

LIBERTY UNIVERSITY

TEARING THE GUTS OUT OF THE WEHRMACHT:
A RE-EXAMINATION OF THE RUSSO-GERMAN WAR

A thesis submitted in partial fulfillment of the requirements
For the degree of Master of Arts
in History

By

Randall S. Wells Jr.

August 2018

The thesis of Randall S. Wells Jr. is approved:

Dr. Martin Scott Catino
Thesis Director

Date

Dr. David Jonathan White
Second Reader

Date

Acknowledgments

I would like to offer my deepest gratitude to all those who have mentored me during my graduate studies at Liberty University, Virginia and who have assisted me in the completion of this project. Thank you to Dr. David Snead and Dr. Martin Catino whose courses in World War II and Modern European History piqued my interest in this field and inspired me to focus my thesis on a related topic. I would especially like to thank Dr. Cary Roberts for providing me the opportunity to finish my graduate degree with a thesis module and for his interest in this project, his time and guidance throughout the preliminary writing process. I would like to acknowledge Dr. Williamson Murray, Professor Emeritus of History at the Ohio State University for chatting with me over the telephone about my thesis and for steering me towards some truly valuable source material. Additionally, I would be remiss if I failed to acknowledge my wife, Denise Wells, for her tireless support during the many hours I was busy with this project. Finally, I would like to dedicate this thesis to my great uncle, Norris Byron Wells Jr, who gave his life fighting the Nazis in southern France on 28 August 1944.

Table of Contents

Signature Page	i
Acknowledgements	ii
Table of Contents	iii
Abstract	iv
Introduction	1
Chapter One	29
Chapter Two	70
Chapter Three	91
Conclusion	102
Bibliography	106

Abstract

Nazi Germany invaded the Soviet Union on 22 June 1941. Hitler's plan to annihilate Germany's Eastern neighbor and populate the vast Russian expanse with his own people was as ambitious as it was adventuristic. Although it began successful, the Russo-German War quickly devolved into a quagmire as Russian troops outfought their German opponent and beat them back to Berlin. Contrary to prevailing historiography, the Wehrmacht's loss on the Eastern Front cannot be solely attributed to a failure to equip German troops with proper winter clothing, an inadequate logistics network or Hitler's interference in military decisions. For an army that had enjoyed rapid gains during late 1930s and 1940, only an enhanced tactical revolution, superior armor and a more aggressive martial ethos explains how the vaunted German military suffered ignominious defeat at the hands of what many consider a third-rate adversary.

Introduction

More than 2,000 years ago, King Solomon wrote, “Pride goeth before destruction, and an haughty spirit before a fall.”¹ Perhaps in no other example is this verse more prescient than in the adventuristic German invasion of the Soviet Union in the summer of 1941. Considered the largest land invasion in military history, Hitler’s aspirations to expand Germany’s living space to the east constituted a monumental overreach that left an indelible stain upon the German people, which time itself cannot erase.

Before the ink had barely dried on the Treaty of Versailles, Adolf Hitler’s Third Reich had been busy arming herself for yet another war. First, Hitler secretly mandated the German Army triple its strength from 100,000 to 300,000 men by October 1934. Second, he approved Admiral Erich Raeder’s project to assemble forbidden U-boats and third, he gave Hermann Goering the green light to establish the Luftwaffe. For all intents and purposes, the makings of the German Wehrmacht were falling into place.²

Up until April 1934, Hitler had worked clandestinely to rebuild the German military machine. The following year, the Führer openly repudiated the military stipulations of Versailles and introduced conscription.³ As early as 1936, just three years after becoming Chancellor, Hitler made the first of several bold moves to test Anglo-French resolve. Like a schoolyard bully, Hitler began pressing his luck to see if anyone would move to stop him. They did not.

Rather than sending troops into Germany to punish Hitler for violating the Versailles Treaty, England and France squeaked out a mild protest and took the matter before the League of

¹ Prov. 16:18 (KJV).

² James L. Stokesbury, *A Short History of World War II* (New York: Harper Collins, 1980), 18.

³ Wolfgang Foerster, *Generaloberst Ludwig Beck: Sein Kampf gegen den Krieg* (Islar Verlag: Muchen, 1953), 22.

