

Archived Content

Information identified as archived on the Web is for reference, research or record-keeping purposes. It has not been altered or updated after the date of archiving. Web pages that are archived on the Web are not subject to the Government of Canada Web Standards.

As per the [Communications Policy of the Government of Canada](#), you can request alternate formats on the "[Contact Us](#)" page.

Information archivée dans le Web

Information archivée dans le Web à des fins de consultation, de recherche ou de tenue de documents. Cette dernière n'a aucunement été modifiée ni mise à jour depuis sa date de mise en archive. Les pages archivées dans le Web ne sont pas assujetties aux normes qui s'appliquent aux sites Web du gouvernement du Canada.

Conformément à la [Politique de communication du gouvernement du Canada](#), vous pouvez demander de recevoir cette information dans tout autre format de rechange à la page « [Contactez-nous](#) ».

MASTERS OF DEFENCE STUDIES RESEARCH PAPER

**Clausewitz Confounded: The Red Army's
Solution to the Problem of Culmination**

By / par Major John Reiffenstein

This paper was written by a student attending the Canadian Forces College in fulfilment of one of the requirements of the Course of Studies. The paper is a scholastic document, and thus contains facts and opinions which the author alone considered appropriate and correct for the subject. It does not necessarily reflect the policy or the opinion of any agency, including the Government of Canada and the Canadian Department of National Defence. This paper may not be released, quoted or copied except with the express permission of the Canadian Department of National Defence.

La présente étude a été rédigée par un stagiaire du Collège des Forces canadiennes pour satisfaire à l'une des exigences du cours. L'étude est un document qui se rapporte au cours et contient donc des faits et des opinions que seul l'auteur considère appropriés et convenables au sujet. Elle ne reflète pas nécessairement la politique ou l'opinion d'un organisme quelconque, y compris le gouvernement du Canada et le ministère de la Défense nationale du Canada. Il est défendu de diffuser, de citer ou de reproduire cette étude sans la permission expresse du ministère de la Défense nationale.

Table of Contents

Table of Contents	i
Abstract	ii
Introduction	1
Chapter	
1. The Historical Background to the Problem of Culmination	4
2. Successive Operations and the Operational Level of War	12
3. Logistical Considerations in Operational Art	17
4. The Pre-War Period and the First Period of War	37
5. The Second Period of War	51
6. Operation Bagration	69
Conclusion	78
Bibliography	82

Abstract

The problem of culmination has long bedevilled armies. Culmination is a concept that describes how an army grows weaker as it advances, until its strength finally falls below that of the defender (the culminating point) leaving it vulnerable to a counteroffensive. There were several key examples of this phenomenon in the early years of the twentieth century, most notably the German culmination on the Marne in 1914, and the Red Army's culmination on the Vistula in 1920.

Working from these examples, Soviet interwar theorists considered answers to the problem of culmination, including a careful examination of logistical factors and the development of the concept of successive operations. Coupled with work on a theoretical Shock Army that was sufficiently robust to conduct operations in depth, the interwar theorists laid the groundwork for a solution to the problem of culmination.

During the Second World War, the Red Army married the theoretical solutions from the interwar period to the practical experience gained against the Germans. It was a painful process; the Red Army suffered several significant culminations in 1942-43 before it was fully able to operationalize the theoretical constructs against a determined enemy. However, in the end, the Soviets solved the problem of culmination as shown by their Bagration offensive in 1944. This solution was achieved because they finally developed the practical expertise to allow them to execute the brilliant theoretical constructs developed by the interwar thinkers.

Introduction

In the spring of 1943, operations on the Eastern Front literally ground to a halt during the spring rasputitsa, the biannual wet season that turned Russian dirt roads into impassable sloughs. The Soviet offensive that had destroyed the German 6th Army in Stalingrad had finally been halted by a German counter-attack that recaptured Kharkov. Germans were now faced with a choice concerning their strategic approach for the coming summer. The most straightforward option was to attack; the Soviets had not yet been able to stop a German offensive short of its operational objectives. The target would be the huge Soviet salient centred on Kursk, a product of the last Soviet offensive. On the other hand, Field Marshal Manstein, the Commander of Army Group South favoured an approach that would cede the initiative to the Soviets. He wanted to allow them to launch their own offensive towards the Dnepr River, and then thrust south into their flank. With the Germans attacking from the north, trapped against the Sea of Azov to the south, the overextended Soviet spearheads would be destroyed.¹

Manstein referred to this approach as hitting the Soviets “on the backhand”, and it was influenced by his recent success in retaking Kharkov.² He recognized that, based on their success in encircling the 6th Army, the Soviets could break through the German lines where and when they chose. However, as shown by the manner in which they were thrown back at Kharkov, the Soviets were vulnerable to the problem of culmination, the operational exhaustion that left their advancing forces vulnerable to German counterblows. Manstein had deliberately held off on launching this attack until he felt

¹ John Erickson, *The Road to Berlin* (London: Weidenfeld and Nicolson, 1983), 63.

² Erich von Manstein, *Lost Victories* (St. Paul, MN: Zenith Press, 2004), 445.

the Soviets had culminated.³ In the end, Hitler chose not to take Manstein's advice, and the Germans launched their 'Citadel' offensive to crush the Kursk salient in July 1943. The Kharkov counteroffensive thus became a watershed, as it represented the last time at the operational level that the Germans were able to take advantage of culmination on the part of the Soviets. From the summer of 1943 onwards, the Soviets addressed the factors that had caused them to culminate during earlier offensives.

This paper will argue that the Soviets solved the problem of culmination by combining the interwar theoretical work on successive operations, the Shock Army, and logistical norms with the expertise gained during the first three years of the war. The paper will examine these key theoretical constructs over the first three chapters, focussing on their relevance to the issue of culmination. The paper will then trace over the final three chapters how the Soviets grappled with culmination during the Second World War. The intent is not to provide a broad historical survey but rather to focus on key operations that illuminate critical aspects of the Red Army's efforts to address culmination.

Since the fall of the Soviet Empire, a wealth of new material has become available in English on Soviet military theory and the Red Army. This paper will consider the theoretical constructs noted above based on a review of the published translations of the books and articles of the key theorists. In terms of secondary sources, the most important authors are Colonel (retired) David Glantz and the late John Erickson. Erickson was one of the few to gain access to the Soviet archives during the Cold War, and his key works are still tremendously useful. David Glantz, an American Artillery Officer who worked in their Foreign Military Studies Office has been the most prolific

³ Gunter Roth, "Operational Thought from Schlieffen to Manstein," in *Historical Perspectives on the Operational Art*, ed. Michael Krause and R. Cody Phillips, 149-168 (Washington: Center for Military History, 2004), 163.

writer on Soviet military affairs, taking full advantage of the unprecedented access to archival materials over the past two decades. Where Glantz has led, many others have now followed, most notably Richard Harrison, Evan Mawdsley, and this paper will draw on the this full panoply of Sovietologists in considering the Red Army's actions during the Second World War.

The Soviet solution to the problem of culmination was a product of several factors. Firstly, the issue of culmination had loomed large for the Soviets almost from the birth of the Red Army, and so the solution to the problem was a product of historical experience. The Soviet theorists of the interwar period considered the causes of culmination and developed a framework that addressed these areas. This was done through the creation an operational art that paid particular attention to logistical concerns. Secondly, the Soviets married this theoretical work to the empirical evidence gleaned so painfully during the first two years of the war. The process was made more difficult because Stalin's purge of the Red Army's leadership in the late 1930's meant that almost all the key theoreticians were dead, and that, at least for the first period of the war, their thinking was in disrepute. However, by late 1943, the Red Army had married the work on the interwar thinkers to their experience from 1942-43. The end result was a mature and sophisticated operational art that left few vulnerabilities for the Germans to exploit. By solving the problem of culmination, the Soviets ensured that their defeat of Germany was inevitable.

Chapter 1 – The Historical Background to the Problem of Culmination

The idea of culmination was formally identified by the Prussian theorist Carl von Clausewitz. Clausewitz noted that the overall strength of an attacking force will be depleted over the course of a campaign. While Clausewitz argued that a pursuit would be required to complete the destruction of the enemy, he added that “every attack loses impetus as it progresses,” and so paradoxically, this vital activity had a deleterious effect on the army performing it.⁴ He attributed this to a number of factors, included losses in battles and to sickness, the distance from sources of supply and replacements, and the requirement to garrison the area behind an army’s advance.⁵ Consequently, he foresaw a point at which the strength of the attacking force would reach equilibrium with that of the defender, so that the attacker was effectively forced to go over to the defensive until a peace could be reached. Clausewitz called this the moment where the relative strengths were balanced “the culminating point of the attack”, and he noted that a defensive established at this point would be necessarily weak.⁶ Moreover, if the attacker persisted in advancing beyond this culminating point, “the scale turns and the reaction follows with a force that is usually much stronger than that of the original attack.”⁷ This “reaction” had been aptly demonstrated by the German recapture of Kharkov, although in this case, while sufficient to secure a significant operational victory, it was by no means stronger than that of the original Soviet attack the previous November.

⁴ Azar Gat, *A History of Military Thought: from the Enlightenment to the Cold War* (Oxford: Oxford University Press, 2001), 200.

⁵ Carl von Clausewitz, *On War*. Ed. and trans. Michael Howard and Peter Paret (Princeton, Princeton University Press, 1976), 527.

⁶ Michael Handel, *Masters of War: Classical Strategic Thought*, 3rd ed. (London: Frank Cass, 2001), 184-5.

⁷ Clausewitz, *On War*, 528.

Clausewitz was extremely concerned about any loss of momentum, which could start a slide towards culmination. In this respect, an army had to be wary of halting, for whatever reason: “any kind of interruption, pause or suspension of activity is inconsistent with the nature of offensive war... when weakness does compel us to halt, a second run at the objective normally becomes impossible.”⁸ He then went on to argue that should this objective be secured, this only proved that a halt was unnecessary in the first place. Clausewitz argued that the best method of preventing culmination was the maintenance of unrelenting pressure upon a retreating enemy. In advocating this ‘principle of continuity’, Clausewitz reflected a similar attitude on the part of Machiavelli. Machiavelli, considering Hannibal’s ultimate failure in the Punic Wars, argued: “When a general wins, he ought with all speed to follow up his victory, imitating in this manner Caesar, not Hannibal, who by his standing still after he had defeated the Romans at Cannae, lost thereby the mastery of Rome.”⁹ Consequently, one of the more remarkable achievements of Soviet operational art was the manner in which they were able to overcome the prevailing military wisdom dating back nearly 500 years by addressing this issue of pauses through the incorporation of successive operations into a successful campaign plan. The theory of Successive operations, which will be explained in detail later, allowed the Soviets to maintain pressure on a retreating enemy, but also allowed them to stop when continued pursuit would be foolhardy.

⁸ Ibid., 599-600.

⁹ Nicolo Machiavelli, quoted in Handel, *Masters of War*, 170.

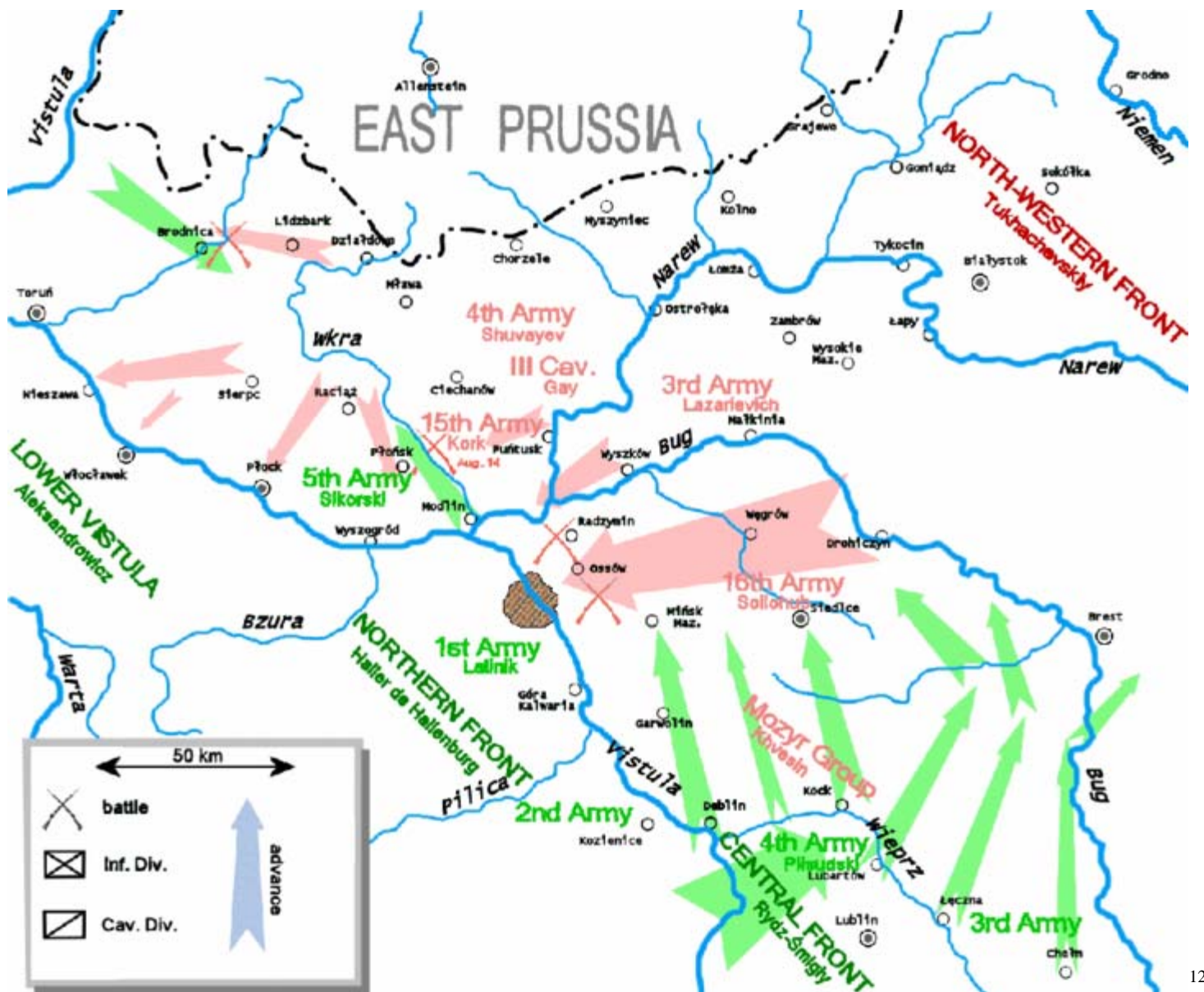
In considering the issue of culmination, and its corollary, continuity, Clausewitz was working from, *inter alia*, Napoleon's unsuccessful invasion of Russia.¹⁰ However, while this episode certainly loomed large in Russian military history, the Soviet theorists of the interwar period had a more recent unhappy example that demonstrated how the reaction following culmination could be much stronger than the original attack. During the tumultuous period that followed the Peace of Brest-Litovsk, and while the Civil War was raging in Russia proper, the nascent Soviet Union also became embroiled in a war with the recently restored Polish state. As the Soviet government sought to take the first steps on the road to worldwide communism, they invaded Poland in the summer of 1920. The war with Poland would be significant for two reasons: it provided grist for the theoretical mill of the 1920's; and it brought the young Red Commander Mikhail Tukhachevsky to prominence. Tukhachevsky would figure extremely prominently in nearly all the interwar doctrinal debates. Tukhachevsky was born into the minor Russian nobility in 1893. He served briefly in the Czarist Army as a Lieutenant, but spent most of the First World War as a German Prisoner of War. After escaping the Germans, he joined the Communist party in April 1918, and soon rose within their ranks.¹¹ By that summer he was commanding a division and after further commands in the Civil War he was assigned a key role in the invasion of Poland.

As The Russo-Polish border was bisected by the impassable Pripet Marshes, the Soviets were forced to attack along two separate axes. South of the Marshes, the Soviet Southwest Front was commanded by Marshal Kamenev with Josef Stalin as his political

¹⁰ Handel, *Masters of War*, 194.

¹¹ John Erickson, *The Soviet High Command: A Military-Political History, 1918-1941*, 3rd ed. (London: Frank Cass, 2001), 57.

Commissar. To the north, the attack was conducted by the Red Army's Western front, led by Marshal Tukhachevsky. Starting from well within Russia (Minsk and Kiev), the two Fronts had advanced over 300km by mid-July. However, while the Poles had been pushed back, there had been no significant encirclements.



On 23 July, the overall Soviet Commander, Kamenev, agreed to a request from Stalin to reorient the South-Western Fronts axis from the Northwest, directed against

¹² http://en.wikipedia.org/wiki/File:Battle_of_Warsaw_-_Phase_2.png Internet. Accessed 20 Apr 2009.

Brest, to a Westerly direction towards L'vov.¹³ This meant that instead of converging on Warsaw, the two Fronts were now on diverging courses. Unaware of this change, Tukhachevsky, presuming his left flank was secured by the South-western Front, prepared to outflank Warsaw to the north. However, the gap that had opened between the two Fronts provided an opening for a Polish counterattack. On 16 August Marshal Pilsudski led the Poles against the 'Mozyr Group' which was screening Tukhachevsky's left flank. The Soviet forces by this point were nearly exhausted, as some elements had advanced close to 600 kilometres during the offensive.¹⁴ By August 20th, Tukhachevsky was forced to retreat from Warsaw and by the time an armistice was concluded in October, the Soviet forces had been driven all the way back to their original start line.

While the Poles might well rejoice in their "Miracle on the Vistula,"¹⁵ for the Soviets it was a significant defeat, for it marked an end to their first efforts to spread communism abroad. There were two lasting consequences to the Soviet defeat. Firstly, the defeat created a rift between Tukhachevsky and Stalin. The bad blood would persist until Stalin had Tukhachevsky killed and the start of the purges in 1938. Secondly, the failed offensive in Poland provided a salient example to the Red Army of the dangers of culmination, and this in turn influenced much of the theoretical work of the interwar period.

The Polish campaign reflected the Russian/Soviet experience of the preceding six years as it featured extensive manoeuvre. Tukhachevsky's attack of 4 July had been able

¹³ Richard Harrison, *The Russian Way of War: Operational Art, 1904-40* (Lawrence: University Press of Kansas, 2001), 113.

¹⁴ *Ibid.*, 113.

