁸ *The fundamentals of military strategy*, 2.

⁸⁸⁹ Ibid., 4.

⁸⁹⁰ Ibid., 7.

⁸⁹¹ Ibid., 107; Naylor, *Principles of Strategy*, 143.

⁸⁹² *Principles of Strategy*, 11.

Matheny highlights the US Army Command and Staff School's *Principles of strategy for an independent corps or army in a theater of operations* as the most remarkable document of that institution, a document that was also quoted at the War Colleges.⁸⁹³ The text initially cut through various terms and decided to use "the conduct of war" to employ the armed forces and national policies and economic measures to win the war.⁸⁹⁴ Strategy concerned itself with concentrating superior combat power in a theatre of operations and had four "objects" that would disrupt or unhinge the enemy's strategic dispositions. Tactics was "the art of executing the strategic movements before the battle and of employing combat power on the field of battle." The text was normative in emphasising the principles of war and statements such as "The art of strategy lies in applying principles to the solution of problems".⁸⁹⁵ The book provided staff college students with a structured template of applying these principles and guidelines to adapt them to a given situation.

Operational elements were found in both the realms of strategy and tactics and expressed in the terms manoeuvre, movements, wide envelopments, frontal advance, and penetration. The lack of a clear expression of operational art or other explicit operational terms was, to some extent, compensated by the descriptions of roles and responsibilities at the levels of command where plans were developed. The section "The Plan of the Commander" distinguished between the campaign plan and the plan of an operation. The campaign plan was "the general conduct of forces in a single theater of operations". The plan of an operation was "a strategic and tactical phase of a campaign—a phase which generally involves several strategic and tactical operations".⁸⁹⁶ In Chapter IV on the defensive manoeuvre, operational elements were discussed in the sections on the various forms of defence, especially in exploring the interactions between the strategic and tactical elements.⁸⁹⁷

The US Naval War College text-book *Sound Military Decision* had its origins back to 1910, it was updated in 1936 and reprinted in 1942. Matheny states the book was "the primary

⁸⁹³ Matheny, *Carrying the war to the enemy*, 71-73.

⁸⁹⁴ These were strategy, grand strategy, grand tactics, tactics, and minor tactics. *Principles of strategy for an independent corps or army in a theater of operations*, (Fort Leavenworth KS: US Army Command and General Staff School, 1936), 3.

⁸⁹⁵ *Ibid.*, 3, 7-8.

⁸⁹⁶ *Ibid.*, 23.

⁸⁹⁷ *Ibid.*, 51-62.

statement of the Naval War College's views on planning throughout World War II."⁸⁹⁸

Military operations were defined as "[a]ppropriate action to create or maintain a situation" and consisted of

an act, or a series of included acts (i.e., work), of a military character. A military operation may consist of an entire campaign, or even of several such, constituting a clearly defined major stage in a war; or such an operation may consist of portions thereof.⁸⁹⁹

The definition is unusually comprehensive since it also included campaigns, which contradicted the book's understanding of the campaign as

a clearly defined major stage of a war. [...] It may consist of a single operation, or of successive or concurrent operations. The operations of a campaign have properly a definite objective, the attainment or abandonment of which marks the end of the campaign."⁹⁰⁰

The subsequent text on operations plans was in line with the understanding of operations' role in the campaign.⁹⁰¹ Except for the sentence that stated that an operation might include campaigns, the book was consistent in its use of operation as a general term for military action and included specified operations, such as amphibious, joint, strategic, and tactical operations.⁹⁰²

The discussion of the relationships between policy, strategy, and tactics, clearly stated the interdependencies between policy and strategy on one hand and strategy and tactics on the other: "Strategy and tactics are inseparable."⁹⁰³ The strategic-tactical paradigm was maintained, while their interdependencies were emphasised to the point of ridiculing any thought of them working in isolation. Operations were defined within this context. The book was consistent with other text-books that were read at the army colleges in its understanding of the military disciplines. There were no implicit or explicit statements of an operational level or operational art as a military discipline. The definition of strategy did not explicitly include operations, such as in Robinson: "Strategy is the use of the operations of war to gain

⁸⁹⁸ Matheny, *Carrying the war to the enemy*, 142-143; *Sound Military Decision*, (Newport RI: US Naval War College, 1936; repr., 1942), i.

⁸⁹⁹ *Sound Military Decision*, 37-38.