Nations. The League condemned Germany but did nothing. Conveniently for the Führer, an international incident captured the attention of the League of Nations in late 1935, which Hitler immediately exploited.⁴

Benito Mussolini, Italy's fascist dictator, decided to invade Ethiopia in October 1935 as a matter of payback for Italy's humiliating defeat during the First Italo-Abyssinian War in 1896. Again, France and England protested to the League of Nations, however, little was done and Mussolini defeated the tiny nation in 1936 after taking the capital. Mussolini's invasion of Ethiopia, coupled with Anglo-French reactions, fractured the Locarno Pact and revealed the League of Nations to be an impotent attempt at collective security.⁵

With France, England and Italy's attention focused on Ethiopia, Hitler reasoned that these nations would be less inclined to resist his attempt to remilitarize the Rhineland. Therefore, in the early morning hours of 7 March 1936, three battalions of German troops goose-stepped across the Rhine bridges and entered the demilitarized zone. Germany's Foreign Minister announced to the ambassadors of France, England and Italy that their abrogation of the Locarno Pact justified the incident.⁶

Yet again, the League of Nations condemned Germany but took no concrete action. With the eruption of civil war in Spain later that summer, Hitler saw an opportunity to test his nascent Wehrmacht in combat. Along with Mussolini, Hitler sent military support to anti-Communist General Francisco Franco, which further linked the fascist dictators together and facilitated a

⁴ Williamson Murray and Allan R. Millett, *A War to Be Won: Fighting the Second World War* (Cambridge: Harvard Press, 2000), 2-8.

⁵ *Ibid.*, 5.

⁶ John Keegan, *The Second World War* (New York: Penguin, 1989), 37-38.

“dress-rehearsal” for German and Italian armies. France and England sponsored a non-intervention committee but did nothing.⁷

Seeing the handwriting on the wall, Soviet Premier Joseph Stalin, sent financial aid to pro-Communist forces in Spain, but refrained from dispatching troops. Additionally, Stalin viewed Anglo-French intransigence as a clear sign that they would likely sit back while Hitler did what he wanted in Europe. Stalin’s assumption proved prophetic as Hitler next targeted Austria and Czechoslovakia.⁸

Following the Nazi-orchestrated assassination of Austrian Chancellor Engelbert Dollfuss in 1934, Hitler began manipulating Dollfuss’ successor, Kurt Schuschnigg into agreeing to the unification of Austria and Germany. When Schuschnigg balked, Hitler replaced him with Austrian Nazi, Arthur Seyss-Inquart on 11 March 1938. As his first official act as Austria’s new chancellor, Seyss-Inquart requested that Hitler send German troops to “restore law and order.” Two days later, Hitler annexed Austria and gained not only Austria’s money but 85,000 troops to add to his burgeoning army.⁹

British and French reaction was similar to what had occurred the previous few years. Neither nation wanted a repeat of the Great War, and therefore sought diplomatic solutions in an effort to make the Führer behave. Hitler, however, had no intentions of playing nice and the following year, demanded the relinquishing of the German inhabited region of Czechoslovakia called the Sudetenland.¹⁰

⁷ Stokesbury, *A Short History of World War II*, 37.

⁸ Murray and Millett, *A War to Be Won*, 13.

⁹ Keegan, *The Second World War*, 37-39.

¹⁰ *Ibid.*, 40.

Eager to prevent an escalation into war, British Prime Minister Sir Neville Chamberlain met with Hitler in Munich and drafted the Munich Agreement, which effectively ceded the Sudetenland to Hitler. With the west floundering, Hitler then moved to secure his gains in Eastern Europe taking Bohemia, Moravia and Slovakia. Within three weeks of the signing of the Munich Agreement, he ordered the military to prepare to occupy the rest of Czechoslovakia and began terrorizing Jews and other non-Aryans.¹¹

Finally, Britain took notice and Chamberlain began offering Hitler industrial loans and other concessions if he would only back down. Outraged at Chamberlain's weakness and audacity to think he could push the Führer around, Hitler executed his plan to invade Poland on 1 September 1939. Since Britain and France had promised to come to Poland's aid in the event she were attacked, they were forced to declare war on Germany three days later. However, their inaction during Germany's annihilation of Poland and the days preceding the invasion of France in the summer of 1940 resulted in a period of relative inaction called the Phony War.¹²

With each move, Hitler paused to see if the Allies would act. They did not. Confident the Allies had no stomach for war, Hitler simply did what he wanted and acted with impunity. Indeed, by the time the Wehrmacht had cowed Poland, Denmark, Norway, the Low Countries and France into submission, much of the world stood in awe at the apparent unassailability of the Nazi juggernaut.¹³ Undoubtedly, many wondered where Hitler would strike next.