¹⁵ Norman Davies, *White Eagle, Red Star: The Polish-Soviet War 1919-20* (London: Macdonald, 1972), 223.

to penetrate the linear Polish defensive lines. The problem, however, had come at the end, rather than the beginning of the offensive. During the interwar period, the Soviets studied the Polish campaign extensively, and it also was considered as part of the ‘Conduct of Operations’ course at the Military Academy.¹⁶ By 1930, a Soviet bibliography of the war with Poland contained 257 titles.¹⁷ Overall, notwithstanding the feud between Stalin and Tukhachevsky which might have inhibited debate, the constructive criticism of the conduct of the campaign ultimately proved to be extremely fruitful.

Two of the best analyses of the campaign were done by Red Army officers N. Varfolomeev and G.K Isserson. Writing in 1928, Varfolomeev outlined his views on why the Red Army had culminated in the Vistula campaign.¹⁸ Having served in the campaign, he had seen what transpired first-hand. Earlier in the Civil War, the Soviets had successfully conducted pursuits that went on for over 2000 kilometres, such as that against Admiral Kolchak. Paradoxically, as they advanced the Soviets grew stronger, not weaker. This was a function of their ability to seize enemy supply dumps as they advanced, and on the support they derived from a relatively friendly population. This support was rendered both in materiel terms, and in the form of new recruits. From operations like this, where the rate of advance averaged 200 kilometres per week, the Red Army deduced: “Move boldly forward and do not fear exhaustion; everything necessary

¹⁶ N. Varfolomeev “Strategy in an Academic Formulation,” in *The Evolution of Soviet Operational Art, 1927-1991: The Documentary Basis, Volume I*, trans. Harold Orenstein, 33-47, (London: Frank Cass, 1995), 41.

¹⁷ Jacob Kipp , The Origins of Soviet Operational Art, 1917-1936,” in *Historical Perspectives on the Operational Art*, ed. Michael Krause and R. Cody Phillips, 213-246, (Washington: Center for Military History, 2004), 243.

¹⁸ The information in this paragraph comes from N. Varfolomeev “Strategy in an Academic Formulation”, 33-47.

will be on hand.” This conclusion, running contrary to Clausewitz, was shown to be fundamentally flawed on the Vistula, primarily because none of the underlying circumstances which had prevailed across the breadth of Russia were present in Poland. As the Red Army advanced towards Warsaw they outpaced the rate at which construction crews could replace those sections of the rail lines destroyed by the retreating Poles. This meant that the distance between the leading elements and the supporting railhead averaged between 60 and 180 kilometres through the campaign. Forward of these points, supplies had to come forward on roads, and while the rate which these were restored averaged 12-20 kilometres/day, it was still insufficient. This forced the Army to rely on the local area for supplies, but here they found the Polish peasantry (contrary to Marxist theory) to be hostile. It was difficult to draw supplies from the countryside, and as the armies crossed from Belorussia into Poland proper they found that the supply of volunteers for the ranks had dried up.

Writing in 1932, and drawing on the work of another theorist, V.K. Triandafillov, Isserson identified a more fundamental cause for the Red Army’s failure on the Vistula.¹⁹ Isserson argued that the form of the Vistula operation reflected the linear approach that was characteristic of the ineffectual campaigning on both fronts in the First World War. He identified several key factors that contributed to the disaster on the Vistula (and were similarly evident during the German march on the Marne as well). Firstly, reflecting the linear thinking prevalent at the time, which he attributed to the innate conservatism of the military mind, the operation was conducted on a single axis to a depth of 600 kilometres against preselected reference points. This underlines the second factor, which was a

¹⁹ The information in this paragraph comes from G. Isserson, “The Evolution of Operational Art,” in *The Evolution of Soviet Operational Art, 1927-1991: The Documentary Basis, Volume I*, trans. Harold Orenstein, 48-77., (London: Frank Cass, 1995), 69-71.

failure to alter the scheme of manoeuvre to reflect reality on the ground. Rather than have the III Cavalry Corps and the 4th Army effect encirclements en route, they were continually pushed forward on the designated axis, missing the opportunity to weaken the enemy. Isserson attributed the failure to react to changing circumstances to the remote location of the Front leadership. Based well in the rear, they lost their sense of how the operation was unfolding.

Between the analyses of Varfolomeev and Isserson the key questions pertaining to the problem of culmination were addressed. While the former identified the logistical factors that lead to exhaustion, Isserson focussed on the requirement for a new form of operational art, suitable to the conduct of campaigns in depth. These two elements would be at the core of the work of the interwar theorists as they developed solutions to the problem of culmination.

Chapter 2 – Successive Operations and the Operational Level of War

That Isserson identified the requirement for an improved ‘operational art’ illustrates a key facet of the Soviet solution to culmination. Had he been writing 20 years earlier, Isserson would have written of the need for new tactics or strategy, for operational art did not exist as a theoretical construct. The most fundamental step in addressing the issue of culmination was the development of the concept of the operational level of war, and its accompanying practice, operational art. Given that culmination was a function of a series of battles or engagements, considering these independent actions as part of a larger whole was vital. While General A.A. Svechin is credited with the articulation of operational art as an entity distinct from tactics and strategy, the roots of the concept predate the interwar period. Two of the more prominent military theorists within the Czarist Army were A.G Elchaninov and A.A. Nezanov. Writing prior to the First World War, Elchaninov anticipated the future wars would consist of a “series of unbroken local decisions”.²⁰ For his part, Nezmanov, disagreeing with Clausewitz, identified the requirement to pause periodically.²¹

The American Civil War, the Franco-Prussian-War, the Russo-Japanese War and finally the First World War had all seen a significant incremental growth in the size of the forces engaged, the physical dimensions of the battlefield, and the duration of each battle.²² Building off this trend, and the earlier theoretical work of Elchaninov and Nezmanov, Svechin determined that armies had grown too large to be defeated in a single

²⁰ Harrison, *Russian Way of War*, 37.

²¹ *Ibid.*, 30.

²² David Glantz, *Soviet Military Operational Art: In Pursuit of Deep Battle* (London: Frank Cass, 1991), 17-18.

decisive battle. In his work *Strategy* (1926), he expressed this concept in the following terms: “Only on a few occasions can one depend on one engagement to secure the final objectives of military actions. Normally, the path to final aims is broken up into a series of operations...”²³

Svechin argued that the best strategy for the Soviet Union was one of attrition. In this he came up against Tukhachevsky who advocated a strategy of annihilation. In practical terms, the significance of this debate can be exaggerated, because there was a general consensus amongst Soviet thinkers that the next war would be protracted.²⁴ Soviet military science was extremely hierarchical. Consequently, from this agreement that any future war would be relatively lengthy, it became the task of Soviet operational art to determine the best means to triumph in such a conflict.

With the experience of the war with Poland still fresh, Kamenev, the Commander of the Red Army from 1919-1924 took the idea that there would be a series of engagements in any war, one step further. He placed the emphasis within the campaign on the final battle: “in spite of all victorious fights before the battle, the fate of the campaign will be decided in the very last battle.”²⁵ This thinking was further refined in what would become the theory of successive operations. Bringing together much of the thought that grew from the first few years of the Red Army’s existence, Tukhachevsky articulated the essence of this theory. “The impossibility on a modern wide front of destroying the enemy army by one blow forces the achievement of this aim by a series of

²³ Ibid., 23.

²⁴ Harrison, *Russian Way of War*, 127.

²⁵ Glantz, *Soviet Military Operational Art*, 21.

successive operations.” Moreover, he noted that this series of operations would conclude when “either the enemy has been struck by a final annihilating blow or when the offensive forces are exhausted.”²⁶ Consequently, the perils of operational exhaustion were nested from the outset in the theory of successive operations.

This fear of culmination reflected the idea that as an army advanced it grew weaker, and there was a great deal of raw material for the theorists to work with in this respect. Besides the best known theorists such as Tukhachevsky and Svechin, numerous other Soviet officers contributed to the consideration of this matter as part of the vibrant intellectual climate that characterized the Red Army prior to the purges. Boris Shaposhnikov, who survived the purges to become Chief of the General Staff in 1941-42, identified the failure to discern the culminating point as a key factor in the Vistula campaign.²⁷ Besides the disaster on the Vistula, the other example that attracted much Soviet interest was the German defeat on the Marne. The Red Commander V.A. Melikov examined the German defeat on the Marne, the Vistula campaign and the Greek defeat in Anatolia (1922) and identified the problem of culmination as the common factor in all three.²⁸ Similarly, N.N. Movchin, a Red Army staff officer and Frunze Academy graduate, published Consecutive Operations according to the Experience of the Marne and the Vistula in 1928. The use of more than one historical example or source in these analyses was significant. While the Vistula was a personal matter for many of the

²⁶ Ibid., 22.

²⁷ Jacob Kipp, “Two Views of Warsaw: The Russian Civil War and Soviet Operational Art,” in *The Operational Art: Developments in the Theory of War*, ed. B.J.C. McKercher and Michael Hennessy, 51-86, (Westport, CT: Praeger, 1996),60.

²⁸ Harrison, *Russian Way of War*, 157.

Soviets, the scale of the Marne offensive allowed some crucial deductions to be drawn from it.

One key element of the theory of successive operations was that each discrete operation, or distinct engagement, within the series had to be linked by a common purpose. Otherwise, any tactical actions, even advances, which did not support the operational objective were not merely purposeless, but they actually contributed to the weakening of the force, and brought them physically closer to the culminating point. In considering the Marne, Svechin wrote: “The attacker must remember that simple forward movement only weakens him and is a very conditional plus... Every kilometre the German forces advanced after the border engagement on the Marne without achieving noticeable tactical successes was an apparent loss.”²⁹ The solution to this purposeless and ultimately detrimental activity was the creation of a shared purpose which animated all the activities of an operational-level formation. Varfolomeev emphasized this unifying factor, whilst recognizing that both literally, and figuratively, operations might not always proceed in a straightforward linear fashion: “the path to victory under modern conditions lies on the zig-zag of an entire series of operations, successively developing one after another... united by the commonality of the ultimate aim, each one achieving limited intermediate aims which in their totality represent operational pursuit.”³⁰ The idea of an interconnected series of operations also reflected Clausewitz’s corollary to culmination. This was his principle of continuity: “commanders must exploit an advantage by keeping the enemy under unrelenting pressure, thereby denying him respite

²⁹ A.A. Svechin, “Strategy and Operational Art,” in *The Evolution of Soviet Operational Art, 1927-1991: The Documentary Basis, Vol I*, trans. Harold Orenstein, 5-32, (London: Frank Cass, 1995), 18.

³⁰ Varfolomeev, “Strategy in an Academic Formulation,” 42.

or time to regain his equilibrium.”³¹ An enemy under contrast pressure during a series of successive operations would be hard pressed to regain the initiative and seek to take advantage of any exhaustion or over-extension on the part of his foe.

The logical development of the theory of successive operations was Svechin’s identification of the operational level of war as a distinct entity between the tactical and strategic levels. The core of this idea was that while tactics might be sufficient to address the matter of a single battle, the theory of successive operations had determined that a series of such engagements were necessary to destroy a modern army. While strategy would launch a force into this series (whilst simultaneously employing other formations or national assets in other theatres), it did not address how Varofolomeev’s “limited intermediate aims” could be bound together into a cohesive whole to achieve the strategic aim. There consequently was a gap between the tactical and strategic levels, which Svechin proposed to fill with the operational level of war. As tactics were practiced at the tactical level, and strategy at the strategic level, operational art was the activity at the operational level. Svechin put it pithily: “tactics make the steps from which operational leaps are assembled. Strategy points out the path”.³² He went on to note that the materials of the operational art were tactics and administration, and this latter element speaks to the second focus of the interwar theoretical efforts to address culmination.

³¹ Handel, *Masters of War*, 165.

³² Glantz, *Soviet Military Operational Art*, 23.

Chapter 3 – Logistical Considerations in Operational Art

Historical Logistical Problems

In the late 1920's, with the theory of successive operations and the concept of operational art as a foundation, Soviet writers began to address the causes of culmination in detail. In its most basic sense, culmination was the consequence of an army extending operations beyond the point where they could be properly sustained. Varfolomeev expressed this in the following terms: "The success of a 'prolonged' offensive, a continuous, deep pursuit (series of successive operations) is directly related to the successful fight against the consequences of accompanying operational exhaustion."³³ The key here was logistics, and specifically the determination of norms identifying how far a force could advance before it had to pause for resupply.

Logistical issues had long bedevilled Russian armies, and in the pioneering theoretical work prior to the First World War, Nezmanov had underlined the significance of supply-related issues as armies grew in size and the old distinction between tactics and strategy became increasingly meaningless³⁴. After their initial engagements in 1914, the Russian Army had found their supply services were severely flawed, and this had contributed to their catastrophic defeat at Tannenberg.³⁵ Many of the Russians who meekly laid down their arms as the German pincers closed had not eaten for days.³⁶ Matters were no better for the Red Army, for a variety of reasons. Trotsky attributed the problems in basic supply issues to the fact that the Soviet Army had no tradition of

³³ Varfolomeev "Strategy in an Academic Formulation.", 43.

³⁴ Harrison, *Russian Way of War*, 163.

³⁵ Kipp, "The Origins of Soviet Operational Art, 1917-1936," 216.

³⁶ Harrison, *Russian Way of War*, 48.

“internal economy” to fall back upon.³⁷ The expansion of the Red Army during the late 1920’s and early 1930’s, coinciding with a significant experimentation in mechanization, only exacerbated the fundamental problems. New equipment was regularly introduced while old models were simultaneously kept in service, creating a nightmare for standardization.³⁸

These factors manifested themselves in continual problems during the civil war. One reason for the enormous penetrations, and subsequent culminations, which characterized the civil war (and helped inspire the development of operational art) was the amateurish state of the rear services of all the combatants. John Erickson noted that the weak logistical supports made the Front of the civil war extremely fragile, and liable to shatter under a concerted attack. “Once the blow lost its momentum, however, and the forces became spread ever more thinly across a greater space, a counter blow sent them reeling away in disorder. Weak organization in the rear constantly hastened this process of dissolution and disintegration.”³⁹ As Varfolomeev had noted, this trend was equally evident during the defeat on the Vistula. Following the initial breakthrough against Tukhachevsky’s left flank, Soviet efforts to bring up reinforcements to plug the breach were hampered by the inadequate rail services. This left the Poles in a position to wreak uninterrupted havoc amongst his jerry-rigged rear services, “an ill-assorted jumble of peasant carts, ammunition trains, artillery parks and straining locomotives.”⁴⁰

³⁷ Roger Reese, *The Soviet Military Experience* (New York: Routledge, 2000), 58.

³⁸ *Ibid.*, 95.

³⁹ Erickson, *Soviet High Command*, 50.

⁴⁰ *Ibid.*, 98-100.

In terms of addressing logistical issues, the most important theoretician was Tukhachevsky's collaborator Triandafillov. Triandafillov had been conscripted into the Czarist Army in 1914, and was commissioned in 1915 following the high officer casualties of the first year of the war. When the Civil War broke out, he joined the Red Army as a military specialist, the term used for former Czarist officers without who the Red Army would have been a mere mob.⁴¹ In terms of his contribution to addressing the problem of culmination, Triandafillov's significance lies in the manner in which he sought to go beyond expressing his theories in mere words by attempting to work with hard figures, particularly in terms of empirical norms for all aspects of operations. This approach resonated well within the broader environment of the Soviet State. By using hard data, Triandafillov was contributing to the establishment of a scientific view of military matters. Just as Marxist-Leninism purported to see the world in scientific terms ('Scientific Socialism'), so too did its associated military apparatus. In the early 1920's, there was considerable debate on this matter with Trotsky, who had led the Red Army during the Civil War, suggesting that a scientific approach was unsound: "There is not and there never has been a military 'science'... the theory of war or military science represents not a totality of scientific laws explaining objective events but an aggregate of practical usages, methods of adaptation and proficiencies."⁴² Trotsky's views were opposed by the Red Commander Mikhail Frunze who argued that, in order to be consistent with broader Marxist-Leninist theory, the Red Army required a 'Unified Military Doctrine'. Frunze prevailed in this debate. Consequently, in explaining where

⁴¹ Harrison, *The Russian Way of War*, 143.

⁴² Gat, *A History of Military Thought*, 508.

Soviet military thought fit into the broader academic milieu, Ye Savkin wrote: “Soviet military science is on the dividing line between social science and natural science,” and he emphasized this point by arguing that “armed conflict is subordinate to statistical laws.”⁴³ Frunze’s idea of a unified military doctrine, and a scientific approach to the study of war set the conditions for Triandafillov’s later empirical work. While much of this work would focus on the problems of the breakthrough, any penetration in depth had to give significant consideration to logistical issues or exhaustion-induced culmination was almost inevitable. Consequently, Triandafillov’s chosen tool for operations in depth was supported by a detailed analysis of logistical factors.

The Shock Army

Before his earlier death in a plane crash in 1931 (which ironically likely spared him from being purged along with most of his enlightened peers), Triandafillov developed the theory of successive operations by proposing a concrete means of effecting the engagements envisioned in the theory: the shock army. Triandafillov argued that a number of developments, notably the proliferation of machine guns, the increasing depth of defences, and the availability of motorized transport for the movement of reserves, had significantly strengthened the power of the defensive.⁴⁴ The Shock Army, a massive grouping of infantry and cavalry (later tanks), lavishly supported by artillery, was designed to address and overcome these factors. The salient points of his thinking were captured in his masterpiece, The Nature of the Operations of Modern Armies, published

⁴³ Ye Savkin, *The Basic Principles of Operational Art and tactics: A Soviet View*, Trans. under the auspices of the United States Air Force, (Washington: U.S. Government Printing Office, 1972), 58-60.

⁴⁴ Harrison, *Russian Way of War*, 14.

in 1931. Most of Triandafillov's work on the Shock Army as the means for conducting successive operations concerned the means of effecting the breakthrough and developing this in a penetration into the operational depths. However, he also considered the problems of logistics, and the consequent danger of culmination, through a two-faceted approach.

The first element in Triandafillov's solution concerned the requirement to design a sufficiently robust shock army such that it had to staying power to conduct successive operations without prematurely running out of steam. From his own study of the Marne and Vistula campaigns, Triandafillov concluded that the shock army: "must be organized so that it will be capable with its own forces of conducting a series of successive operations from start to finish. It must have the resources that will allow it to surmount any enemy resistance, both at the outset and during operations."⁴⁵ There were two challenges here.