⁹⁰⁰ *Ibid.*, 195.

⁹⁰¹ *Ibid.*, 195-196.

⁹⁰² See *ibid.*, 67, 129, 176, 178.

⁹⁰³ *Ibid.*, 9-11.

the end of the war.”⁹⁰⁴ On the other hand, in Chapter V “The Four Steps in the Solution of a Military Problem”, operations were the means to accomplish strategic plans. However, if the commander’s mission was tactical; tactical operations were the means. In these discussions, operations could be both strategic and tactical.⁹⁰⁵

Following the First World War, the US Army developed its First World War experience into the *Field Service Regulations United States Army 1923 (FSR 1923)*. The *FSR 1923* had tactical scope but provided a strategic context for operations and tactical actions. It was “designed especially for the government of the operations of large units and small units forming a part of larger units.”⁹⁰⁶ Similar to the contemporary French 1921 *Instruction provisoire*, an army “plans and executes the broader phases of strategic and tactical operations necessary to carry out that part of a given strategic mission directly assigned it by higher authority.” In contrast to the *Instruction provisoire*, the army group was given an explicit role under certain circumstances.⁹⁰⁷ The relations between operations and battles was stated in the first paragraph in the chapter on combat: “The ultimate objective of all military operations is the destruction of the enemy’s armed forces by battle. Decisive defeat in battle breaks the enemy’s will to war and forces him to sue for peace.” The term operation was used frequently about military activities in general and not limited to any level of command. Operations could also be strategic and tactical operations, night operations, and air operations.⁹⁰⁸

The higher level doctrines regulating operations with large units at the beginning of the Second World War were the US Army *A Manual for Commanders of Large Units (provisional)* from 1930 and the *FM 100-5 Operations* from 1939.⁹⁰⁹ The *Manual for Commanders of Large Units* was issued in a new edition and designated FM 100-15 in 1942.⁹¹⁰ The FM 100-5 was revised and re-issued in 1941 and again in 1944. There was no explicit operational terminology in any of these manuals. Strategy and tactics were the two

⁹⁰⁴ Robinson, *The fundamentals of military strategy*, 2.

⁹⁰⁵ *Sound Military Decision*, 107-111.

⁹⁰⁶ *Field Service Regulations United States Army 1923*, (Washington DC: Governmental Printing Office, 1924), IV.

⁹⁰⁷ *Ibid.*, 1-2.

⁹⁰⁸ *Ibid.*, 77.

⁹⁰⁹ "FM 100-5 (1939)."; "A Manual for Commanders of Large Units (provisional)."

⁹¹⁰ "FM 100-15 Field Service Regulations, Larger Units," ed. War Department (Washington DC 1942).

levels of war that were used. The 1942 edition of *Large Units* was expanded with a chapter on air forces and covered large units, such as army group, army, and army corps.

In the 1930 edition of *Large Units*, strategy was for the commander in chief of a theatre of war and “designates the ends to be accomplished, allots the means, and assigns the tasks to subordinate commanders. From him must come the plans and impulses that guide and animate all below him.”⁹¹¹ The commander in chief was also “the master tactician”, while “[s]ubordinate commanders make tactical plans and carry them into execution.”⁹¹² The highest tactical unit was the army group, but it served mainly to coordinate armies, which were “the fundamental unit of strategical maneuver.”⁹¹³ In the 1942 edition *FM 100-15*, the strategic manoeuvre was developed into a concept similar to the Soviet deep battle and deep operations. The strategic manoeuvre was the culmination of planning and staging and had the potential to decide the outcome of a campaign. The manoeuvre consisted of breakthrough, envelopment or turning movement, withdrawal, and counteroffensive. The manoeuvre's ambitions, the forces involved, and the size of the enemy forces (armies) were comparable to the aspirations of Soviet operational art in the same period. The chapter also included the defensive manoeuvre as an element of the chapter on strategic manoeuvres.⁹¹⁴

In the inter-war years, American text-books and the *Field Service Regulations* explored the strategic-tactical interfaces, interdependencies, and interactions and emphasised operations instead of battles. The terminology was consistent and maintained the strategic-tactical paradigm and war as a totality of was maintained from the political echelon through the military chain of command. Nevertheless, as Matheny describes in his book, the US Army and Navy were fully capable of planning and conducting campaigns and operations that bear all the hallmarks of modern strategy and operational art.⁹¹⁵ Just as Monsieur Jourdain discovered, the Americans spoke prose. On the other hand, they were more concerned with expressing themselves than philosophising over linguistic genres.