In keeping with his strategic and ideological goals, Hitler had cast his gaze on the vast expanse of Russian territory to the east long before he decided to invade. In fact, he laid bare his

¹¹ Keegan, *The Second World War*, 36-40.

¹² Murray and Millett, *A War to Be Won*, 15.

¹³ Michael J. Lyons, *World War II: A Short History*, 4th ed. (New Jersey Prentice Hall, 2004), 95-96.

plans for Russia in the pages of *Mein Kampf* when he wrote, “This colossal Empire in the East is ripe for dissolution.”¹⁴ From the summer of 1941 until the spring of 1945, both nations battled it out like a couple of weary prizefighters struggling to stay standing. Arguably, no other theatre in the entire war evokes more emotion, excitement and interest than the events that unfolded along more than a 1,000-mile swath of territory stretching from the Baltic to the Black Sea. This immense killing ground was called the Eastern Front.

The Eastern Front is particularly significant for a couple reasons. First, it represents the largest land invasion in world history. One can comb the annals of antiquity and not find an invasion comparable to the German invasion of the Soviet Union. The sheer scale alone makes this event noteworthy. Millions of troops, thousands of tanks and artillery pieces and an immense land mass provided the arena for the two greatest totalitarian powers of all time to tear at each other’s throats with a level of savage ruthlessness that causes even the most hardened warrior to shudder. Because of its magnitude, military historians have and continue to view this immense conflict as a treasure trove of information, from which valuable material is available. Everything from the Holocaust to street-fighting in Stalingrad to the largest tank battle in history owes its genesis to this astonishing confrontation.¹⁵

Second, the Russo-German War embodies the classic underdog tale to a great majority of military historians and rightly so. For an army that enjoyed rapid gains during the late 1930s and 1940, most historians cite hubris to explain how a military, vaunted as the evolutionary masterpiece of Prussian militarism, could suffer ignominious defeat at the hands of a third-rate adversary like the Soviets. Indeed, the prevailing opinion regarding the Russo-German War is

¹⁴ Adolf Hitler, *Mein Kampf*, trans. James Murphy (White Wolf, 2014), 11889, Kindle.

¹⁵ Keegan, *The Second World War*, 186-7.

that Germany failed to achieve victory because of various factors, all of which have been discussed ad infinitum. A lack of supplies, freezing temperatures, “victory disease,” Hitler’s interference with operational orders and the numerical superiority of the Red Army are typically highlighted as seminal factors contributing to Germany’s miscarriage on the Eastern Front.¹⁶

While the majority of historiography related to the Russo-German War stems from a pro-German bias, due in large measure to a post-war antipathy towards the Soviet Union, this study will show that the Soviet Union defeated the Wehrmacht due to superior tactics, better armor and a more aggressive martial ethos. Therefore, it is not so much that Germany lost, but that the Red Army *won* that requires further exploration.

Until the fall of Communism, very little primary sources regarding Soviet activities during the Russo-German War were available. Therefore, historians were compelled to obtain and digest an abundance of post-war memoirs, written by former German officers. For most of these former Nazis, they attributed their defeat at the hands of the Soviets to Hitler’s constant interference in operational orders, a logistics debacle and a lack of clearly defined objectives.¹⁷

Analogous to the “stabbed in the back” myth that arose following their defeat in the Great War, most German officers refused to admit they had been beaten by a foe they considered subhuman. Moreover, those same German officers went to great lengths shortly after the war to disassociate themselves and the German Army from the diabolical activities of Hitler’s henchmen.¹⁸ Strangely enough, they found a receptive audience among America’s leading Cold

¹⁶ Ibid., 196-203.