The first challenge concerned the requirement to build up sufficient supplies immediately behind the shock army before it went over to the offensive. In this respect, the Marne and Vistula operations, while useful, were unusual examples: the Marne represented the opening operation of a war, while the Soviet drive on the Vistula was largely an offensive launched 'off the line of march', as opposed to a set piece operation. As a theoretical construct, the norm for the Shock Army would instead be a more deliberate offensive, initially launched from a position of relative stasis. Given this ideal form, one of the better examples of the requirement for logistical preparations concerned the Russian Brusilov offensive in 1916. This offensive broke through the enemy front on

⁴⁵ V.K. Triandafillov, *The Nature of the Operations of Modern Armies*, ed. Jacob Kipp, trans. William Burhans, (London: Frank Cass, 1994), 90.

a massive scale, and initially was one of the most promising Allied offensives of the war. However, the Russian High Command had failed to stockpile sufficient supplies for Brusilov to maintain the momentum of his opening attack. This failure to provide the necessary logistical support for a penetration to the operational depths was a significant factor in the eventual failure of the offensive.⁴⁶

To some degree, this issue reflected the aforementioned Russian/Soviet problem with logistical issues in general. Certainly, the detailed analysis of the Red Army's performance in the Civil War had identified supply deficiencies.⁴⁷ As the Commander of the Red Army in the mid-1920's, Mikhail Frunze had sought to draw attention to this issue. Having seen first hand the chaotic rear services that characterized operations during the Civil War, he established the position of a Red Army Chief of Supply. He also instituted a tough internal propaganda campaign to sensitize commanders to their responsibility for issues of supply.⁴⁸ As part of this overall effort, the Red Army also sought to leverage their secret program of cooperation with the German Wehrmacht. Thus, in 1930, three members of the Soviet General Staff attended the Wehrmacht's Logistics course.⁴⁹ Finally, the Red Army's Field Service Regulations of 1929 (PU-29) laid out a specific organization for the rear services at division and corps level.⁵⁰ Taken together, all these measures were intended to ensure that a Shock Army about to embark

⁴⁶ Harrison, *Russian Way of War*, 69.

⁴⁷ William Spahr, *Stalin's Lieutenants: A Study of Command Under Duress* (Novato, CA: Presidio, 1997), 115.

⁴⁸ Erickson, *Soviet High Command*, 175.

⁴⁹ Sally Stoecker, *Forging Stalin's Army: Marshal Tukhachevsky and the Politics of Military Innovation* (Oxford: Westview Press, 1998), 85.

⁵⁰ Erickson, *Soviet High Command*, 317.

upon a series of successive operations was provided an adequate allotment of supplies to start with.

The second challenge implicit in Triandafillov's vision of a robust Shock Army concerned finding the balance between a shock army sufficiently strong to fight a series of battles, and one so massive that it became unsupportable. In terms of this latter concern, even after many refinements, Triandafillov's proposed Shock Army remained a "logistical nightmare."⁵¹ On the other hand a smaller army would be vulnerable as it completed a series of operations: "such an army, having invaded deep into an enemy country, risks becoming isolated if not immediately supported by a stronger army."⁵² This preference for larger armies was shared by Tukhachevsky, who argued against the small professional armies proposed by some of the Western theorists such as Fuller. Tukhachevsky described a hypothetical example where a small, professional British force fought a mass American Army, and was crushed by sheer weight of numbers.⁵³

To a large degree, Triandafillov recognized the difficulty in achieving this desired balance was a function of the state of armies in the 1920's. Beyond the railheads, the means of supplying an army had progressed little since Napoleon's day. Even as the weaponry of an army had multiplied, particularly in terms of artillery and its ammunition, these armies continued to rely upon horse-drawn transport. Moreover, in underdeveloped Eastern Europe, horse transport literally took up more space that was available on the

⁵¹ Triandafillov, *Operations of Modern Armies*, xxxix.

⁵² *Ibid.*, 27.

⁵³ Richard Simpkin, in association with John Erickson, *Deep Battle: The Brainchild of Marshal Tukhachevsky* (London: Brassey's, 1987), 129.

limited road network.⁵⁴ Triandafillov saw the solution to these issues in technological terms, which accorded well with the similar approach he took to the problem of the initial breakthrough and its subsequent development into an operational penetration.

Consequently, although he was writing in the late 1920's, Triandafillov sought to anticipate, and integrate into his theoretical shock army, technologies that were still only in their infancy. The most important of these new developments was mechanization.

Just as a scientific approach to the conduct of war resonated with Marxist-Leninist thought, so too did an emphasis on new technologies. While Hitler might be extremely enthusiastic about new technologies such as the tank, Nazism and Fascism were in other respects (eg the role of women) fundamentally conservative ideologies. By contrast, Marxist-Leninism was an extremely modernist ideology, and so was willing to embrace technology, and any associated social changes, wholeheartedly.⁵⁵ Thus, Triandafillov could plan for the application of armour on a vast scale because this goal was congruent with the industrial emphasis of the Soviet Union's initial Five Year Plans. These Plans were centrally directed schemes aimed at nothing less than an immediate modernization of Soviet industry. Moreover, the Red Army favoured these efforts to industrialize the Soviet Union on a massive scale because this would provide the foundation for a mass expansion and mobilization of national resources in the event of war.⁵⁶

In practical terms, the Soviets paid a great deal of attention to developments abroad in the field of mechanization. In this respect, the world leaders were the British.

⁵⁴ Triandafillov, *Operations of Modern Armies*, 64.

⁵⁵ Gat, *History of Military Thought*, 632.

⁵⁶ Stoecker, *Forging Stalins Army*, 34.

The Soviets had already followed the theoretical work of Fuller, Liddell-Hart and Martel; Tukhachevsky had written the forward to the Russian translation of Fuller's *The Reformation of War*. Now, as this thinking began to be operationalized, they were keen observers of the British work with their Experimental Mechanized Force in 1927-28.⁵⁷ However, rather than follow the British lead of an extremely armour-heavy mechanized force, by the early 1930's the Soviets had opted to develop all-arms mechanized formations.⁵⁸ The first two mechanized corps were formed in 1932, with two more following in 1934. The development of long range tanks within these formations would be critical to the maintenance of pressure during the pursuit that Clausewitz had seen as being vital to his concept of continuity. While Triandafillov saw motorized transport as being critical to the resupply of these large mechanized formations beyond the railheads, he still appreciated that railways would carry the vast majority of the army's supplies and this is was the focus of much of the empirical work on logistical norms. With a similar emphasis on leveraging new technologies to support the emerging theoretical constructs, Tukhachevsky suggested that air support could be enlisted to supply the shock army as it penetrated into the operational depths.⁵⁹

Triandafillov also examined the question of how the Shock Army ought to be employed. In general terms, he sought to allow for the maintenance of momentum through the echelonment of his force.⁶⁰ Varfolomeev argued that: "only a deep

⁵⁷ Gat, *History of Military Thought*, 635.

⁵⁸ Erickson, *The Soviet High Command*, 351.

⁵⁹ Simpkin, *Deep Battle*, 147. This was in addition to the role envisioned for ground-attack aircraft in harrying the enemy during the pursuit. P.H. Vigor, *Soviet Blitzkrieg Theory* (London: Macmillan, 1984), 90-94.

⁶⁰ Harrison, *Russian Way of War*, 147.

formation ensures the launching of a deep blow.”⁶¹ This was applicable at every level. At the lowest tactical level, the enemy would likely counterattack with local forces as the impetus of the first echelon’s attack began to wane. The carefully timed introduction of the second echelon was designed to overcome this initial counterattack. At the Army level, the second echelon would be launched to complete the initial penetration and allow for the introduction of exploitation forces (in the 1920’s, cavalry, later armour) in to the operational depths. In this context, the operational depth was seen as a penetration sufficient to force the enemy to commit his operational reserve to counter it. The introduction of each succeeding echelon served to maintain pressure on the enemy while allowing fought-out forces to pause.

In terms of the form of the offensive, Triandafillov favoured an attack on a broad front. While an attack on a narrow front might achieve an initial penetration, it allowed a defender to concentrate his reserves (likely using good lateral rail lines).⁶² Triandafillov noted that “the duration of an operation greatly depends on the number and rate of accumulation of new forces by the defence.”⁶³ This sudden shift in the correlation of forces brought on by the lateral movement of uncommitted forces meant that the culminating point of such an offensive would be reached far sooner than if an attack on a broad front fixed a defender’s forces and forced him to meet any deep penetration with whatever forces were immediately available.

⁶¹ Ibid., 197.

⁶² Ibid., 145.

⁶³ Triandafillov, *Operations of Modern Armies*, 110.

In considering the offensive in more specific terms, Triandafillov favoured the attack on intersecting axes.⁶⁴ The basic form of attack, along a single axis (he termed it the 'ram') had the virtue of simplicity. However, it was impossible in this case to force the defender to stand and fight when the correlation of forces worked against him. The defender would be able to slip away, at a rate faster than the pursuer could manage over scorched earth. This had been one of the problems confronting the Soviets as they advanced on the Vistula. By contrast, the attack on intersecting axis offered several advantages. Firstly, it provided for the opportunity to encircle significant numbers of the enemy who were caught between the pincers. Secondly, because the initial attack would be launched on a broader front (two shock armies separated by 50 kilometres as opposed to immediately adjacent to one another) it meant that each army could draw on more rail lines for its initial supplies. This separation also served to create a broad front of pressure on the enemy (assuming fixing attacks between the main axis) preventing him from moving forces laterally. While initially each axis had to worry about the protection of two flanks, after the pincers had closed, each thrust offered only one exposed flank to the unengaged (as opposed to encircled) enemy. Consequently, the attack on intersecting axis ultimately required fewer troops for flank protection. Finally, the link up point provided the successive operations with a *dénouement* that concluded matters, as opposed to the ram where the end of the operation became a matter for the commander's judgement. The latter circumstance was more likely to lead to a dangerous culmination. This emphasis on the merits of intersecting axes was reflected in the Provisional Field

⁶⁴ Ibid., 151-52.

Service Regulations of 1936 (PU-36) which identified the aim of the offensive as the encirclement of the enemy.⁶⁵

Logistical Norms and the Limits of Successive Operations

By considering the requirement for a robust offensive capability, the manner in which it might best be employed, practical matters of supply, and the impact of new technology, Triandafillov had designed a theoretical Shock Army that had the staying power to conduct successive operations. The second facet of his work revolved around the fundamental question of how far could such an army be expected to advance before it reached the culminating point. This question turned on the establishment of appropriate logistical norms that could be used for planning purposes. As has been described, these norms were congruent with the broader trust of Soviet doctrine, but paradoxically, they were also extremely important because of some of the deficiencies of the Red Army attributable to its political philosophy. Before Triandafillov began his work, Svechin had identified the utility of such norms in placing restraints on otherwise overly aggressive, ideologically motivated, Red Commanders, and this extended to the highest levels: “the responsibility of strategy is to not allow offensive operations to drag out to the last gasp.”⁶⁶

At the operational level, norms helped to define the broad conduct of a campaign and to ensure the ends of the higher strategy were commensurate with the means. P.I. Izmet'ev was a member of the Czarist General Staff who joined the Red Army in 1918.

⁶⁵ Erickson, *Soviet High Command*, 439.

⁶⁶ Harrison, *Russian Way of War*, 166-7.

Faced with the problems encountered in the opening campaigns of the First World War, he had written in 1916 that logistical norms and details for the war plan should be based on “mathematically absolutely exact estimates.”⁶⁷ Tukhachevsky had considered the question of norms in general terms as he considered the strategic situation of the Soviet Union in the late 1920’s. At this stage, the threat came not from Germany but from the successor states in Eastern Europe born from the disintegration of the old Russian and Austro-Hungarian empires. The Soviets had already fought Poland, but there were other states to consider as well. The Baltic States lacked depth, and could likely be overrun in a single operation. Conversely, the defeat in 1920 had taught Tukhachevsky that a country the size of Poland could not be destroyed in a single offensive; it would require the implementation of the concept of successive operations, and any Soviet attack would likely see one or more operational pauses to allow for resupply.⁶⁸

Triandafillov took the broad parameters provided by Tukhachevsky and refined them by working from the bottom up. As noted above, the key here was the issue of railways, and especially the rate at which they might be restored (assuming that any competent enemy would tear up the lines as he retreated). The rate of railway restoration was a significant factor in the rate of advance, which in turn was a factor in considering the problem of culmination. If the defender could withdraw faster than the attacker could advance, he could reorganize his force for a counterattack, as the Poles did in 1920.⁶⁹ The defender could also slow the advance with frequent counterattacks, but a

⁶⁷ Kipp, “The Origins of Soviet Operational Art, 1917-1936,” 220.

⁶⁸ Stoecker, *Forging Stalin’s Army*, 152.

⁶⁹ Triandafillov, *Operations of Modern Armies*, 133-34.

commitment of forces on the requisite level would likely prove to be incompatible with the aforementioned withdrawal.⁷⁰

Triandafillov understood that modern armies, with their tremendous firepower, could only survive if they were assured of rail transport for most of their supplies. Triandafillov estimated that a rifle corps consumed 280 tons of supplies daily, which required 22 boxcars for transport. The artillery division supporting the corps required a further 8 boxcars. Considering a shock army comprising five rifle corps and their associated artillery divisions, along with 16-20 tank battalions, the daily consumption for a day of intense combat (such as a breakthrough) was calculated as 23 trains, with an equal or greater number for the armies support services (medical, engineering, communications etc), operating along two rail lines.⁷¹ Triandafillov's calculations were relatively conservative. Varfolomeev suggested a breakthrough (shock) army would require 40-45 trains for support, while Isserson was more optimistic about consumption rates and hence transport requirements.⁷² These figures also give a good indication of the magnitude of the task of stockpiling supplies prior to an offensive. During periods of intense combat, ammunition would comprise 75% of the supply consumption each day.⁷³

Triandafillov had seen how railroad destruction had become a routine feature of a retreat. Early in World War One, such activity was haphazard, but by the time of the German retreat in the summer of 1918, they were ruthless in their systematic destruction

⁷⁰ Ibid., 133.

⁷¹ Ibid., 126.

⁷² Harrison, *Russian Way of War*, 209.

⁷³ Triandafillov, *Operations of Modern Armies*, 128.

of the railway infrastructure behind them.⁷⁴ The vast scale of the methodical destruction meant that the French were only able to restore the lines at a rate of between one to six kilometres per day. By contrast, where the damage was less dramatic, the rate was higher; during the Vistula campaign, the Red Army was able to restore the railroads at a rate that approached and sometimes exceeded 10 kilometres per day.⁷⁵ Based on these operations, Triandafillov made several deductions. First he identified the requirement to include railway materiel (ties, track etc) in the general stockpile that had to be accumulated prior to the launch on an offensive. Secondly, he identified the water supply as being a critical factor. While water towers were relatively easy to destroy, steam engines could not run without a regular supply of water. Based on these considerations, Triandafillov suggested that specially dedicated units should be able to restore track at a rate of 12-15 kilometres per day, with ten being the minimum, so long as water was in adequate supply. In keeping with his bent towards technological solutions, he suggested that the widespread introduction of diesel engines might address this latter concern in the near future.⁷⁶

Based on these calculations, Triandafillov extrapolated to determine the depth to which a shock army might penetrate and before outrunning its supply line and culminating. Considering purely the rate of advance of the lead elements, a Shock Army might penetrate 300-350 kilometres over the period of a month. However, assuming that the defender destroyed the rail lines as he retreated, Triandafillov calculated that a Shock

⁷⁴ Ibid., 139.

⁷⁵ Ibid., 141.

⁷⁶ Ibid., 143-44.

Army could conduct successive operations to a depth of 200-250 kilometres. Of this distance, 100-125 kilometres would be restored railroads, with full capacity only possible for the first 60-80 kilometres. Beyond the railhead, motor transport operating over dirt roads (in Eastern Europe) could support the army for a further 140-165 kilometres. These figures presumed an almost limitless supply of motor transport, running to over 4,000 vehicles per shock army. Considering the French Army had possessed over 100,000 vehicles to support their operations, Triandafillov did not consider his figures to be unrealistic. However, given the primitive state of the Soviet automotive industry, he also hedged by suggested that a vehicle park of 2000 vehicles would support an army up to 50 kilometres beyond its railheads. If a shock army lacked motor transport altogether, and was forced to rely on horses, its advance would have to halt somewhere between 135-150 kilometres.⁷⁷ This reinforced the earlier point that the proper implementation of the theory of successive operations would require the supply system to be based upon motor vehicles.

Triandafillov's work on the precise parameters of successive operations found a receptive audience. In the mid-1920's, Frunze had changed the curriculum at the Staff College so that officers were forced to consider concrete problems and conduct the applicable calculations from logistical norms.⁷⁸ In his book, Questions of Higher Command, Tukhachevsky described the function of the staff in planning for an offensive: "The staff is duty bound not only to estimate logistic requirements, but to ensure the

⁷⁷ Ibid., 145-47.

⁷⁸ Ibid., xvii.

timely provision of material backing.”⁷⁹ The staff were also responsible for considering in advance the possibilities of a follow-on operation (writing in 1924, the term successive operations was not commonplace) and if feasible, procure the material support for this as well.

Notwithstanding the increased emphasis on these norms for staff planning, Triandafillov was cognizant that his figures were only an estimate. In the Introduction to The Nature of the Operations of Modern Armies, he cautioned that “all numerical material in this work is *approximate*...”.⁸⁰ However, this caveat was not to be seen as an excuse for a lack of boldness: “the desire ‘voluntarily’ to constrain the depth of successive operations, tendencies towards self-restraint in the planning of combat actions... these tendencies towards ‘starvation’ cannot be considered the proper path of development for operational art.”⁸¹ This thinking reflects Triandafillov’s support for Tukhachevsky’s preferred strategy of annihilation over Svechin’s advocacy of the more gradual strategy of attrition.

As the new technology anticipated by Triandafillov, the product of the first of the Five Year Plans, was introduced, the logistical norms were recalculated to reflect the lessons learned from exercises and manoeuvres. Thus, by 1937, having seen the effect of the provision of motor transport, Isserson could take a more expansive view of successive operations than had Triandafillov. Isserson calculated that by employing organic means

⁷⁹ Simpkin, *Deep Battle*, p. 99-100.

⁸⁰ Triandafillov, *Operations of Modern Armies*, 8.