⁹¹¹ "A Manual for Commanders of Large Units (provisional)," 7.

⁹¹² *Ibid.*, 8.

⁹¹³ *Ibid.*, 14-17.

⁹¹⁴ "FM 100-15 Field Service Regulations, Larger Units," 31-48.

⁹¹⁵ Matheny, *Carrying the war to the enemy*, 160-252.

Summary

The interpretations of the First World War and the institutional understandings of future war by the Soviet Union, Germany, France, and the United States, share some similarities and fundamental differences. They share various traits of continuity and discontinuity in both how military thought developed and how future war and upcoming operations were perceived. These understandings were explicit, such as in military literature and doctrines. But they were also implicit and expressed by new ways of planning and conducting operations within the existing paradigm of strategy and tactics.

The Allied 1918 offensive became the initial blueprint for the Soviet Union's development of operational art as a new military discipline intersected between strategy and tactics. Together with indigenous experience, it formed the basis for the theory of operational art and its concepts for future doctrinal developments. When the Red Army began to develop operational methods for future war, the 1918 model of limited offensives were replaced by large deep operations by mechanised forces. The 1918 offensive was also the basis for the US Armed Forces' development of the plans and force structures for a future war, emphasising large scale operations in the framework of campaigns. France developed the tactics of the methodical battle of 1918 but did not continue the offensive's operational or strategic dimensions. On the other hand, Germany discarded the Allied offensive and gave their storm-troopers an operational reach in the form of armour and air forces.

The Red Army's institutional introduction of operational art as the third military discipline was the main interruption in military thought that set it out from its contemporaries. New terminology was developed, partly rooted in the General Staff of the Imperial Russian Army. The new terminology allowed for the phenomenon to be debated and developed into an explicit operational level doctrine. The implications of threats and technology were discussed within the new paradigm of the three interconnected military disciplines of strategy, operational art, and tactics. When the purges began in 1937, almost 80 % of the Red Army's generals were caught in the frenzy, while the *1936 Provisory Field Service Regulation* was banned. The futile and fragmented tactical counterattacks against the advancing German armoured thrusts during the first months of the invasion was the nadir of Soviet military art. Despite the catastrophic losses the first year of the Great Patriotic War, operational art

survived in the remaining General Staff Academy-trained officers and re-emerged in the counteroffensive at Stalingrad.⁹¹⁶

France and Germany are both examples of continuity, France embracing its most effective tactical conduct of battle in 1918 and Germany in its mechanisation of established offensive tactical patterns. The French army developed its orchestrated battle into an almost dogmatic tactical understanding. A defensive strategic attitude emerged that contributed to preclude any further development of tactics into the large operations that characterised the French army in the 1918 offensives.

The German *Reichswehr* and *Wehrmacht* integrated mechanised formations and air forces into its well-proven tactical concept of *Bewegungskrieg*, which gave an operational reach the first years of the Second World War. But the German political and military leadership were still strategically inept and defined their strategic options based on their operational capabilities. Consequently, they did not develop an institutionalised understanding of operational art as a tool of strategy. On the contrary, they kept to their dogma of strategy as a system of expedients where superior tactical performance would develop tactical successes into strategic victory.

After the First World War, the United States armed forces decided to be better prepared for modern war than they were in 1917. Both the US Army and the US Navy used their staff and war colleges to develop an understanding of operations in a future world war and to plan and war-game the plans as an element of its institutional learning. Lessons from the 1918 offensives were integrated into the learning processes. The implications of modern technology and the potential of the industry were also brought into the process. Text-books and Field Service Regulations were written within the established strategy-tactics paradigm. Although new operational terminology comparable to the Soviet case was not developed, conceptual understanding, practical planning, and war-gaming for a modern industrialised world war across oceans and fighting domains emerged as a practical matter of problem-solving.

⁹¹⁶ David M. Glantz, *The military strategy of the Soviet Union : A History* (London: Frank Cass 1992), 55-137; *Before Stalingrad* (Port Stroud, UK: Tempus, 2003), 193-201.