¹⁷ David M. Glantz and Jonathan M. House, *When Titans Clashed: How the Red Army Stopped Hitler*, rev. ed. (Kansas: University Press, 2015), xi.

¹⁸ Ben Shepherd, “The Clean Wehrmacht, the War of Extermination, and Beyond,” *The Historical Journal* 52, no. 2 (2009), 456-58.

War-era military minds, who pondered how they would confront the menace of Communism that now threatened Western Civilization.

With the advent of the Cold War, America's top generals were eager to study Soviet tactics in an effort to better prepare Western Europe for a possible showdown with the Russians. Who better to garner information on their former allies than from the very men who had fought them? Among the top German generals who proved more than willing to "set the record straight" for American public opinion was General Franz Halder, Chief of the Army High Command or *Oberkommando des Heeres* (OKH).¹⁹

In 1945, the U.S. Army subsumed the Operational History Section under their Historical Division. Similar to Operation Paperclip, which was a clandestine program designed to recruit top Nazi scientists and physicists for America's atomic weapons program, the Historical Division gave General Halder carte blanche when it came to perusing captured Nazi records. Additionally, he was allowed to form a "control group," a hand-picked assembly of high-ranking former Wehrmacht staff officers, whose purpose was to examine captured Nazi documents and publish books and memoirs for the American military.²⁰

Arguably, Halder was the most prolific of the group, publishing an eight-volume chronicle entitled *Generaloberst Halder Kriegstagebuch* or *General Halder War Diary*. In working through this project, Halder and his group omitted anything unsavory or incriminating from their post-war publications, thereby ensuring a biased transfer of information to the U.S. military.²¹ Thus, as early as 1948, a massive revising of Eastern Front historiography was

¹⁹ Ronald Smelser and Edward J. Davies II, *The Myth of the Eastern Front: The Nazi-Soviet War in American Popular Culture* (New York: Cambridge University Press, 2008), 64-65.

²⁰ Kevin Souter, "To Stem the Red Tide: The German Report Series and its Effect on American Defense Doctrine, 1948-1954," *The Journal of Military History* 57, no. 4 (1993), 665.

²¹ Smelser and Davies, *The Myth of the Eastern Front*, 66.

underway, which gained considerable momentum in 1955 with the establishment of the West German army, or *Bundeswehr*.

Throughout the early Cold War years, former German officers were more than happy to turn out a wellspring of titles relating to tactical, operational and strategic methods pertaining to the Eastern Front. To their delight, many leading U.S. Army officers pressed them for information relating to how the Soviets fought.²² Willing to oblige their new found colleagues, the pool of former Nazi officers began writing. Their modus operandi was twofold.

First, they wanted desperately to exonerate themselves from Holocaust culpability by laying the responsibility solely at Hitler's feet. As aristocratic German officers, the consensus was that they were both shocked and surprised at what occurred at Babi Yar, Auschwitz and other places of torment. Echoing a familiar tune sung during the Nuremberg International Military Tribunal, these men claimed not to have known, seen, nor heard of the horrendous atrocities taking place before their very eyes.²³

One of these former officers was General Erich von Manstein, who engineered the 1940 Nazi invasion of Western Europe. In 1955, Manstein published *Lost Victories*, which inducted him into the pantheon of brilliant strategists. In his preface, he set the tone for what followed by stating "I have deliberately refrained from discussing political problems or matters with no direct bearing on events in the military field."²⁴ In other words, Manstein limited his extensive tome to an operational level highlight of the events beginning in Poland and ending in Stalingrad. As to

²² U.S. Department of the Army, *Russian Combat Methods in World War II* (Washington D.C., 1950), 1.

²³ Howard D. Grier, "The Eastern Front in World War II," *European History Quarterly* 44, no. 1 (2014), 103.

²⁴ Erich von Manstein, *Lost Victories: The War Memoirs of Hitler's Most Brilliant General* (Minnesota: Zenith Press, 2004), 17.

be expected, a cursory look at his index reveals the absence of evocative words like “Jew,” “Einsatzgruppen,” or “pogrom.”