⁸¹ *Ibid.*, 149.

for up to 150 kilometres beyond the railheads, successive operations could penetrate up to 400 kilometres, which in the Polish context would bring them to the middle Vistula.⁸²

By 1938, with its increasing mechanization and a bold new doctrine, elaborated in the 1936 Field Regulations, it seemed the Red Army was in fine shape. However, at this point, things rapidly deteriorated. Stalin's purge of his officer corps eliminated many of their brightest and most experienced commanders and thinkers, including both Tukhachevsky and Svechin. The theoretical work of these men, particularly their operational theories, was consequently brought into disrepute. Purge survivors, like Isserson, might continue to teach these theories, but this had to be done with extreme circumspection.⁸³ Those commanders who remained had to contend with rebuilding the leadership within their formations, and consequently had little time to spare for logistical matters.⁸⁴ On the other hand, other survivors of the purges, such as Georgi Zhukov, were already convinced disciples of the new ways of thinking, and as they later rose to prominence, the discredited theories were to a degree rehabilitated.⁸⁵

⁸² Harrison, *Russian Way of War*, 209.

⁸³ *Ibid.*, 224.

⁸⁴ Graham Turbeville, "Soviet Operational Logistics, 1939-1990," in *Historical Perspectives on the Operational Art*, ed. Michael Krause and R. Cody Phillips, 293-328, (Washington: Center for Military History, 2004), 294.

⁸⁵ Duncan Milne, "An Example of Force Development: Tukhachevsky and the Soviet Art of Deep Battle," in *The Changing Face of War*, ed. Allan English, 67-82, (Kingston: McGill-Queen's University Press, 1998), 79. Erickson, *The Soviet High Command*, 352-53.

The End of the Theoretical Phase

As the war clouds gathered in 1939, the Red Army was thus in an awkward position. Their leadership cadres had been decimated. Brilliant theoretical work had been discredited. However, there was an upside to all of this. The new leaders who would emerge to fill the void left by the purges would be more prepared to try the new approaches that had been developed by the liquidated theorists. More significantly, while these ideas had certainly fallen from favour, they had not been discarded altogether. As the Second World War progressed, the Soviets would eventually turn to the ideas of Tukhachevsky, Triandafillov and others as they sought solutions to the practical problems encountered in fighting the Germans. The Red Army's exercises between 1933 and 1936, conducted under the direction of Tukhachevsky, had focussed on encirclement operations using combined arms. Many of the mid-grade officers in the mechanized and cavalry branches would go on to become the commanders who directed the great encirclement operations of the Second World War such as Korsun-Shevchenko or Minsk.⁸⁶ One can make an analogy with the Greek and Roman learning that was rediscovered during the Renaissance. In this respect, the purges can be seen as the dark ages, and there would be a terrible cost to pay for the deliberately suppressed knowledge. Even then, only after this knowledge re-emerged, could the task of mating theory to practice begin in earnest. It would be the responsibility of the Red Commanders of the war years to add an element of art to the scientific approach of the theorists. For while norms might be calculated with great precision, there was still a critical role for human judgement in addressing the problem of culmination. As Triandafillov put it, "it would

⁸⁶ Malcolm MacIntosh, "The Development of Soviet Military Doctrine since 1918," in *The Theory and Practice of War*, ed. Michael Howard, 247-270, (London: Cassel, 1965), 254.

be erroneous to look upon operational art as some sort of bookkeeping effort.”⁸⁷ Activity at the operational level was described as an art for good reason. Considering the determination of the limit immediately prior to culminating point, Triandafillov wrote: “the art of the strategist and operator is to correctly feel that limit in human and materiel means.”⁸⁸ The ‘feel’ identified here could only be gained through experience, and this was the process that began in 1939.

⁸⁷ Triandafillov, *Operations of Modern Armies*, 165.

⁸⁸ Harrison, *Russian Way of War*, 167.

Chapter Four – The Pre-War Period and the First Period of War⁸⁹

1939-40

While the Soviet Union did not enter the broader Second World War until the German invasion of 1941, the Red Army still saw significant fighting prior to that point. In terms of the issues addressed by the interwar theorists, one of the most significant of these engagements occurred in 1939 on her Eastern border. The Soviets had already fought in this area before, in 1929, but at that time their efforts were constrained by transport and logistic issues.⁹⁰ The fighting at Khalkin-Gol in 1939 reflected how much progress, notwithstanding the purges, the Red Army had made in the preceding 10 years. Khalkin-Gol, or Nomohan as it is sometimes known, was a clash between the Soviets and the Japanese, who were expanding northwards from their base in Manchuria into Outer Mongolia. The Japanese deliberately chose to attack in a location where they felt that logistical constraints, both in terms of the distance from Moscow and the poor local roads, would hamper the Soviet response.⁹¹

There are three significant elements to Khalkin-Gol. Firstly, after the initial Japanese advances, the Soviets appointed Corps Commander Zhukov to lead their forces in this remote theatre. The fighting thus gave Zhukov a template to which he would turn when it came time to fight the Germans. The second element concerned Zhukov's use of a double envelopment to encircle and trap the Japanese. The Soviets suffered 18,500

⁸⁹ The Soviets/Russians have traditionally divided their 'Great Patriotic War' into three distinct periods for the purpose of analysis. The First Period June 1941-November 1942; The Second Period December 1942-December 1943; and the the Third Period 1944-45. Glantz, *Soviet Military Operational Art*, 101.

⁹⁰ MacIntosh, "The Development of Soviet Military Doctrine since 1918," 253.

⁹¹ David Glantz and Jonathan House, *When Titans Clashed: How the Red Army Stopped Hitler* (Lawrence, Kansas: University of Kansas Press, 1995), 14.

casualties, and inflicted more than twice this number on the Japanese.⁹² While this form of manoeuvre was certainly not new, and had been the goal of commanders going back to Hannibal, it was still a concrete vindication of the discredited theories contained in the 1936 Field Service Regulations. Moreover, it avoided the danger of culmination inherent in a single thrust by designating a clear end-point (the link-up). In a similar vein, the confident Zhukov refused a suggestion from the theatre commander, who was concerned with the growing casualty list, that he halt his attack. Reflecting the received wisdom of the interwar period, Zhukov argued that such a halt would only serve to increase Soviet casualties when they re-launched their attack.⁹³ Finally, the third aspect to the battle's significance lay in the logistical field. The Soviet Rear services rose to the challenge of supplying a theatre that was far closer to the Japanese base of supply than to the Soviet. Soviet railways allowed Zhukov to build up a superiority of 3:2 in infantry, 2:1 in artillery and 4:1 in tanks, along with the requisite combat supplies for the entire offensive.⁹⁴

Compared to the later battles with the Wehrmacht, Khalkin-Gol was a small affair. Nonetheless, it did validate several of the interwar conceptual developments that had recently been discredited by the purges, and this was done against an enemy who was battle-hardened after years of fighting in China. From the perspective of the Soviet Union, the fighting also served to demonstrate the Red Army's proficiency to the Germans at a critical time, as the Molotov-Ribbentrop pact with Germany was signed

⁹² Ibid.

⁹³ William Spahr, *Zhukov: The Rise and Fall of a Great Captain* (Novato CA: Presido, 1993), 28.

⁹⁴ Erickson, *Soviet High Command*, 522.

several days later. However, events in Finland soon showed that when forced to operate on a larger scale, the Red Army was still in woeful shape.

The winter war with Finland, 1939-40, did not feature any Soviet culminations on an operational level. This phenomenon was, however, evident on a tactical level, most notably to the Red Army division that was encircled and annihilated at Suomussalmi, but the Soviets failed to break through at the operational level until the Finns themselves were exhausted and the war nearly over. From the perspective of subsequent operational culminations, the importance of the Winter War lay in the realm of logistics. The Soviets were able to stockpile tremendous quantities of materiel before their final offensive, but given the relatively short distances, this was not as impressive an achievement as supplying Zhukov's corps on the other side of the continent. Moreover, the Finns were so weakened by their initial successes against the Soviets that they could do nothing to interdict the Soviet build-up, even when this was conducted in an amateurish fashion; Soviet trucks came forward to depots with their lights on, making no attempt at concealment.⁹⁵ More ominously, in the wake of the war, the High Command decided to disband the Motor-Transport and Motor-Highway Service. This organization had been responsible for supplying the final Soviet offensive in Finland, but it was closed down and its responsibilities and assets were given over to the Armoured Forces Administration. The net effect of this was to increase the span of control of the armoured forces commander at front or district level. This individual, already likely promoted

⁹⁵ William Trotter, *A Frozen Hell: The Russo-Finnish Winter War of 1939-40* (Chapel Hill: Algonquin Books, 1991), 214.

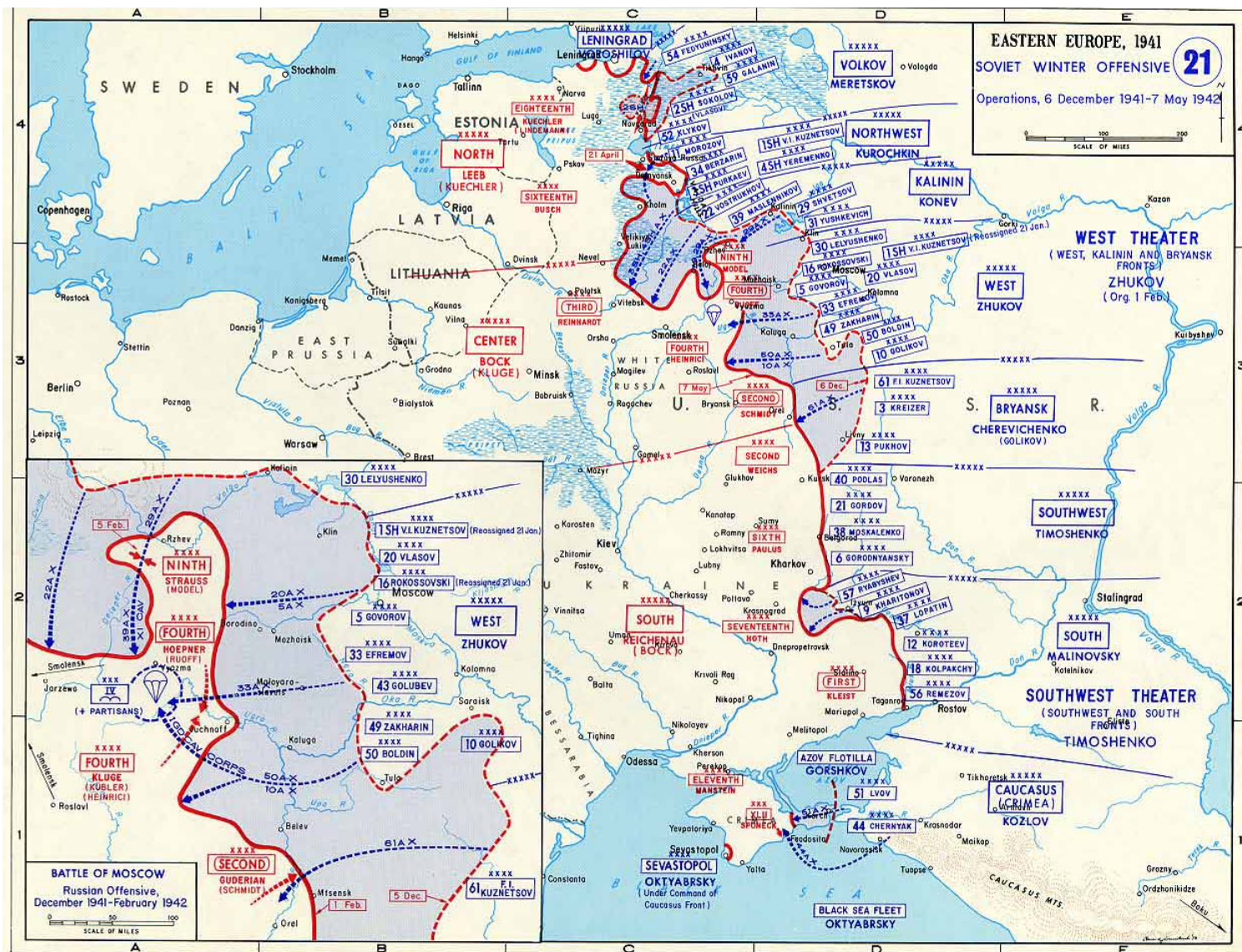
beyond his capacity because of the purges, now added the responsibility for all matters pertaining to motor transport to his other tasks.⁹⁶

The Moscow Counter-offensive

The Winter War featured no operational culmination, because the Soviets only broke through the Finnish defences at the very end of the war. The opening six months of the Second World War (from the Soviet perspective June-December 1941) saw no operational culmination because the Soviets were on the defensive nearly the entire time. Instead, it was the Germans who fell victim to operational exhaustion and culminated in front of Moscow. This afforded the Soviets the opportunity to counterattack, and in turn led to their own first significant culmination. Interestingly, to some degree the German culmination can be traced to their assessment of their defeat on the Marne in 1914 that had been the subject of such extensive study by the Soviets. However, while the Soviets analysed that battle with a view to determining the limits of an offensive, the Germans drew another conclusion. The Germans felt the Marne showed that victory at the end of an offensive, when both defender and attacker were close to exhaustion, would go to the side that could scrape together the resources for a final push: “the last battalion that can be thrown in will be decisive.”⁹⁷ It is a tribute to the quality of the interwar Soviet doctrinal debates that the lessons they drew from the same battle did not lead them so badly astray.

⁹⁶ John Erickson, *The Road to Stalingrad* (London: Weidenfeld and Nicolson, 1975), 34.

⁹⁷ Evan Mawdsley, *Thunder in the East: The Nazi-Soviet War, 1941-1945* (London: Hodder Arnold, 2005), 111.



98

The Red Army's counter-offensive began on December 5th when the Kalinin Front attacked northwest of Moscow. Zhukov had been recalled from Leningrad (where he had been sent earlier in the fall) to take charge of the defences of Moscow. At Moscow in late November and early December he had trod a fine line between marshalling forces for the counter-attack and keeping sufficient forces in the defensive

⁹⁸ http://www.military.com/Resources/ResourceFileView/worldwarII_europe_maps_map21_largerview.htm
 Interet. Accessed 20 Apr 2009.

line to prevent a German breakthrough. On December 6th he unleashed the main Soviet attack with his Western Front, containing five armies, largely drawn from forces in Siberia. The initial objectives were quite conservative: he planned an attack on converging axes with the two wings expected to penetrate 70 and 40 kilometres respectively, which would have restored the front line to where it was in early November and removed the immediate threat to Moscow.⁹⁹ While Zhukov had husbanded his forces sufficiently to create a 2:1 superiority in personnel, his advantage in artillery was less than this, and the Germans still possessed more tanks in the immediate area.¹⁰⁰ Because the Soviets when unable to achieve a decisive correlation of forces, they were forced to attack in only one echelon.¹⁰¹

The Soviets had been successful in concealing the movement of the assaulting armies into their jumping-off areas. While the deception measures they employed were not so sophisticated nor as well organized as would be seen later in the war, they were still sufficient to fool a German High Command which had a propensity to see what it wanted to see.¹⁰² Thus, because Germans had thought the Russians had committed all their operational reserves, the attack caught them completely off guard.¹⁰³ In these favourable circumstances, the initial Soviet attacks made good headway. However, considering the positive initial results, Stalin became wildly over-optimistic, and against

⁹⁹ Erickson, *Road to Stalingrad*, 267.

¹⁰⁰ Glantz and House, *When Titans Clashed*, 87.

¹⁰¹ Erickson, *Road to Stalingrad*, 267.

¹⁰² David Glantz, *The Role of Intelligence in Soviet Military Strategy in World War II* (Novato CA: Presidio, 1990), 36.

¹⁰³ Richard Overy, *Russia's War: Blood Upon the Snow*. (New York: Penguin Putnam, 1997), 152.

the advice of Zhukov he prematurely committed the Red Army to a general offensive designed to crush the German forces altogether.¹⁰⁴ This decision flew in the face of all the statistical norms assembled during the interwar period. In simple terms, given the roughly equal forces along the whole of the front, Stalin's desired ends were completely misaligned with the available means.

To some degree, this error may be explained by faulty Soviet intelligence, and this demonstrates a key area where the Soviets had yet to develop core competencies before they could properly apply the interwar doctrinal framework. Just as the Germans had believed the Soviets had expended all their reserves by the beginning of December, so did the Soviets feel that the Germans were at the end of their tether by late December. Thus, when they ought to have paused, so as to avoid reaching the culminating point, they pushed onwards.¹⁰⁵ This error only highlights the importance of making a proper appreciation of enemy capabilities before applying the statistical norms. Consequently, because the Soviets had assembled only the thinnest margin of local superiority, their forces were able to penetrate the German lines, but they were unable exploit the penetration. In practical terms, this meant they failed to destroy German pockets of resistance that had remained on their flanks and rear in response to Hitler's 'stand-fast' order.

These German pockets became the focus of the German defence, and were soon able to begin to menace the supply lines of the Soviet spearheads. Because the Soviets lacked the combat power to fix the German defenders along the breadth of the front, the Germans were able to move forces laterally to pinch off the Soviet penetrations, creating

¹⁰⁴ Ibid., 155-56.

¹⁰⁵ Glantz, *Role of Intelligence*, 37.

multiple pockets of encircled Soviets behind the restored German front line. As Tukhachevsky had envisaged, the Soviets were able to use airdrops to resupply some of their forces, but even these expedients only prolonged the inevitable destruction of the pockets. Ultimately, the Soviets culminated southwest of Moscow because their forces had been pushed by Stalin to advance beyond the point where the correlation of forces remained in their favour.

Kharkov 1942

A similar fate befell the next Soviet offensive in May, 1942, aimed at the recapture of Kharkov, a significant manufacturing centre. The attack was again to be made on converging axes, with the projected link-up approximately 60 kilometres from the start points. Unlike the December counter-offensive, the Soviets had assembled sufficient forces to allow for a second echelon, designed to exploit the initial breakthroughs on each flank so as to complete the encirclement. Each flank was assigned a cavalry corps (comprising both cavalry and mechanized forces) for this purpose. The southern flank was also reinforced with two of the newly formed tank corps, although these formations were not as grand as their title suggested, being slightly smaller than a German Panzer Division.¹⁰⁶

The Soviet Kharkov offensive featured three characteristics that had plagued the Moscow counter-offensive: poor strategic and operational intelligence, over-optimism on the part of Stalin, and a lack of material resources. To a degree, the latter two factors

¹⁰⁶ David Glantz, *Kharkov: Anatomy of a Military Disaster* (New York: Sarpedon, 1998), 91. Each Tank Corps contained 138 tanks to start the offensive. By contrast, a Panzer Division was authorized 190 tanks, and those involved in the Kharkov fight were at approximately 70-80% of their establishment. Glantz, *Kharkov*, 106-07.

were a function of the first, and together they served to doom the offensive. In terms of intelligence, the Soviets believed the next German attack would be directed again at Moscow from the twin salients remaining south and west of the capital after the front had stabilised in the early spring of 1942. Their convictions were hardened by a German deception plan, codenamed *Kremlin*, which sought to reinforce this perception.¹⁰⁷ The Soviets had failed to detect the German build-up in southern Russia in preparation for the German drive on the Caucasus, Operation 'Blau', planned for the summer of 1942. Moreover, as a prelude to 'Blau', the Germans had planned a preliminary operation, 'Friderikus', to cut off two Soviet bridgeheads across the Donets River.¹⁰⁸ These were the very bridgeheads from whence the Soviets would launch their pincers. Consequently, when the Soviet attack began, the Germans already had forces in place well positioned to drive into their flank.