American military historians, such as Russel H. S. Stolfi and Russell F. Weigley, have criticised the American conduct of the operations it developed and prepared for in the inter-war years.⁹¹⁷ Other critics of operational art have in no small degree criticised the character of operational art of the Second World War for not being relevant in twenty-first-century wars and conflicts of a very different kind.⁹¹⁸ What appears to be missing in the debate is a specific critique of the nature of operational art and not just the criticism of its character in the twentieth century. It is necessary to both understand the nature of operational art and have terminology that allows us to use theory

to clarify concepts and ideas that have become, as it were, confused and entangled. Not until terms and concepts have been defined can one hope to make any progress in examining the question clearly and simply and expect the reader to share one's views.⁹¹⁹

Modern operations emerged in the last part of the First World War. Operational art was the means to harness and manage tactics to reach the objectives set by strategy. The interaction between strategy, operational art, and tactics made it possible for the Allies to mount the successful offensive in 1918 that won the war. The new understandings of modern war that was developed by the Soviet Union and the USA were based on the Allied war-winning campaign on the Western Front. It is equally interesting how these lessons were lost to the traditional military elites in France and Germany. Perhaps just because they were traditional, military, and elite?

⁹¹⁷ Stolfi, "A Critique of Pure Success: Inchon Revisited, Revised and Contrasted."; Weigley, "Normandy to Falaise A Critique of Allied Operational Planning in 1944."

⁹¹⁸ Yacov Bengo and Shay Shabtai, "The Post Operational Level Age: From Concept to Implementation, Part 3," *Infinity Journal* 5, no. 1 (Fall 2015); "The Post Operational Level Age: How to Properly Maintain the Interface between Policy, Strategy, and Tactics in Current Military Challenges."; Yacov Bengo and Giora Segal, "The Post Operational Level Age: The Operational Focus Approach, Part 2," *ibid.*, no. 4 (Summer 2015); Dahl, "Network centric warfare and the death of operational art."; Kelly and Brennan, *Alien: How Operational Art Devoured Strategy*; Milevski, "Strategy and the Intervening Concept of Operational Art."; Strachan, "The lost meaning of strategy."; "Making Strategy: Civil-Military Relations after Iraq."; "Strategy or Alibi? Obama, McChrystal and the Operational Level of War."

⁹¹⁹ Clausewitz, *On War: Indexed Edition*, 132.

Conclusions

Even in the age of “new wars” and COIN, Soviet “operational art” continues to exert an almost magnetic pull on the educational establishments of the U.S. Army, especially the Command and General Staff College (CGSC) and the School of Advanced Military Studies (SAMS), both at Ft. Leavenworth, KS.

Robert M. Citino⁹²⁰

This thesis is a product of years of frustration with broad, vague, and approximate definitions of operational art. Existing definitions are usually closely related to “operational warfare”, “operational manoeuvre” and other “war-winning concepts”. The thesis argues that close examination of the emergence of operational art in the first half of the twentieth century provides a clearer conceptual framework for a more precise understanding of operational art, both historically and in relation to contemporary warfare.

The thesis is not a rewriting of the history of the First World War. It aims to understand the closing years of the war in light of the new military discipline of operational art developed after the war and to a large extent influenced by the war’s final year. Nor does the thesis offer any new knowledge concerning the mechanisation of the Red Army and its development of deep battle and deep operations. Instead, it attempts to understand the nature of operational art by studying its initial conceptual development before it evolved into a specific Red Army operational doctrine.

The theory and methodology chapter delineate a theoretical approach to pursue the research question based on Hans Delbrück’s *Sachkritik* (topical criticism) and the Cambridge School of history of ideas. The emphasis is on Quentin Skinner’s *Meaning and Understanding in the History of Ideas*. These allow for a critical study of both past ideas and events and tracing their intended meaning and purpose while avoiding imposing upon them twenty-first-century military doctrinal definitions. The chapter will also present a literature review and the military theoretical elements in the thesis.

⁹²⁰ Robert M. Citino, "Manstein, the Battle of Kharkov, and the Limits of Command," in *Arms and the Man : Military History Essays in Honor of Dennis Showalter*, ed. Michael S. Neiberg (2011), note 52, p. 57.

The second and third chapters trace the origins of operational art as it began to emerge from the mid-nineteenth century as operational elements, pieces of a puzzle yet to be discerned. Armies responded to the tactical changes of increased range, precision, and volume of fire. The size and sustainability of these armies made it almost impossible to destroy them in battle. Operational elements began to influence operations in the American Civil War and the German Wars of Unification. These were single elements, such as directing clusters of tactical actions within an operation. Separate operational commands subordinated to the high command were formed, to direct groups of armies on behalf of the commander in chief. The observations and lessons of the wars were debated in the decades before the First World War. Some of the bits and pieces came together to form a vague pattern of the character of future war. After the Russo-Japanese War, Russian general staff officers were close to connecting the dots. They even gave the new sets of concepts a name: *operatika* (operatics), derived from the German *operativ* (operational).

The fourth chapter considered the way operational elements were emerging as applied adaptations to the new character of warfare. Two modern and successful operations are studied to identify and understand these elements: the Russian 1916 Brusilov Offensive and the German 1918 Michael Offensive. Since both were tactically and operationally successful but failed strategically, they illustrate how operational art in itself was not sufficient in modern conventional war. It must be an integrated element in the totality of warfare. Several pieces of the puzzle had been connected, a pattern was beginning to appear, but some essential parts were still missing.

The Allied offensive campaign in 1918 is the focus of the fifth chapter and the pivot of the thesis. The campaign consisted of a series of operations conducted both sequentially and in parallel along the Western Front. The Allied campaign was given overall strategic direction by the Allied supreme commander, Ferdinand Foch. The army groups planned and conducted the operations, while the armies did the fighting. During this campaign, modern operational art materialised as the bridge between strategy and tactics, to manage the complexity of modern war.

The sixth chapter explains how the lessons and interpretation of the Allied 1918 offensive influenced different perceptions of future war. The Red Army developed operational art theoretically, while the western land powers continued to modernise their established

practices. The exception was the United States Army and Navy. After the First World War, the US Army acknowledged that they had been utterly unprepared for modern war and began, jointly with the US Navy, a pragmatic development of doctrines, procedures, and practices to conduct large-scale joint and multinational campaigns and operations. Despite their fundamental differences and the different character of their Second World War campaigns and operations, the Soviet Union and the USA shared similar conceptual understandings of modern war. These were mainly the interrelations between policy and strategy, campaigns, and operations and the role of operations in directing and sustaining tactical combat. The Americans lacked only the terminology.

The literature emphasises two examples of operational art in the First World War, the Russian Brusilov Offensive in 1916 and the German Spring Offensives in 1918. The inept Russian strategic conduct allowed the Central Powers freedom of action to move reserves to counter the offensive. In 1918, the Germans allowed tactical success to divert the direction of the Michael Offensive by 90 degrees, directing it away from its intended objective of separating the British and French forces. Armies had begun to master innovative tactics and moderne operations but could not direct successful operational strategically.

It was, on the other hand, in the 1918 Allied offensive that operational art had matured to manage complex operations within the framework of the campaign. The supreme commander laid out the direction for the operations and sequenced them in time and space. The operations harnessed the tactical combat by allotting them tasks and objectives that secured the objectives of the operations.

The Allied commander, General Ferdinand Foch, deliberately directed the operations to outmanoeuvre the German strategic and operational reserves. This strategy reduced the German defences to purely tactical efforts where the only German options were to retreat or let the troops be destroyed in their trenches. The character of operational art was adapted to the specific conditions on the Western Front, where elaborate trench systems for four years had made any large scale operations aiming for breakthrough and strategic decision impossible.

The German Michael Offensive was an all-out effort to decide the war through one massive breakthrough operation. On the other hand, the Allied operations aimed to secure intermediate objectives that were nothing but small steps in the campaign. These sequential and limited operations allowed the Allies to maintain the offensive since they allowed the troops to recover between the operations. The pauses also provided time to bring up fresh supplies and replacements before the next limited blow. When one army group attacked, the others were able to recover and resupply for their next attack. Similarly, the army group system permitted some armies to rest when others fought. This method of alternating limited offensives also allowed the Allies' to convert their superior industrial capacity to combat power. It further prevented overloading the supply lines by spreading the supplies to several lines of communications along the entire width of the front.

The Allied operations were halted when the resistance increased to the point that further progress would be very costly in casualties. Operations were planned to succeed one another along the entire width of the front to maintain the strategic initiative and momentum. The army groups were tasked with planning and conducting their operations sequentially, so the enemy would suffer a continuous series of blows that would consume his reserves and wear down his front-line troops. It was the task of strategy to coordinate the operations in time and space to make the offensive a continuous effort and keep up sustained pressure on the enemy. These interactions between strategy, operational art, and tactics became the template for American and Soviet military writers who defined modern campaigns and operations in the next decades.