These intelligence failures were compounded by Stalin's over-optimism. In late February, during his Red Army Day speech, Stalin had proclaimed: "The day is not far when the Red Army with mighty blows will throw the brutal enemies from Leningrad, will clear them out from the towns and villages of Belorussia and the Ukraine..."¹⁰⁹ Through the winter of 1942, Stalin consistently underestimated German strength, and this was not entirely a function of poor military intelligence, for his advisors constantly sought to minimize his immediate expectations, and mitigate his impatience with what he perceived to be their overly cautious assessments.¹¹⁰ Stalin originally envisaged a

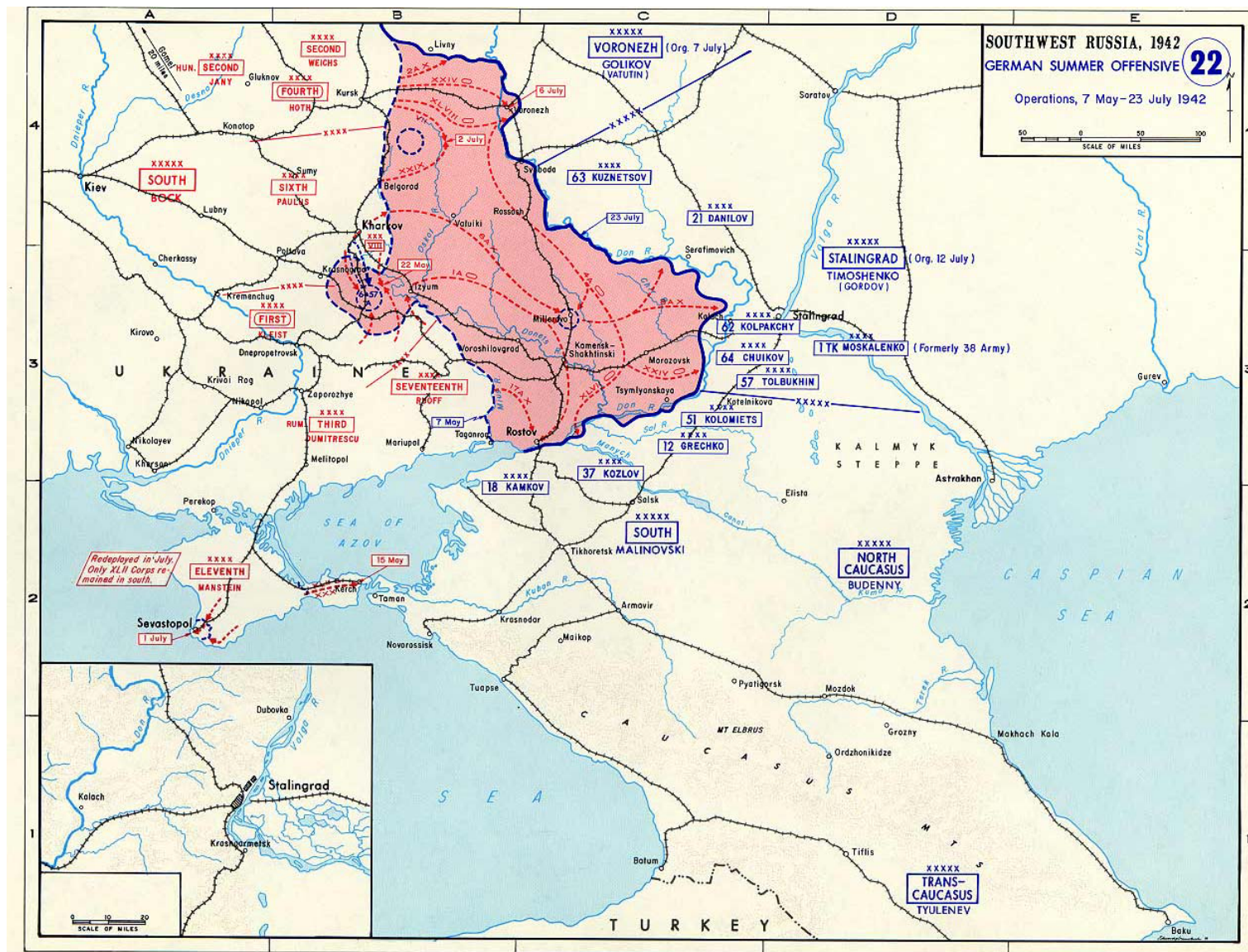
¹⁰⁷ Mawdsley, *Thunder in the East*, 145.

¹⁰⁸ Glantz, *Kharkov*, 35.

¹⁰⁹ Mawdsley, *Thunder in the East*, 142.

¹¹⁰ Glantz, *Kharkov*, 29.

significant offensive to push the Germans back beyond the Dnepr River, but after meeting resistance from the *Stavka* (the Military High Command), the scope of the attack was scaled back.¹¹¹ As it finally emerged, the intent of the operation was to pre-empt the anticipated German drive on Moscow with a limited offensive.



112

¹¹¹ Mawdsley, *Thunder in the East*, 142.

¹¹² http://www.military.com/Resources/ResourceFileView/worldwarII_europe_maps_map22_larger_view.htm Internet. Accessed 20 Apr 2009.

Unfortunately for the Soviets, Stalin was inconsistent, for at the same time that he was speaking of throwing the Germans back, he was worried about the continuing threat to Moscow. Even though their intelligence had missed the Germans assembling for Friderikus, the Soviets still had identified strong German forces in the area of Kharkov, and they sought to build up a decisive superiority in all aspects of their forces. However, because of Stalin's concerns, many of the forces requested by the local commanders were held back to safeguard Moscow.¹¹³ The effect of the absence of these forces retained elsewhere was exacerbated by the logistical difficulties encountered by the forces assigned to the attack. The attack was timed to begin following the spring *rasputitsa*, but this phenomenon seriously hampered the Soviet efforts to prepare their attack. Muddy conditions prevented units from reaching their assembly areas, a task made more difficult because there was no overall plan for these preliminary moves. Consequently, barely half of the 32 non-divisional artillery regiments dedicated to the attack were in position when it began on 12 May, and only one-third of the planned artillery ammunition was available at this point. Similarly, the 3rd Guards Cavalry Corps, the second echelon of the northern axis, only arrived in position three days after the attack had begun.¹¹⁴

The Kharkov offensive was planned by the Red Army's Southwestern Direction, under the command of Marshal Timoshenko, and his Chief of Staff was General Bagramian. Writing in 1978, Bagramian, who went on to become a Marshal of the Soviet Union, assessed that the fundamental cause of the Kharkov defeat was the *Stavka's* and his own headquarters' inability to assemble sufficient forces for the

¹¹³ Glantz, *Kharkov*, 28.

¹¹⁴ Glantz and House, *When Titans Clashed*, 114.

attack.¹¹⁵ Strategically, this was in turn a function of the straightened circumstances in which the Red Army found itself, where all key resources were scarce, compounded by decisions that allocated vital assets elsewhere. At the operational level, the staff lacked the expertise to coordinate the preparations for the attack. The net result was that the forces they finally committed to the attack felt short of the robust shock army described by Triandafillov, capable of not only the breakthrough, but with the staying power to conduct operations into the enemy depths.

Due to poor intelligence, Stalin's reluctance to listen to his military advisors, and their overall lack of resources, the Soviets had again launched an offensive when they lacked a significant preponderance of force. The decision to launch an attack on a limited frontage allowed the Germans to move troops laterally from unengaged sectors to contain the forces that had broken through.¹¹⁶ Moreover, as they advanced, the normal diminution of their strength described by Clausewitz was exacerbated by the interdiction of their combat supplies when the Germans launched *Friderikus* on 17 May to cut off their lines of communication. The end result was that the Soviet attack arrived at the culminating point very rapidly. By 22 May they were surrounded, and despite attempts to break out of their encirclement, the Soviets in the pocket were crushed by 29 May. While the Soviets admitted to the loss of 171,000 troops, the Germans claimed that the Red Army lost 214,000 troops, along with 1,200 armoured vehicles and 2,600 guns.¹¹⁷

¹¹⁵ Glantz, *Kharkov*, 244.

¹¹⁶ Glantz and House, *When Titans Clashed*, 115.

¹¹⁷ Mawdsley, *Thunder in the East*, 144.

The defeat at Kharkov put the Soviets in a difficult strategic situation, for it opened up a huge gap in their front lines. While the Germans were forced to delay Operation 'Blau' until 28 June, when they did attack, their divisions poured through the hole left by the forces destroyed at Kharkov. However, the Soviets did draw several lessons from their defeat that would serve them well in the future. As Marshal Bagramian noted: "Errors permitted by the *Stavka* and General Staff in planning combat operations in the summer of 1942 were instructive in the future, especially in summer 1943, when decisions were made regarding the nature of combat action in the Kursk bulge."¹¹⁸ Specifically, the Soviets identified the need for improvements in their intelligence, and the administrative (in the broadest sense) preparations for the offensive.¹¹⁹ They also began to focus on a key aspect related to the principle of continuity: the timing of the entry of the exploitation echelon into the breach. Timoshenko was criticized for hesitating to launch the two tank corps when this might have forced the Germans to commit the forces assembled for Friderikus to block the operational penetration.¹²⁰ This problem was to bedevil the Soviets for some time. If the exploitation force was launched too soon, particularly if it was committed to help achieve the breakthrough, then it would be weakened and vulnerable to culmination just as in approached the operational depths. Conversely, if its launch was overly delayed, then the defender was afforded a pause to regroup for a counterattack as the leading echelon reached the point of exhaustion with no relief immediately on hand.¹²¹ This decision was the ideal example of something that

¹¹⁸ Glantz, *Kharkov*, 244.

¹¹⁹ Glantz and House, *When Titans Clashed*, 116.

¹²⁰ *Ibid.*

¹²¹ Richard Simpkin, *Race to the Swift* (London: Brassey's, 1985), 40.

was perfectly understood in theory, but whose execution required the ‘feel’ described by Triandafillov that could only come with hard-won experience. Finally, after his misjudgements had led to disaster on a second occasion following Kharkov, Stalin began to place a greater trust in his military advisors, and this served to enhance the role of the *Stavka* in planning operations.¹²²

These lessons identified above were the real legacy of the First Period of War from the Soviet perspective. They had suffered losses that would have crippled any other state, but they were still in the fight, and as such were in a position to profit from their experiences during the preceding year. The conclusions they drew concerning the importance of intelligence, administration, and the maintenance of momentum in the attack through the introduction of the exploitation echelon, would be incorporated into future operations. Moreover, as his military leadership was learning, so too was Stalin; the First Period of War had taught him that he had to allow his commanders greater freedom when it came to developing military plans and appreciations. This last point in particular would work to the benefit of the Red Army when they next returned to the offensive in November at Stalingrad.

¹²² Mawdsley, *Thunder in the East*, 146. Glantz and House, *When Titans Clashed*, 129.

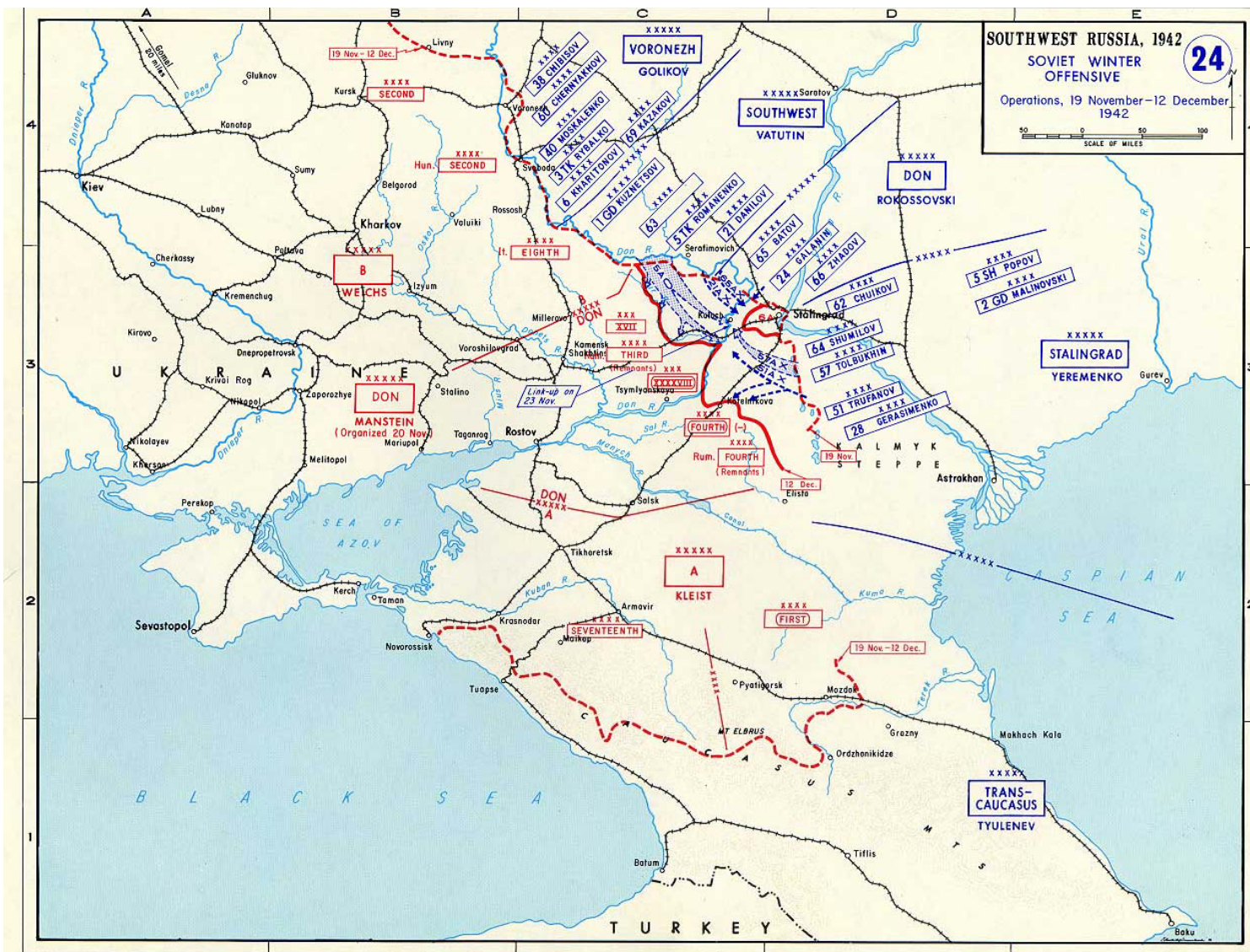
Chapter Five – The Second Period of War

The Stalingrad Counter-offensive

The debacle at Kharkov set the conditions for the German offensive of summer 1942 to penetrate to the operational depths for the second consecutive year. By the fall of 1942, the German forces were decisively committed at Stalingrad. The drive on Stalingrad had originally and correctly been seen purely as the flank protection for the attempt to seize the oil fields south of the Caucasus.¹²³ As events progressed, however, the Stalingrad battle took on its own intrinsic value, and as the German drive, supported by a single rail line, began to show signs of operational exhaustion, it afforded the Soviets the opportunity for another counter-offensive.

The Stalingrad counter-offensive showed that the Soviets had learned from their culminations southwest of Moscow and at Kharkov. The counter-offensive was planned and executed in a far more professional manner than the early offensives, but in the end it too became a victim of its own success. The initial Soviet operations were very successful: Operations Uranus and Saturn, which cut off the German 6th Army in Stalingrad. Operation Ring, which destroyed the encircled 6th Army, also achieved its objectives, albeit more slowly than the Soviets had hoped. However, just as the successful Moscow counterattack led to a premature general offensive, so too did operational success at Stalingrad encourage wildly optimistic assessments of the prospects of immediate strategic success. As was mentioned in the introduction, the Soviets pushed their offensive in the late winter of 1943 past the point of culmination and their leading elements were consequently thrown back by the German counter-offensive.

¹²³ Robert Citino, *Death of the Wehrmacht: The German Campaigns of 1942* (Lawrence, Kansas: The University Press of Kansas, 2007), 244.



124

The success of Operation Uranus, which threw an inner cordon around the 6th Army, was to a large degree a function of the preparations made prior to its launch, and this is where the Soviets demonstrated how they had progressed since their defeat at Kharkov. The origins of the Stalingrad counter-offensive can be traced to a proposal from Zhukov and Marshal Vasilevsky (a Deputy Commissar of Defence) to Stalin on 13

¹²⁴ http://www.military.com/Resources/ResourceFileView/worldwarII_europe_maps_map24_larger_view.htm accessed 20 Apr 2009.

September.¹²⁵ Even as the Soviet 62nd Army was defending Stalingrad with its back to the Volga River, Zhukov and Vasilevsky saw an opportunity in the long salient created by the drive on Stalingrad. The German left (northern) flank ran roughly along the line of the Don River where it flowed eastwards on the northern side of the so-called Don Bend. However, the Soviets still held several shallow pockets on the south bank of the river that held promise as jumping off points for any attacks. Significantly, while the German forces (6th Army) were focussed on Stalingrad, the flanks on either held by allied troops whose combat efficiency and scale of issue (especially in terms of tanks and anti-tank weapons) were much lower than the norm for the Wehrmacht. As Zhukov assessed matters: “These satellite forces were found to be less well armed, less experienced, and less capable, even in defense, than the German units.”¹²⁶ Consequently, Stalin accepted the outline of a plan designed to cut off the Stalingrad salient through “powerful concentric blows on their flanks held by weak Romanian troops.”¹²⁷ In essence, the Stalingrad plan was very similar to that of Zhukov’s victory at Khalkin-Gol, but effected at the operational level.¹²⁸

By focussing their attack on the weaker German satellites, the Soviets had begun to set the conditions for the favourable correlation of forces that would help avoid the early culmination that had plagued them at Kharkov. They reinforced these conditions through several means. Firstly, they determined to keep up the pressure in Stalingrad and

¹²⁵ Erickson, *Road to Stalingrad*, 422.