This thesis emphasises the interwar American and Soviet theorists' assertions that operational art is not an independent part of warfare, but closely interrelated with strategy and tactics. Both the interrelations and the delineation between these parts are somewhat arbitrary and have to adapt to the current character of warfare. Operational art was defined as a concept and military discipline by 1924, but only within the Red Army. It remained in the Soviet sphere until the early 1980s when the term entered the US Army reform process after the Vietnam War. Since then, operational art has both become a household concept in western militaries and criticised to the point of outright rejection.⁹²¹

⁹²¹ Kipp, "Operational Art and the Curoius Narrative," 194-200; Menning, "Operational Art's Origins."; Milevski, "Strategy and the Intervening Concept of Operational Art."; Swain, "Filling the Void."

This thesis argues that operational art emerged to manage the increased military complexity of the industrialised people's war. It was a fragmented and piece-meal emergence, where pieces of the puzzle, the operational elements, appeared and were lost again until the pieces conclusively came together in the final years of the First World War. Operational art was not the result of a deliberate development, but of several limited and unconnected pragmatic adaptations of offensive warfare to the character of industrialised war.

Alexandr A. Svechin's initial definition of operational art is the keystone of the thesis' analytical framework. Svechin defined operational art in the context of modern strategy, where operational art was to harness and direct several tactical events to achieve intermediate objectives as part of a campaign. Svechin's descriptions of operational art, modern strategy, and operations were a blueprint of the Allied offensive in 1918. His emphasis on strategy's role in directing operations along a logical line of conduct mirrors how Foch operated as supreme commander. Svechin also outlined how operations would have to be limited efforts in a modern industrialised war.

Svechin acknowledged the possibility of winning even a modern war by a strategy of destruction, but that would need an extraordinary victory. Such victories proved elusive on a strategic scale in the First World War. Furthermore, if such an initial decisive action failed, the war would take on the character of a war of exhaustion. Such a war had to be won by massive campaigns consisting of several limited operations until the enemy's military and industrial capacities were broken. During the interwar years, the Americans reached the same conclusions in their war studies, war planning, and war games. They just did not come up with an explicit third military discipline the way the Soviets did.

The French and German armies did not recognise operational art the same way the Americans and Soviets. The French maintained a tactical perspective on modern war and did not continue the operational role that the army group had acquired in 1918. Petain's legacy pushed aside that of Foch. Despite a revised 1936 doctrine that balanced offensive and defensive approaches and included armoured forces both for independent manoeuvre and infantry support, an overarching conception of "defensiveness" overruled the flexibility embedded in the doctrine. The Germans, on the other hand, maintained the same offensive perspective of rapid, decisive offensives as in the previous decades. However, mechanisation and tactical airpower allowed them to expand the tactical offensive into the operational realm.

A seminal problem with the western perception of operational art is the lack of a reasonably precise definition. Reasonable in this context is a definition that sets operational art apart from strategy and tactics and defines it as it “is”. That means a definition that emphasises operational art’s enduring *nature* and not just what it resembles, its context-based *character*. Since current definitions tend to include large segments of both, operational art is too often defined within the framework of large-scale operational manoeuvres, or some particularly artful or creative application of military force. Military historians have therefore tended to apply such broad definitions of operational art to historical cases and reframe selected successful preindustrial warfare as operational art. Napoleon’s 1806 campaign against Prussia has been of particular interest in this regard.⁹²²

Operational art’s *nature* is to manage the strategic-tactical interrelations in complex military operations.⁹²³ Complex military operations are those that are too extensive and intricate to be directed and managed by either the high command or the tactical units themselves. They therefore often need a separate headquarters intersected between the high command and the tactical forces. The complexity that caused operational art to emerge reflected the character of industrialised warfare. Operational art is nothing but military complexity management in war. It is not specifically about large-scale armoured operations or amphibious landings and AirLand Battle, to name a few popular perceptions. Any of these may well be how the *character* of operational art would express itself in the context of industrialised war. But, as this study illustrates, western understanding and definitions of operational art are to no small extent conditioned by what its character resembled in large scale conventional war.