¹²⁶ Joel Hayward, *Stopped at Stalingrad: the Luftwaffe and Hitler’s Defeat in the East* (Lawrence, Kansas: University Press of Kansas, 1998), 223.

¹²⁷ Erickson, *Road to Stalingrad*, 423.

¹²⁸ Mawdsley, *Thunder in the East*, 175.

on its immediate flanks so as to fix the 6th Army and ensure that when the blow fell it would be in no position to help reinforce the threatened sectors. While this pressure would in effect create the attack on a broad front that Triandafilov had favoured, this was a delicate task.¹²⁹ On one hand they had to ensure the 62nd Army maintained sufficient combat power to continue to hold Stalingrad. Conversely, with resources still scarce in the fall of 1942, these requirements of the 62nd Army had to be balanced against the need to build up the fronts that would execute the encirclement. This challenge became acute as the Soviet position in Stalingrad deteriorated in October, reaching its nadir on 14 October during a renewed German offensive, with the prospect of relief still well off as the counter-offensive was not due to start until 10 November.¹³⁰ That the *Stavka* could build up their forces for the counter-offensive even during such moments of crisis demonstrates the merits of an operational-level perspective that was able to place the desperate struggle in Stalingrad into a larger context.

The Soviets also set the conditions for their success through a logistical effort that was more thorough than the one that had preceded Kharkov. Three rail lines supplied both Stalingrad and the counter-offensive preparations, and the Red Army employed 117,000 men in construction units simply to extend these rail lines. 27,000 trucks (many supplied by lend-lease) brought supplies forward from the railheads over distances of up to 300 kilometres.¹³¹ These supply chains allowed the Soviets to reinforce each wing of their attack with a Tank Army, the ideal tool for exploitation into the operational depths.

¹²⁹ Harrison, *Russian Way of War*, 145.

¹³⁰ Erickson, *Road to Stalingrad*, 443.

¹³¹ *Ibid.*, 431-32, 448.

Despite these efforts, as the date for the attack approached, the Soviets felt they were not ready. Consequently, although the attack orders had already been signed, on 9 November the Soviets decided to delay the attack. Rather than launch the attack before everything was in place as they had at Kharkov, the decision was made to push back the attack until 17 November.¹³²

The Soviets were able to postpone their counterattack because of the third element of their preparations; *maskirovka*, the concealment of their operational designs. While the logistical preparations were too extensive to hide altogether, the Germans were unable to determine the full scale of the Soviet threat to their flanks. The Germans did not believe the Soviets had sufficient strength to take advantage of their exposed flanks west and south of Stalingrad. Moreover, several Soviet attacks on the Rzhev salient near Moscow had been repulsed in August, and this reinforced the poor perception of Soviet fighting power, leading to complacency about the precarious position of the Romanians.¹³³ As late as November 6th, a German intelligence appreciation identified the German Army Group Centre (opposite Moscow) as the most likely target for any Soviet counter-offensive, and given estimates of the Red Army's order of battle, they did not appear to have the resources to launch two major attacks at once. Consequently, while the Germans had identified increased activity opposite the Romanians, this was thought to herald only minor attacks.¹³⁴ This perception was reinforced by deception measures such as unencrypted radio transmissions that suggested the Soviets were planning to

¹³² Ibid., 456.

¹³³ Mawdsley, *Thunder in the East*, 166.

¹³⁴ Erickson, *Road to Stalingrad*, 453-54.

remain on the defensive through the winter.¹³⁵ The achievement of the Soviets in concealing their intentions is all the more remarkable when one considers the ground in question. The steppes of the Don bend are flat and largely featureless grasslands, hardly the ideal terrain for hiding large mechanized forces. In part, the Soviets were successful because they did not hesitate to take extreme measures. The assembly areas for the assault forces were designated as a “front line zone” and all civilians were evacuated, lest they betray the preparations if snatched by an enemy patrol.¹³⁶

The Red Army achieved a decisive numerical superiority along its axes of attack because the 6th Army was fixed in Stalingrad, through their thorough logistical preparations and because their *maskirova* had blinded the Germans as to their intentions. Consequently, their attacks achieved rapid tactical successes. With the Romanian defences overrun, there was no dilemma as to the timing of the launch of the exploitation echelon; elements of the 5th Tank Army were passed through towards the operational depths by noon on the first day.¹³⁷ The objectives for the operation in physical terms were also appropriate to the means available. The link-up between the two Soviet wings was achieved by 30 November after respective advances of roughly 75 and 125 kilometres, which was sufficiently modest to not place undue strains on Soviet supply services.

With Operation Uranus having successfully encircled the Germans in Stalingrad, the Soviets now turned their attentions to Operation Saturn, which was designed both to

¹³⁵ Glantz and House, *When Titans Clashed*, 132-33.

¹³⁶ Mawdsley, *Thunder in the East*, 176.

¹³⁷ Glantz and House, *When Titans Clashed*, 132-33.

create an outer cordon around the encirclement to block any German counterattacks, and potentially to drive all the way to Rostov on the lower Don. Seizure of this latter objective would have cut off the German Army Group that had driven south to the Caucasus. However, the Germans, faced with the prospect of losing both Stalingrad and their 6th Army, mounted their own counterattack, Operation Winter Storm, designed to break the encirclement. The operation was mounted by Field Marshal Manstein who over the next eight months would prove to be an extremely able opponent. As the German offensive gathered steam, the Soviets showed what they had learned from their earlier defeats. Rather than press on with Operation Saturn in the face of the German attack, the Soviets changed their plan to a less ambitious scheme of manoeuvre, Operation Little Saturn. This operation, which successfully blunted Manstein's drive on Stalingrad, showed a flexibility on the part of the Stavka that had been absent from earlier operations. Operation Saturn would have created an encirclement perimeter of close to 400 kilometres, and would have imposed a severe strain of Soviet supply services.¹³⁸ The suppleness of mind demonstrated by the decision to scale back ambitious objectives in light of the German threat stands in marked contrast to the rigidity of purpose that Isserson had criticized in the conduct of the Vistula campaign.¹³⁹

¹³⁸ David Glantz, *From the Don to the Dnepr: Soviet Offensive Operations December 1942-August 1943* (London: Frank Cass, 1991), 81.

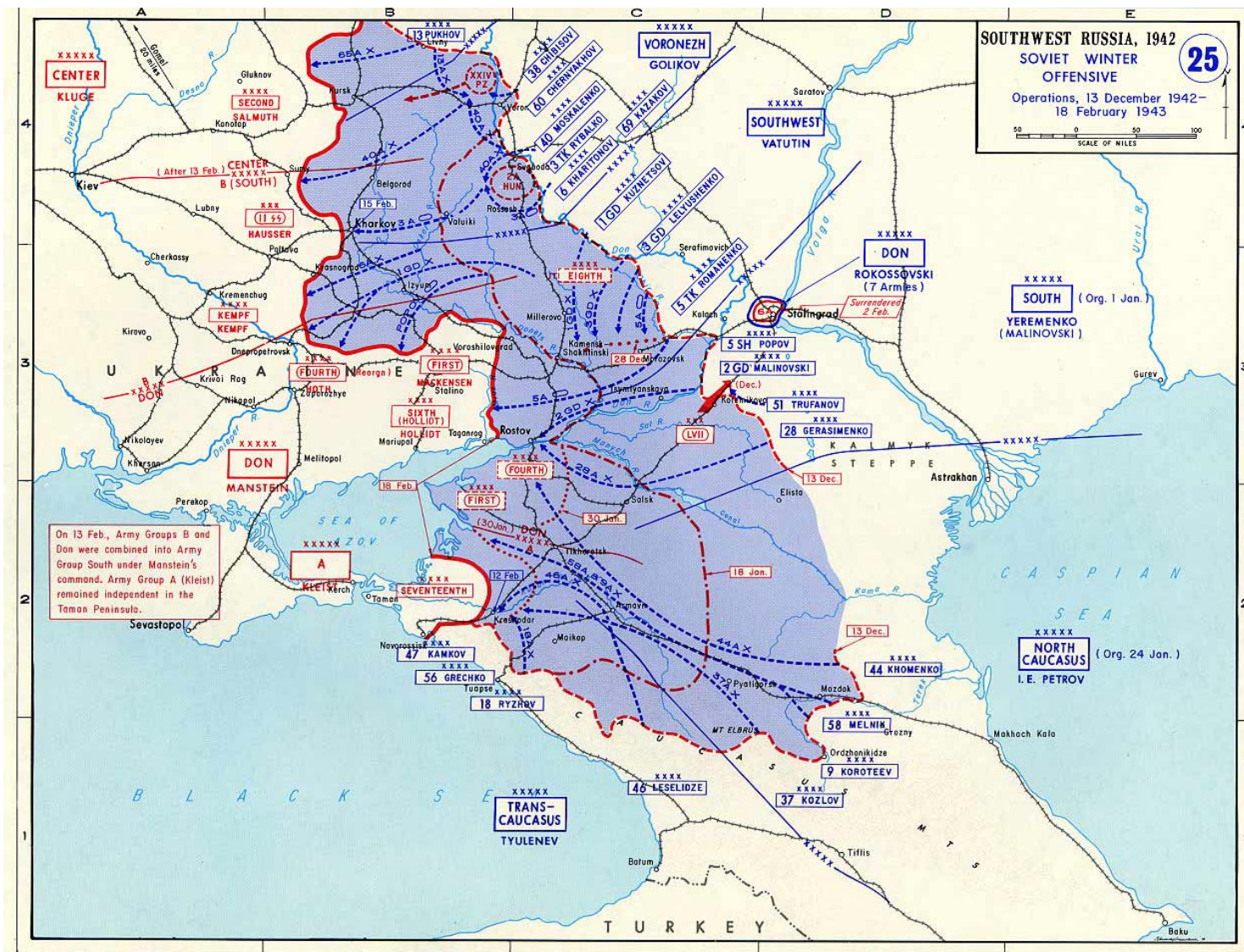
¹³⁹ Isserson, "The Evolution of Operational Art," 69-71.

The Culmination at Kharkov

Unfortunately for the Red Army, with German attempts to relieve Stalingrad having been rebuffed, and Operation Ring squeezing the life out of the 6th Army, the Soviets again became overly optimistic about their prospects. When the Soviets cancelled Operation Saturn, the German forces were able to successfully extricate themselves from the Caucasus. However, the German forces in Southern Russia were still in an extremely precarious state. Consequently, the Soviets determined in early 1943 that the time was ripe to translate their operational success at Stalingrad into the wholesale destruction of the German Army Groups Don and South, and eventually Army Group Centre as well.¹⁴⁰

This enormously ambitious objective was to be achieved by a general offensive and pursuit launched along the whole of the Soviet front line from Moscow southwards. Initially, the Soviets enjoyed their greatest success along the Middle Don, and in the south towards Rostov. The Red Army was becoming increasingly skilled in launching their exploitation echelon, and once they had cracked the brittle German front, Mobile Group Popov (named for its commander, and built around four under-strength tank corps) was passed through into the German depths. The intent was for this force to drive southwest towards the Sea of Azov, thereby cutting off the better part of two German armies. At the same time, after the Soviets had recaptured Kharkov, Stalin approved a plan to push the 1st Guards Army and the (Soviet) 6th Army forward to seize crossings across the Dnepr River.

¹⁴⁰ George Nipe, *Last Victory in Russia: The SS-Panzerkorps and Manstein's Kharkov Counter-offensive February-March 1943* (Atglen, PA: Schiffer Publishing Ltd., 2000), 58.



141

To put the scale of these operations into context, the Soviet objectives along the Dnepr River lay close to 500 kilometres from their start lines on the Don River. Kharkov, which fell to the Soviet spearheads on 14 February, was roughly 250 kilometres from the Don. These distances were far greater than earlier Soviet offensives had advanced, and seriously exceeded the statistical norms identified during the interwar period. Operations Uranus and Saturn had shown that penetrations of 100 kilometres left

¹⁴¹http://www.military.com/Resources/ResourceFileView/worldwarII_europe_maps_map25_larger_view.htm Internet. Accessed 20 Apr 2009

mobile forces worn out.¹⁴² Consequently, these figures suggest the most apparent reason why the Soviets culminated and left themselves vulnerable to Manstein's counter-offensive that led to the Germans recapturing Kharkov in mid-March. However, the distances alone only contributed to a more complex set of conditions that taken together serve to explain the causes of the final Soviet operational-level culmination.

In the simplest terms, Manstein was able to crush the Soviet spearheads because during their headlong pursuit following the German surrender at Stalingrad the Soviets stopped doing the things that had brought them victory earlier. In particular, their intelligence picture lost clarity and the supply system failed to keep up with the demands of the forward troops. These two factors meant that the strength of the Soviets' leading elements fell below that of the reserves Manstein was able to cobble together; in short, the Soviets passed the point of culmination.

Prior to Stalingrad, faced with a static enemy, the Soviet intelligence service had been able to paint an accurate picture of the German defences, allowing the Red Army to target the weaker satellite formations. During the mobile operations that characterised the winter of 1943, obtaining accurate intelligence became a more difficult task. Consequently, by mid-February, the Soviets had come to believe that the Germans had exhausted their operational reserves and were in full retreat to the Dnepr River.¹⁴³ Given this estimate, the decision to push the 1st Guards Army forward to seize bridgeheads across the Dnepr makes some sense. This misapprehension of enemy intentions, and the overconfidence that it engendered, was reflected in the codeword for the actions of the

¹⁴² Glantz, *From the Don to the Dnepr*, 81.

¹⁴³ Mawdsley, *Thunder in the East*, 259.

Popov Group: Operation Gallop. However, while the Germans were indeed pulling back, they sought to stop the Soviets along the Mius and Donets Rivers, 200-300 kilometres forward of the Dnepr. Moreover, the Soviets failed to detect that in response to the collapse at Stalingrad the Germans had brought in several powerful armoured formations, notably the SS Panzer Corps, from Western Europe. These undetected reserves were to play a crucial role in Manstein's counter-offensive. The perception of German weakness also likely coloured Soviet intentions in terms of the form of their manoeuvre. Rather than employ the double envelopment that had been successful previously, the ambitious plan to trap the Germans against the Sea of Azov left the Soviet spearheads hanging in a vulnerable position when they were unable to reach this objective.

On the logistical side, there were several aspects that contributed to the Soviet culmination. The first was simply wear and tear. Between forty and sixty percent of armoured losses were attributable to mechanical breakdown, and shortages of mobile repair teams meant that the broken down vehicles did not rapidly return to their units.¹⁴⁴ The tanks corps that comprised Mobile Group Popov were under-strength by February because by that point they had been fighting for the better part of two months without a significant break. While this may have reflected the principle of continuity, it also made them terribly vulnerable when faced with fresher elements from the 1st Panzer Army. Their condition was exacerbated as they drew further and further from the railheads that had supplied them during the build-up to Operation Uranus. The countryside through which they advanced had been ravaged by the German occupation, so all supplies had to

¹⁴⁴ Glantz, *From the Don to the Dnepr*, 79.

come from the rear.¹⁴⁵ The Germans destroyed the rail lines as they retreated, and the Soviets were unable to rebuild them sufficiently swiftly to keep up with their mobile forces. By the end of the offensive, leading Soviet elements were 200-250 kilometres from their bases of supply, and this was simply too far for the available motor transport to support.¹⁴⁶ The Soviets were still short of trucks at this point in the war, and these shortages were exacerbated by the harsh winter conditions that increased the loss rate from accidents and breakdowns.¹⁴⁷ The Soviets again sought to use air transport as an expedient, but their efforts in this respect were no more successful than they had been during the Moscow counter-offensive the previous year.

Another factor that illustrated continuing Soviet logistical challenges was the manner in which they discarded routine planning norms and timelines when faced with what they perceived to be a limited window of opportunity. The Soviets had identified a number of important lessons learned from the initial operations around Stalingrad. For example, while plans had required mobile forces to advance at rates of 40-80 kilometres/day, the actual rates had been closer to 25-35 kilometres/day.¹⁴⁸ However, in the rushed environment that followed Operations Uranus and Saturn, there had been no time to revise previously established norms to reflect recent experiences. Even when enemy action was not a factor, the Soviets still sought to push the envelope, frequently to their detriment, as can be seen from the experience of General Rokossovsky's Don Front.

¹⁴⁵ Alan Clark, *Barbarossa: The Russian-German Conflict 1941-1945* (London: Phoenix Press, 2000), 302.

¹⁴⁶ Glantz, *From the Don to the Dnepr*, 148.

¹⁴⁷ Nipe, *Last Victory in Russia*, 79.

¹⁴⁸ Glantz, *From the Don to the Dnepr*, 80.

As part of the effort to turn their victory at Stalingrad into a general offensive all along the front, the *Stavka* ordered the Don Front, renamed the Central Front, transferred from the south where it had been responsible for the defence of Stalingrad. Rokossovsky was to attack towards Orel, southwest of Moscow, as part of the efforts to destroy the German Army Group Centre. However, the *Stavka* only gave Rokossovsky six days to move his forces nearly 1000 kilometres laterally behind the front. This timeline was all the more unrealistic given that he was allocated only one rail line, and heavy late winter snows were making road movement difficult. Faced with these circumstances, rail timetables fell apart and some mobile units had to drive 200 kilometres to reach their designated start points.¹⁴⁹ The Red Army was still learning how to perform proper routine maintenance, and road moves such as these contributed to increasingly high rates of mechanical breakdowns. The net result was that Rokossovsky was forced to attack before many of his formations were in place. Missing three of the armies that had been allocated to his command, Rokossovsky's Front was unable to break through the German lines.