Contemporary critique and debate of operational art are thus criticising the *character* of operational art in an industrialised conventional war. The critique rarely grasps its fundamental nature of bridging strategy and tactics. If operational art is still to be a relevant concept, and if there is to be a meaningful debate, it must be released from the procrustean bed of “operational warfare”, “operational manoeuvre”, and other characteristics of conventional industrialised war. It must consequently be understood within its nature, which is to manage the strategic-tactical interrelations in complex military operations. Therefore, the

⁹²² Chandler, "Napoleon, operational art, and the Jena campaign."; Showalter, "The Jena Campaign: Apogee and Perihelion."; Telp, *The Evolution of Operational Art, 1740-1813 : From Frederick the Great to Napoleon*.

⁹²³ Operational art and its role in managing complexity is elaborated on in Movchin, *Posledovatel'nye operatsii*, 119-121.

debate and critique of operational art need to be within the strategic context where operations are to be carried out. Similarly, the character of each war must be defined to such an extent that it can be the basis for debate and critique of the role of operational art in the specific war.

This thesis has demonstrated how operational art emerged in the first place to bridge the gap between strategy and tactics in the era of world wars. The character of contemporary war is different from the world wars since its complexity is more than often not military but political. Whether operational art as a concept is to have any meaningful role in contemporary conflicts, depends on whether strategy and tactics will manage the strategic-tactical interactions themselves or if the military complexity is so comprehensive that an “intervening concept” is needed.⁹²⁴ The assertion that modern conflicts will be fought in a “post-operational era” must similarly be assessed in light of the nature of operational art and its role in managing military complexity.⁹²⁵

Finally, the thesis has opened up further questions. The first is why only the Americans and the Soviets were able to identify operational art and integrate it into their planning and preparations for the next war, while the French and Germans did not. My hypothesis is that both the US and the Soviet Union emerged from the First World War without any traditions or military institutions that would resist such a fundamental change that a new military discipline would demand. Both countries also had their own motivations to change. The US was unprepared for modern war when it entered the First World War in 1917, while the USSR was an international pariah state surrounded by enemies and had, at least its first decade, an open mind to modern science and strategic development.⁹²⁶

Other issues that have caught my attention are how operational art was established in the west and why several different interpretations and definitions have developed, both in NATO and in western countries. The initial introduction by the US Army in the debate leading up to the 1986 *Field Manual (FM) 100-5 Operations*, gives the impression that operational art was not

⁹²⁴ Milevski, "Strategy and the Intervening Concept of Operational Art."

⁹²⁵ Bengo and Shabtai, "The Post Operational Level Age: How to Properly Maintain the Interface between Policy, Strategy, and Tactics in Current Military Challenges."

⁹²⁶ Glantz, *The military strategy of the Soviet Union : A History*, 27-46; Matheny, *Carrying the war to the enemy*, 28.

a prominent element in the reform process and initially limited to the higher tactical level (corps operations).⁹²⁷ Jacob Kipp's observation that

the end of the Cold War [...] left operational art as something of an overripe fruit too long on the vine. In this new security environment and in the absence of threat, it appeared to be a concept without a rationale or intellectual platform⁹²⁸

is a clear invitation to study operational art's introduction to the west.

A final question pertains to the role of complexity in contemporary operations. Is the complexity military, which means that either strategy, operational art, or tactics can manage it? Or is the complexity contextual, such as political or societal, which means that most of its solutions are outside the military sphere? Any answer must dive into the nature of the military disciplines and not just accept what they currently resemble. These questions cry out to be answered in light of the recent expeditionary wars in the Middle East that to a great extent have degenerated into military attrition and political exhaustion.

⁹²⁷ Bronfeld, "Did TRADOC Outmanoeuvre the Manoeuvrists? A Comment."; Czege, "Lessons from the Past: Making the Army's Doctrine 'Right Enough' Today"; Luttwak, "The Operational Level of War."; Newell, "Exploring the Operational Perspective."; Lock-Pullan, "Civilian Ideas and Military Innovation."; "How to rethink war: Conceptual Innovation and AirLand Battle Doctrine."; Swain, "Filling the Void."

⁹²⁸ Kipp, "Operational Art and the Curoius Narrative," 199-200.