In this case, because there was no breakthrough, there was no culmination, but the poor handling of the Don/Central Front does serve to illustrate how Soviet planners, while capable of conducting a set-piece offensive, still struggled with a more fluid situation. Moreover, because the offensive against Army Group Centre sputtered, the Germans were able to throw their full weight against the Soviet forces further south. The German counterattacks began on February 20th. General Vatutin, the Soviet Front Commander, ordered his forces to go over to the defensive on the 24th, but as Clausewitz

¹⁴⁹ Glantz and House, *When Titans Clashed*, 145.

had noted, the defence established after the point of culmination would be necessarily weak, and Vatutin's front was no exception. The German General von Senger described the situation in February and March as follows: “[Soviet] Assault units continued to the limit of their endurance and beyond the point where they would be supplied. This ... explains why units with limited combat strength like the 17th Panzer were able, after disengaging from the Russians, to recover, halt the enemy and then throw him back in the exhilarating change in role from pursued to the pursuer.”¹⁵⁰ The successful German counter-offensive created the Kursk salient which would dominate the operational art of both sides for much of 1943.

The Kursk Counter-offensive and Operation Rummyantsev

Once they had determined to allow the Germans to attack first at Kursk, the Soviets began planning for the offensive that would follow the defensive stage of operations. This is where they were able to demonstrate that the operational pause of April-July 1943 had allowed them time to absorb the lessons from operations the previous winter. The Soviets had ample time to prepare for their offensive, for the planning for this began even as they strengthened their defences within the Kursk bulge in anticipation of the coming German offensive. This extended planning period did not, however, rob the Soviets of flexibility. While the counter-offensive north of the Kursk salient (the ‘Orel’ operation) was planned entirely in advance of the German attack, south of the Kursk salient, details of the counter-offensive towards Belgorod and Kharkov were

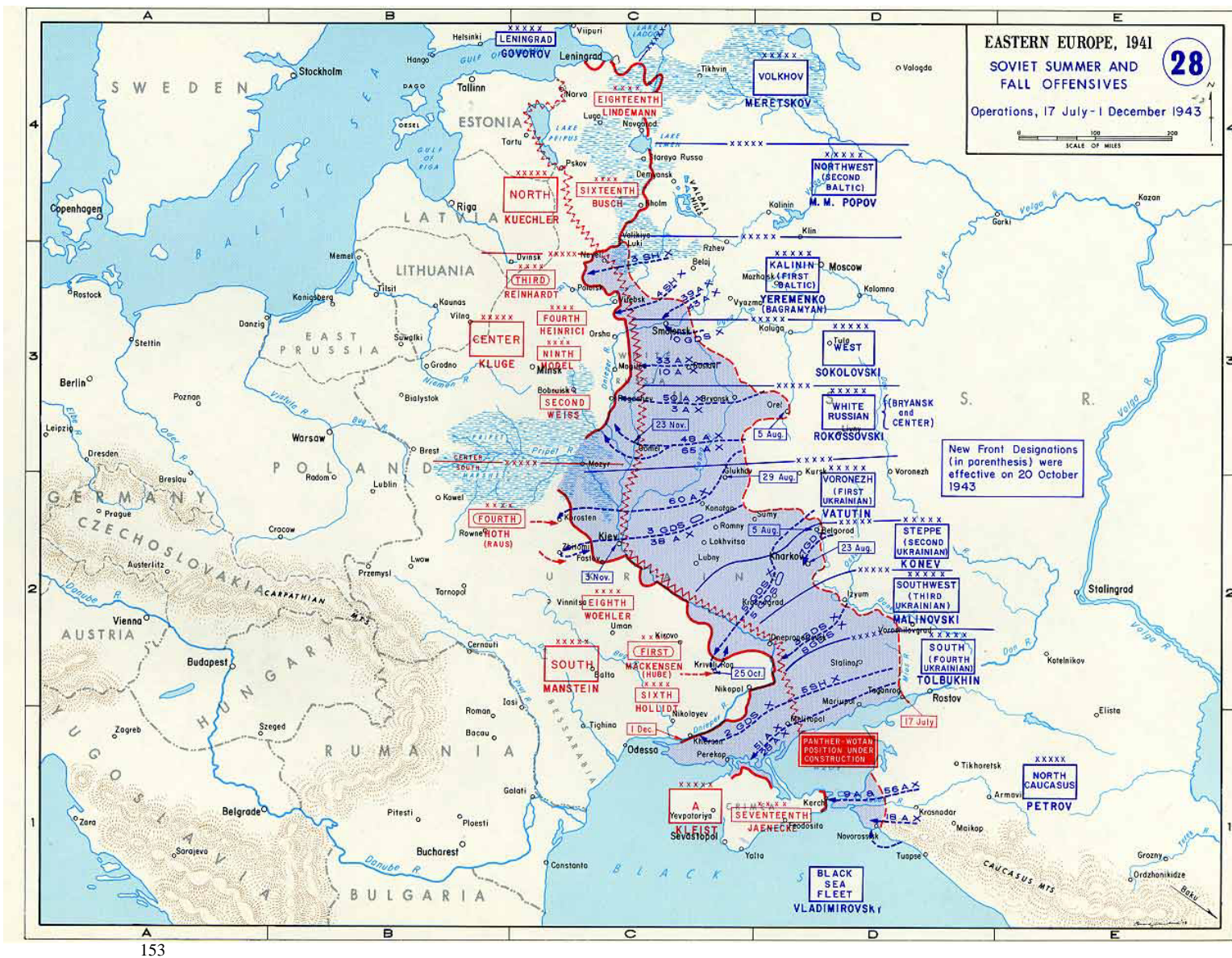
¹⁵⁰ Glantz, *From the Don to the Dnepr*, 150.

adjusted to reflect the progress of the German attack.¹⁵¹ The German Kursk offensive reached its high water mark on 12 July, and fighting had petered out on the southern flank of the salient by 23 July. On 3 August, the Soviets went over to the offensive with Operation Rummyantsev.

One key element in the Soviet arsenal as they began their attack was a revised version of the Tank Army. While Tank Armies had been employed in the operations around Stalingrad, these had been ad hoc affairs. By the summer of 1943 the Red Army had five identical Tank Armies with an establishment that had been adjusted to reflect the experience of the preceding winter. The Tank Corps, two of which formed the nucleus of the tank army, grew by approximately 25%, and the mix of tanks in these formations contained a much higher proportion of medium and heavy tanks than had previously been the case. In addition, the Tank Armies were provided with a much greater range of supporting arms such as mortar and self-propelled artillery regiments.¹⁵² In a sense, the Tank Army's were the logical development of Triandafillov's Shock Army, updated to reflect both technological developments and the empirical evidence of two years of warfare. With their increased size, and a deeper array of supporting arms, the staying power of these formations was significantly improved, which meant they could penetrate to greater depths before running the risk of culmination.

¹⁵¹ Ibid., 218.

¹⁵² Ibid., 220.



153

The plan for the Soviet offensive showed a mix of proven theoretical constructs, coupled with innovations that refined early doctrine in light of experience. Rather than the risky attack on a single axis, the Soviets returned to the proven form of the double envelopment, with the Front responsible for the attack on each axis being allocated one of the tank armies as its exploitation force. The innovation rested in the concept of a time-phased assault. Instead of all the armies within each front attacking at the same time,

¹⁵³ http://www.military.com/Resources/ResourceFileView/worldwarII_europe_maps_map28_larger_view.htm Internet. Accessed 20 Apr 2009.

they attacked sequentially so that while the offensive began on 3 August, the final armies launched their attacks on 7 August. This refinement offered several advantages. Firstly, it followed the principle of continuity, so that the Germans were kept under unrelenting pressure as each successive army began its assault. Secondly, it kept the German reserves off balance, as they were presented with a series of local crises competing for their support. Finally, it allowed the Soviets to use their artillery to support each breakthrough in turn. Thus, while they possessed an overall superiority of roughly three to one, the correlation of forces as each army began its assault was actually much higher at the point of attack.¹⁵⁴

Even with the odds overwhelmingly in their favour, the first echelon armies still had to call upon each axis' respective Tank Army to help complete the breakthrough.¹⁵⁵ However, after these initial delays, the offensive progressed rapidly, and by the end of August 5th, the Tank Armies had penetrating nearly 60 kilometres. Most importantly, notwithstanding their involvement in the breakthrough battles, they still retained significant combat power. The 1st Tank Army was counterattacked by III Panzer Corps on 11 August, in a manner very similar to the successful German counterattack in March. However, on this occasion, while the Soviet drive was held up, the Germans were unable to crush the Soviet spearheads. This marked the first occasion that an operational-level German counter-offensive was unable to destroy a Soviet exploitation force.¹⁵⁶ To a

¹⁵⁴ Glantz, *From the Don to the Dnepr*, 226, 232.

¹⁵⁵ Glantz and House, *When Titans Clashed*, 169.

¹⁵⁶ *Ibid.*, 170.

large degree, the German failure can be attributed to the robustness of the improved tank army, which effectively operationalised Triandafillov's concept of the shock army.

The failure of the German counterattack allowed the Soviets to re-take Kharkov, although the intended encirclement of the German forces never materialised; uncharacteristically, Hitler had allowed Manstein to withdraw his forces from the city before the Soviet pincers closed.¹⁵⁷ Still the Soviet offensive was a success on several levels: it had seized its physical objectives, and had forced the Germans to commit their operational level reserves. This second point is the most important, for it set the conditions for subsequent operations to drive the Germans back all the way to the Dnepr River. Because they had not culminated and been thrown back, and because the German operational reserves had suffered significant attrition in their battles with the 1st Tank Army, the Soviets were in a good position to push onwards while the Germans had little to oppose them with. In a manner that reflected the concept of successive operations, even as Operation Rumyantsev was concluding following the fall of Kharkov, the Red Army was going over to the offensive with other Fronts, and these successive operations pushed the Germans back across the Dnepr, whilst establishing several bridgeheads that would provide the jumping-off points for the next series of offensives.

¹⁵⁷ Earl Ziemke, *Stalingrad to Berlin: The German Defeat in the East* (Honolulu: University Press of the Pacific, 2003), 156.

Chapter Six – Operation Bagration

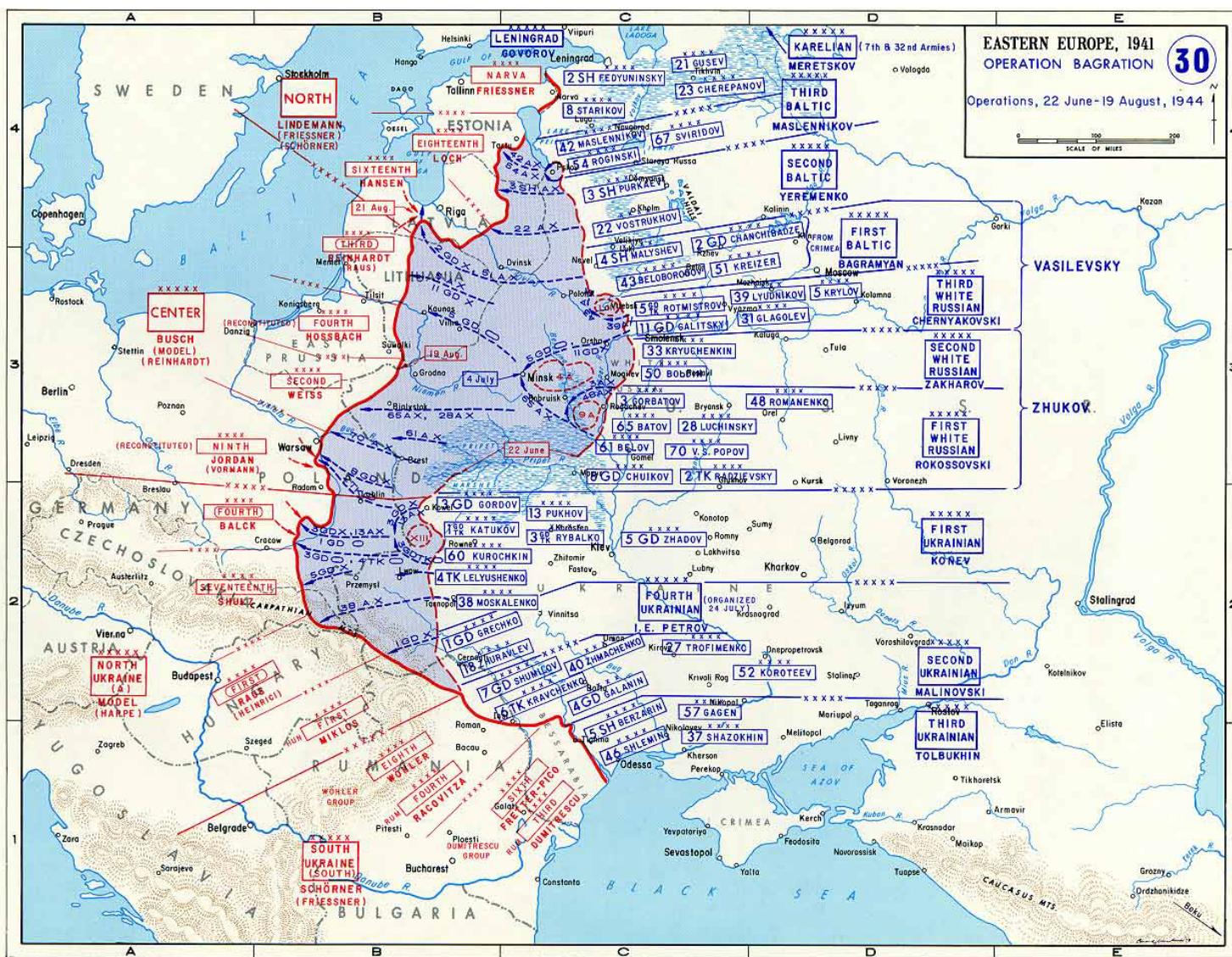
Operation Rummyantsev, and the successive operations that took the Soviets across the Dnepr, reflected the manner in which the Soviets had successfully married the thinking of the interwar theorists to their hard-won war experience. The potency of this combination was further demonstrated the following summer when the Soviets finally brought their full weight to bear on Army Group Centre. While Soviet operations in the South had been successful in attaining physical objectives, the task of destroying an entire army group represented a far more imposing challenge; the achievement of this task, codenamed Operation Bagration, thus represented the acme of Soviet operational art in the Second World War.

The destruction of Army Group Centre, which was tasked with the defence of Belorussia, was a daunting objective. While Soviet activity against this grouping had been relatively constant, it had not faced the same intensity of conflict as had German forces in the South. Consequently, it remained the most powerful of the German Army Groups: 51 divisions containing nearly 800,000 troops.¹⁵⁸ Moreover, the terrain in Belorussia would seem to have favoured the defender, being a mix of woods and swamps that was bisected by many small creeks, each of which represented an obstacle to mechanized forces. While the road network in central Belorussia had a density of 20 kilometres per 100 square kilometres, this was hardly the tank-friendly steppes of the Ukraine.¹⁵⁹ Nonetheless, over the course of five weeks, the Soviets were able to not only shatter Army Group Centre, but push back the front lines 500 kilometres to the West as

¹⁵⁸ Mawdsley, *Thunder in the East*, 301.

¹⁵⁹ *Belorussia 1944: The Soviet General Staff Study*. Ed. and trans. David Glantz and Harold Orenstein (London: Frank Cass, 2004), 12.

they did so. The Soviet success can be attributable to the skilful manner in which they implemented the main tenets of the interwar theorists. They massed their forces in critical sectors, shielding these efforts with an elaborate deception scheme, and then conducted successive operations that allowed the Germans no respite. This combination of massive force combined with unrelenting pressure ensured that there would be no culmination to conclude Operation Bagration.



160

The build-up to Bagration was the most demanding logistical effort the Soviets had undertaken to that point in the war. They massed four Fronts, and twelve tank corps against the German forces, a concentration that required some 440,000 freight cars, which represented close to 65% percent of the entire Soviet supply.¹⁶¹ Forward of the railheads, the Fronts relied on the roads; to supplement the poor network in their assembly areas, the 1st Baltic Front built 275 kilometres of new roads, and graded a further 820 kilometres.¹⁶² These logistical preparations were closely supervised by the Stavka representatives, Marshals Vasilevsky and Zhukov. Following a visit to the 1st Belorussian Front, where they were having problems with the rail system, Zhukov called Stalin to ask that the dictator bring this matter to the attention of the rail and rear services.¹⁶³

The positive correlation of forces achieved through these logistical measures was further enhanced as each individual Front concentrated its own assets on a breakthrough sector. For example, the 1st Baltic Front (the northernmost Front for Bagration) focussed its attack on a 25-kilometre wide penetration sector.¹⁶⁴ This focus also allowed for Front Shock Groups to be deeply echeloned, and as the interwar theorists had identified, this allowed for the maintenance of momentum as the attack was carried into the German operational depths.¹⁶⁵ However, this concentration did not mean that German forces outside these designated sectors were left untouched. The Fronts were sufficiently

¹⁶¹ Mawdsley, *Thunder in the East*, 303.

¹⁶² *Belorussia 1944*, 36.

¹⁶³ Erickson, *Road to Berlin*, 208.

¹⁶⁴ *Belorussia 1944*, 15.

¹⁶⁵ *Ibid.*, 54.

massive to exert pressure all along the German line to keep forces fixed in place, which subsequently facilitated their encirclement.

The corollary to the massive logistical effort was a *maskirovka* campaign conducted on an equally impressive scale. Based on the Soviet successes in the Ukraine, the German High Command felt that the next Soviet blow would also fall in this area. This impression was reinforced by a Soviet deception plan whereby an entire Front, the 3rd Ukrainian, was tasked to simulate the preparations for a Soviet offensive from the Ukraine into Romania.¹⁶⁶ These efforts caused the Germans to maintain 24 of the 30 panzer or panzergrenadier divisions available on the Eastern Front south of the Pripet marshes, unable to intervene as Bagration unfolded.¹⁶⁷ In April 1944, the First Panzer Army had been able to escape encirclement at Tarnopol in the Ukraine because Manstein had been able to marshal armoured formations to break into the encirclement from the outside.¹⁶⁸ As Bagration unfolded, Soviet strategic deception measures ensured that these armoured reserves were unavailable as the pincers snapped shut around Minsk and other pockets.

At the operational level, deception measures included the concentration of artillery on secondary axes; having fired several artillery raids to reveal their locations, these guns were then removed at night and replaced by dummy weapons. The effectiveness of these and similar measures was monitored by officers from the Red Army's General Staff Operations Directorate who were specifically assigned for this

¹⁶⁶ Paul Adair, *Hitler's Greatest Defeat* (London: Rigel Publications, 2004), 58.

¹⁶⁷ Chris Bellamy, *Absolute War: Soviet Russia in the Second World War* (New York: Alfred Knopf, 2007), 612.