Glossary

Sources:

AFGG	Les armées françaises dans la Grande guerre (The French Official History)
BAMA	<i>Bundesarchiv/Militärarchiv</i> (The German Federal Military Archive)
GRDP WW-1	<i>Rossiysko-Germanskiy proyekt pomoshch' otsifrovke germanskikh dokumentov v arkhivakh Rossiyskoy Federatsii</i> (The German-Russian digitalization project of German documents in Russian archives), the First World War documents.
OHGW	Great Britain, The Official History of the Great War.
Weltkrieg	<i>Der Weltkrieg</i> (The German Official History).

Abbreviations

AEF	American Expeditionary Force
AGB	German Army Group Boehn (<i>Heeresgruppe Boehn</i>)
AGR	German Army Group Crown Prince Rupprecht
AGW	German Army Group Crown Prince Wilhelm
BEF	British Expeditionary Force
CO	Commanding officer
FM	Field Manual
FSR	Field Service Regulations
G.A.C.	Central Army Group (<i>Groupe d'armées du Centre</i>)
G.A.E.	Eastern Army Group (<i>Groupe d'armées de l'Est</i>)
G.A.F.	Army Group Flanders (Le groupe d'armées des Flandres)
G.A.N.	Northern Army Group (<i>Groupe d'armées du Nord</i>)
G.A.R.	Reserve Army Group (Groupe d'armées de Réserve ou de Rupture)
GHQ	The BEF General Headquarters
HQ	Headquarters
OHL	German Army's High Command (<i>Oberste Heeresleitung</i>)
PMR	Permanent military representative to the SWC
RAF	The Royal Air Force
SWC	The Allied Supreme War Council

Bibliography

The bibliography contains both official histories and archived primary sources. The official histories serve both as secondary sources when their narrative is cited, but as primary sources to understand how central military terms were understood, especially those related to operational issues and operational art. The French official history has large numbers of primary sources attached in separate volumes, while the British have selected primary sources attached.

Key primary sources

Les armées françaises dans la Grande guerre), the French official history of the First World War. Quotations from the official history are cited with *AFGG, tome* (main volume), *volume of tome* (if more than one) and pages. Roman and Arabic numbers are used as in the original volumes. Primary sources published in the AFGG are cited as *AFGG, tome, volume of tome* (if more than one), *annex volume* (to *tome* or *volume of tome*), and annex number and pages. The annex number is the serial number given to each source element in the annexes to the *tomes*.

Examples:

Text in the first volume of *tome* seven, page 175-180, is cited as *AFGG VII-1, 175-180*.

Annexe no. 3048 in the fourth annex to *tome* three at pages 168-169 is cited as *AFGG III-4, Annexe No. 3048, 168-169*.

Annexe no. 327 in the second annex to the first volume of *tome* four at pages 28-29 is cited as *AFGG IV-1-2, Annexe No. 327, 28-29*.

Der Weltkrieg 1914 bis 1918, the official German history of World War One, are quoted as *Weltkrieg*, volume and pages. Pages 89-93 in volume 14,1, is referred as *Weltkrieg, 14,1, 89-93*. Maps and other annexes are referred to by volume, *Beilagen* (annexes) and *Beilage* no. (annex no.) or pages: *Weltkrieg, 14, Beilagen, Beilage 21*.

The British **Official History of the Great War** is referred to as *OHGW, volume and pages*. Primary sources and maps included as appendices will be cited as *OHGW, volume, appendix number and pages*. Roman and Arabic numbers are used as in the original volumes.

Many of the **German records from the First World War** was destroyed during the Second World War. The Bundesarchiv collected the majority of the surviving documents, but some ended up in East Berlin and later Moscow. Several of the lost sources as copies emerged in the US since the US Army copied several documents between 1919 and 1937.⁹²⁹ The American copies were shared with the *Bundesarchiv*, and are available online for research. Sources from the German Federal Military Archive (*Bundesarchiv/Militärarchiv*) are referred to as *BAMA* and file: *BAMA PH5I/48*.

The German-Russian digitalization project of German documents in Russian archives (*Rossiysko-Germanskiy proyekt pomoshch' otsifrovke germanskikh dokumentov v arkhivakh Rossiyskoy Federatsii*) has made a number of German military documents and maps that were captured by the Red Army at the end of the Second World War, available online at <http://germandocsinrussia.org/de/nodes/1-rossiysko-germanskiy-proekt-po-otsifrovke-trofeynyh-kollektsiy>

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⁹²⁹ Zabecki, *The German 1918 offensives*, 7-9.

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