¹⁶⁸ Erickson, *Road to Berlin*, 186.

purpose.¹⁶⁹ The net result of all these efforts that while the massive logistical preparations were detected by the Germans, they remained unsure of the precise axes of the attack, and remained convinced that the attack itself would be a minor tactical affair; on 19 June, Field Marshal Busch, the Commander of Army Group Centre, went home on leave.¹⁷⁰ The Soviet attack began on 22 June.

The form of the Soviet attack reflected the preference for encirclement attacks, with each Front assigned a specific enemy grouping in this respect. The Fronts were then to cooperate with one another to achieve the next set of encirclements. However, once these first two objectives had been achieved, the plan anticipated the mobile forces of each Front being released to continue the pursuit. Thus, the Stavka directive of 31 May assigned objectives to the 1st Belorussian Front (on the south end of Bagration) as follows: “The immediate mission is to defeat the enemy’s Bobruisk grouping... Then, using forces on the right flank, cooperate with the 2nd Belorussian Front’s forces in defeating the Mogliev grouping. Subsequently, develop the offensive to reach the Pukhovichi, Slutsk and Osipovichi region”.¹⁷¹ This scheme of manoeuvre had all the advantages accruing to encirclement operation identified earlier, but its execution, with the complexity inherent in the cooperation and link-ups between neighbouring Corps, was only possible because the Soviets now possessed the requisite professional expertise based on three years of war experience. Reflecting this experience, norms for the advance were more modest than in previous operations: The initial objectives for each

¹⁶⁹ *Belorussia 1944*, 57.

¹⁷⁰ Werner Haupt, *Army Group Centre: The Wehrmacht in Russia 1941-45* (Atglen, PA: Schiffer Publishing, 1997), 192.

¹⁷¹ *Belorussia 1944*, 26.

front (designed to achieve the first set of encirclements) were 50-60 kilometres deep.¹⁷² Beyond this, in what was essentially the second in the series of successive operations, fronts were expected to penetrate to a depth of 100-130 kilometres during the first 10-11 days, a more realistic average of 8-12 kilometres per day.¹⁷³

In terms of its actual execution, Operation Bagration was a very close reflection of deep operations as envisaged by Tukhachevsky and Triandafillov.¹⁷⁴ Once the German front line had been broken, Soviet mobile groups were pushed forward to seize crossings over the Berezina River, the most significant obstacle in the German depths, and the logical place for them to seek to regroup. Because of the speed of these mobile groups, the Germans were never able to re-form an effective defence, for the Berezina line was lost before the Germans could collect themselves. When the Germans were able to launch local counterattacks, like that directed against the 65th Army near Brest-Litovsk, it delayed the Soviet advance, but did not throw it back. 1st Belorussian Front, the 65th Army's parent formation, was sufficiently robust to bring up other elements to beat back the German counterattack.¹⁷⁵

As described in the Soviet orders, the Fronts cooperated to encircle the German groupings; the German 4th Army was trapped as the pincers closed around Minsk. However, while the Germans expected the Soviet offensive to lose momentum at this point (roughly 200 kilometres from the start point) as had been the case in the past, the extensive build-up that had preceded Bagration allowed Soviet columns to continue the

¹⁷² Erickson, *Road to Berlin*, 212.

¹⁷³ *Belorussia 1944*, 15.

¹⁷⁴ Mawdsley, *Thunder in the East*, 302.

¹⁷⁵ Erickson, *Road to Berlin*, 240.

pursuit of those elements that had escaped the initial encirclements.¹⁷⁶ This smooth transition from the encirclement operation to the pursuit epitomized the ideal form of successive operations theory. This transition was supported by a more mature command and control system; as the Soviet forces approached Minsk, the Stavka had issued supplementary directives to all the Fronts that reflected the rapidly changing situation and guided the Fronts to their objectives beyond Minsk.¹⁷⁷ Because their logistical efforts had allowed them to introduce fresh forces to continue the pursuit, the various Soviet Fronts allowed the retreating Germans no respite. The Germans were unable to regroup forces to counterattack and so the correlation of forces remained decisively in the Soviets' favour, thus neutralizing the threat of culmination. The Soviet offensive finally came to a halt at the end of July with the leading elements nearly 500 kilometres from their start points, but in contrast to what Clausewitz suggested, the defence they formed at this point offered no opportunity for the disorganized and dispirited Germans to regain the initiative.¹⁷⁸

The actions of the Fronts involved in Bagration reflected Triandafillov's theoretical Shock Army in several respects. Firstly, they had achieved that balance between being sufficiently robust to conduct operations in depth without becoming logistically unwieldy. Secondly, like Triandafillov's Shock Army, the operations were predicated upon an effective railroad restoration campaign. Each front began the operation with one or two railroad brigades, and they were reinforced with several more

¹⁷⁶ Mawdsley, *Thunder in the East*, 301.

¹⁷⁷ Erickson, *Road to Berlin*, 226.

¹⁷⁸ *Belorussia 1944*, 177.

as the advance progressed. Initially, the restoration proceeded slowly, as the Germans were able to conduct extensive demolitions in the areas closest to the original front lines. However, as the Soviet pursuit gathered momentum, the Germans were too hard pressed to destroy the rail lines so thoroughly, and consequently, as the Soviet offensive progressed, the rate of rail restoration increased, reaching 18-19 kilometres per day in some cases. The distance from the front lines to the railheads peaked at close to 350 kilometres, but by late July this had been reduced to a more manageable 150-175 kilometres.¹⁷⁹ This meant that while the vehicle park, responsible for supply transport forward of the railheads, was severely strained it never broke down completely.¹⁸⁰

Operation Bagration achieved its objective of shattering Army Group Centre. The Germans lost 200,000 dead and another 85,000 prisoners, including 21 Generals.¹⁸¹ It had been a resounding success because the Soviets had combined all the elements identified by the interwar theorists within the theory of successive operations. They had massed decisive forces on narrow sectors to achieve the breakthrough while keeping up the pressure all along the German line. This application of overwhelming force was made possible by a massive logistical effort and a sophisticated *maskirovka* campaign. Once the German line had been broken, the German armies were surrounded in a series of pockets while mobile forces exploited into the operational depths. The smooth execution of these successive operations allowed the Germans few opportunities to regroup for an operational-level counterattack. When the Germans were able to stike back, the Soviet forces, supported in depth by their improved rear services, were still

¹⁷⁹ Ibid., 188-90.

¹⁸⁰ Ibid., 190.

¹⁸¹ Haupt, *Army Group Center*, 208.

sufficiently strong to brush off the German efforts. The combat power of the leading Soviet elements never dropped below that of the forces desperately marshalled by the Germans; in effect, the Soviets concluded Bagration of their own accord before they reached the culminating point.

Conclusion

The problem of culmination has long bedevilled armies. Clausewitz had noted how even Napoleon had allowed his Army to reach a point where his strength in Russia fell below that of his enemies. As the Red Army began to develop new theoretical constructs in the interwar period they had more recent cases to consider. The First World War had offered several examples, such as the German defeat on the Marne. More painfully for the Red Army, their initial efforts to export Revolution beyond their borders had come to naught when Tukhachevsky's Front culminated on the Vistula and was driven back by the Poles.

In considering all these examples, the Soviet theorists were able to rely on new constructs developed by Svechin, Tukhachevsky and Triandafillov. These men were forced to consider how to destroy an enemy who had grown too large to be destroyed in a single battle, and this led to the development of the theory of successive operations. The idea of successive operations placed an emphasis on setting the conditions for success in an army's final battles, and when coupled with Svechin's idea of the Operational Art, ensured that all of the operations were linked by a common goal. Triandafillov took the idea of successive operations and fleshed it out by considering the logistical factors that would lead an army's strength to diminish. He created a theoretical shock army as the tool for the conduct of successive operations that was sufficiently robust to conduct operations through the depth of an enemy's defence. The development of logistical norms allowed the theorists to determine how far such an army could be expected to penetrate before it culminated.

The harsh reality of the German attack on the Soviet Union presented a tremendous challenge for the Red Army. During the First Period of the War, the Red Army was still trying to overcome the effects of the purges and develop into a professional organization. Simultaneously, Stalin was struggling to come to terms with how to manage a nation at war. As Stalin and his military leadership learned the hard way, offensives launched with insufficient forces culminated very quickly; the defeat of the Soviets' Moscow counter-offensive and the Kharkov offensive were cases in point. However, there was a Darwinian process at work here; between Stalin and the Germans, the Soviet commanders were forced to learn their craft or lose their lives. For his part, Stalin began to appreciate the limits of his own expertise, and consequently allowed his military professionals like Zhukov and Vasilevsky more scope.

This process began to pay dividends during the Second Period of War. The successful counter-offensives at Stalingrad and Kursk showed that the Soviets were slowly becoming adept at massing their forces for a set piece attack and the subsequent penetration into the operational depths. This was a function of better intelligence, skilful *maskirovka* that concealed their intentions, and a growing logistical expertise that allowed for the requisite concentration of forces, including materiel. That said, Manstein's Kharkov counter-offensive revealed that they had not yet mastered the full panoply of operational art inherent in the idea of successive operations. In particular, because their logistical services were still immature, while they could support a set-piece attack, they were unable to keep up in the fluid conditions of the pursuit. At the same time, logistical norms did not yet reflect this weakness. The net result was that Soviet strength gradually ebbed until they reached the culminating point.

By the final period of war, the Soviets had finally married the theoretical construct of successive operations to the experience of three years of war. Combined with a force structure that reflected the vision of Triandafillov's Shock Army, this mature and sophisticated operational art allowed them to destroy Army Group Centre during Operational Bagration. Here they integrated all the key tenets of successive operations. They built up an overwhelming strength through a thorough logistical effort, whilst establishing achievable norms that did not create unrealistic expectations. They concealed this preponderance of force from the Germans and achieved operational surprise. Finally, by sequencing several consecutive encirclements, followed by a general pursuit, they allowed the Germans no respite to regroup their forces. When this unrelenting pressure was coupled with a supply system that bent but did not break, it ensured that the power of the leading Soviet elements never fell below that of the opposing Germans. This maintenance of a positive correlation of force throughout Bagration, and the consequent destruction of an Army Group that had been previously invulnerable, epitomized the theory of successive operations. Ultimately, the Soviets were able to address the problem of culmination because they finally developed the practical expertise to allow them to execute the brilliant theoretical constructs developed by the interwar thinkers.

Clausewitz noted that: "Everything in War is simple, but the simplest thing is difficult."¹⁸² The problem of culmination is a case in point. The idea that one must keep from becoming weaker than the enemy as one advances is very straightforward. However, the multiple historical examples of culmination, whether one considers Napoleon or Hitler before Moscow, to say nothing of the numerous times the Red Army

¹⁸² Clausewitz, *On War*, 119.

fell into this trap, suggests the problem is more complex than it first appears. It is a testament to the Red Army's operational art that they were able to address this issue and deny the Germans any operational openings from late 1943 onwards. As the purged thinkers had anticipated, technology would play a part of the solution, and in the Fronts of 1944, reinforced with Tank Armies, and supported by thousands of lend-lease trucks, the Red Army had the tools to implement the theoretical constructs of Tukhachevsky and Triandafillov. Ultimately, commanders like Zhukov, Vasilevsky and Rokossovsky, who had honed their craft during the brutal early years of the war, developed the expertise to make manifest the essence of the interwar theories and thereby solve the problem of culmination.

Bibliography

Adair, Paul. *Hitler's Greatest Defeat*. London: Rigel Publications, 2004.

Bellamy, Chris, *Absolute War: Soviet Russia in the Second World War*. New York: Alfred Knopf, 2007.

Belorussia 1944: The Soviet General Staff Study. Edited and translated by David Glantz and Harold Orenstein. London: Frank Cass, 2004.

Citino, Robert. *Death of the Wehrmacht: The German Campaigns of 1942*. Lawrence, Kansas: The University Press of Kansas, 2007.

Clark, Alan. *Barbarossa: The Russian-German Conflict 1941-1945*. London: Phoenix Press, 2000.

Clausewitz, Carl von. *On War*. Edited and translated by Michael Howard and Peter Paret. Princeton, Princeton University Press, 1976.

Davies, Norman. *White Eagle, Red Star: The Polish-Soviet War 1919-20*. London: Macdonald, 1972.

Erickson, John. *The Road to Berlin*. London: Weidenfeld and Nicolson, 1983.

Erickson, John. *The Road to Stalingrad*. London: Weidenfeld and Nicolson, 1975.

Erickson, John. *The Soviet High Command: A Military-Political History, 1918-1941*. 3rd edition. London: Frank Cass, 2001.

Gat, Azar. *A History of Military Thought: from the Enlightenment to the Cold War*. Oxford: Oxford University Press, 2001.

Glantz, David. *From the Don to the Dnepr: Soviet Offensive Operations December 1942-August 1943*. London: Frank Cass, 1991.

Glantz, David. *Kharkov: Anatomy of a Military Disaster*. New York: Sarpedon, 1998.

Glantz, David. "The Intellectual Dimension of Soviet (Russian) Operational Art." In *The Operational Art: Developments in the Theory of War*, edited by B.J.C. McKercher and Michael Hennessy, 125-146. Westport, CT: Praeger, 1996.

Glantz, David. *Soviet Military Operational Art: In Pursuit of Deep Battle*. London: Frank Cass, 1991.

Glantz, David. "Soviet Operational Art since 1936: The Triumph of Maneuver War." In *Historical Perspectives on the Operational Art*, edited by Michael Krause and R. Cody Phillips, 247-292. Washington: Center for Military History, 2004.

Glantz, David. *The Role of Intelligence in Soviet Military Strategy in World War II*. Novato CA: Presidio, 1990.

Glantz, David. and House, Jonathan. *When Titans Clashed: How the Red Army Stopped Hitler*. Lawrence, Kansas: University of Kansas Press, 1995.

Handel, Michael. *Masters of War: Classical Strategic Thought*. 3rd ed. London: Frank Cass, 2001.

Harrison, R.W. *The Russian Way of War: Operational Art, 1904-40*. Lawrence: University Press of Kansas, 2001.

Haupt, Werner. *Army Group Centre: The Wehrmacht in Russia 1941-45*. Atglen, PA: Schiffer Publishing, 1997.

Hayward, Joel. *Stopped at Stalingrad: the Luftwaffe and Hitler's Defeat in the East*. Lawrence, Kansas: University Press of Kansas, 1998.

Isserson, G. "The Evolution of Operational Art." In *The Evolution of Soviet Operational Art, 1927-1991: The Documenary Basis, Volume I*, translated by Harold Orenstein, 48-77. London: Frank Cass, 1995.

Kipp, Jacob. "The Origins of Soviet Operational Art, 1917-1936." In *Historical Perspectives on the Operational Art*, edited by Michael Krause and R. Cody Phillips, 213-246. Washington: Center for Military History, 2004.

Kipp, Jacob. "Two Views of Warsaw: The Russian Civil War and Soviet Operational Art." In *The Operational Art: Developments in the Theory of War*, edited by B.J.C. McKercher and Michael Hennessy, 51-86. Westport, CT: Praeger, 1996.

Macintosh, J.M. "The Development of Soviet Military Doctrine since 1918." In *The Theory and Practice of War*, edited by Michael Howard, 247-270. London: Cassel, 1965.

Manstein, Erich von. *Lost Victories*. St. Paul, MN: Zenith Press, 2004.

Mawdsley, Evan. *Thunder in the East: The Nazi-Soviet War, 1941-1945*. London: Hodder Arnold, 2005.

Milne, Duncan. "An Example of Force Development: Tukhachevsky and the Soviet Art of Deep Battle." In *The Changing Face of War*, edited by Allan English, 67-82. Kingston: McGill-Queen's University Press, 1998.

Nipe, George. *Last Victory in Russia: The SS-Panzerkorps and Manstein's Kharkov Counteroffensive February-March 1943*. Atglen, PA: Schiffer Publishing Ltd., 2000.

Overy, Richard. *Russia's War: Blood Upon the Snow*. New York: Penguin Putnam, 1997.

Reese, Roger. *The Soviet Military Experience*. New York: Routledge, 2000.

Roth, Gunter. "Operational Thought from Schlieffen to Manstein." In *Historical Perspectives on the Operational Art*, edited by Michael Krause and R. Cody Phillips, 149-168. Washington: Center for Military History, 2004.

Savkin, Ye. *The Basic Principles of Operational Art and tactics: A Soviet View*. Translated under the auspices of the United States Air Force. Washington: U.S. Government Printing Office, 1972.

Simpkin, Richard in association with Erickson, John. *Deep Battle: The Brainchild of Marshal Tukhachevsky*. London: Brassey's, 1987.

Simpkin, Richard. *Race to the Swift*. London: Brassey's, 1985.

Spahr, William. *Stalin's Lieutenants: A Study of Command Under Duress*. Novato, CA: Presidio, 1997.

Spahr, William. *Zhukov: The Rise and Fall of a Great Captain*. Novato CA: Presidio, 1993.

Stoecker, Sally. *Forging Stalin's Army: Marshal Tukhachevsky and the Politics of Military Innovation*. Oxford: Westview Press, 1998.

Svechin, A.A. "Strategy and Operational Art." In *The Evolution of Soviet Operational Art, 1927-1991: The Documentary Basis, Volume I*, translated by Harold Orenstein, 5-32. London: Frank Cass, 1995.

Triandafilov, V.K. *The Nature of the Operations of Modern Armies*. Edited by Jacob Kipp, translated by William Burhans. London: Frank Cass, 1994.

Trotter, William. *A Frozen Hell: The Russo-Finnish Winter War of 1939-40*. Chapel Hill: Algonquin Books, 1991.

Tukhachevsky, M.N. 'What is New in the Development of Red Army Tactics' in Harriet Fast Scott and William F. Scott eds, *The Soviet Art of War: Doctrine, Strategy, and Tactics*, Boulder, Colorado: Westview Press, 1982.

Turbeville, Graham. "Soviet Operational Logistics, 1939-1990." In *Historical Perspectives on the Operational Art*, edited by Michael Krause and R. Cody Phillips, 293-328. Washington: Center for Military History, 2004.

Varfolomeev, N. "Strategy in an Academic Formulation." In *The Evolution of Soviet Operational Art, 1927-1991: The Documentary Basis, Volume I*, translated by Harold Orenstein, 33-47. London: Frank Cass, 1995.

Vigour, P.H. *Soviet Blitzkrieg Theory*. London: Macmillan, 1984.

Ziemke, Earl. *Stalingrad to Berlin: The German Defeat in the East*. Honolulu: University Press of the Pacific, 2003.