Concerning the infamous Commissar Order, which directed that all Red Army political officers be summarily shot upon capture, Manstein alibis that he forbade his subordinate commanders from executing this order. Incredibly, he charges those same Red Army commissars with being responsible for fighting methods and prisoner treatment that “clashed so blatantly with the Hague Convention.”²⁵ When one considers how the Wehrmacht treated the majority of Soviet prisoners, Manstein’s statement is almost laughable.

Manstein also reveals that the German army fought “shoulder to shoulder” with the Waffen SS (Schutzstaffel), an organization forever memorialized for its brutality and complicity in Hitler’s Final Solution.²⁶ This begs the obvious question as to how General Manstein and his subordinates managed to eschew taking part in SS atrocities when both groups were juxtaposed on the battlefield? The probable answer is that they did not.

In *Nazi Policy on the Eastern Front, 1941: Total War, Genocide, and Radicalization*, Felix Römer asserts that German army compliance with the Commissar Order was more extensive than previously thought. In fact, more than 80 percent of the German divisions involved in the Russo-German War routinely executed commissars.²⁷ Stephen Fritz’s *Ostkrieg: Hitler’s War of Extermination in the East*, reveals the German army’s willful participation in

²⁵ Ibid., 179.

²⁶ Ibid., 188.

²⁷ Kay, Alex, Jeff Rutherford and David Stahel, eds, *Nazi Policy on the Eastern Front, 1941: Total War, Genocide, and Radicalization* (New York: University of Rochester Press, 2012), 80.

Nazi crimes from the outset of Operation Barbarossa, the initial invasion of the Soviet Union.²⁸

General Manstein was not the unblemished officer to which he portrayed himself in his memoirs.

Another iconic German warrior who survived to write his memoirs was General Heinz Wilhelm Guderian, Commander of the Second Panzer Division during the Russo-German War. Guderian was the consummate German general and supposed architect of blitzkrieg. A devotee of B.H. Liddell-Hart, Guderian was an outspoken advocate for armored operations during the war and ended up Inspector General of Armored Troops.²⁹

Guderian's beloved *Panzer Leader* was published in 1952 and joins the scores of similar post-war memoirs that skirts the issue of racial ideology and blames Hitler for Germany's defeat in Russia. Guderian claimed "the so-called Commissar Order never even reached my Panzer Group."³⁰ Not surprisingly, the fact that the Red Army beat the Wehrmacht on the battlefield is never really explored in Guderian's memoir.

A lesser-known post-war memoir, written by another panzer commander is General Erhard Raus' *Panzer Operations: The Eastern Front Memoir of General Raus, 1941-1945*. Raus assumed command of the German Sixth Panzer Division in May 1941. A month later, he would partake in the spearhead invasion of the Soviet Union. Raus was renowned for his innate comprehension of combined-arms warfare and flair for unorthodox tactics. One would think Raus would make the "top five" list of notable German generals, but he is typically marginalized in the memoirs of better known Nazis, i.e., Guderian, Manstein, et. al. This is likely due to his fall from grace in the eyes of his peers, who preferred to abandon their positions when faced with

²⁸ Stephen G. Fritz, *Ostkrieg: Hitler's War of Extermination in the East* (Lexington: University Press of Kentucky, 2011), 480.

²⁹ Heinz Guderian, *Panzer Leader*, trans. Constantine Fitzgibbon (Pickle Partners, 2014), 5804, Kindle.

³⁰ Guderian, *Panzer Leader*, 3056, Kindle.

Soviet counterattacks, rather than stand and fight. Raus' memoir is less self-serving than similar works, but is very much emblematic of material published during the Cold War.³¹

Despite the exculpatory nature of post-war books by Manstein, Guderian, Erhard Raus and others, American military theorists and officers chose not to consider that, far from being the spotless force of professional warriors, the German army was just as guilty as those from whom they tried to distance themselves. In fact, Stephen Fritz avers that the German army, notwithstanding claims that it was simply apolitical and technocratic, "played a vital, albeit mostly indirect, role in these crimes."³²

The second motive of post-war German officers for writing memoirs, operational analyses and other advisory monographs relating to the Eastern Front was to propagate a long-standing racial stereotype among American military personnel concerning the Soviet soldier. Indeed, several of the studies written by Halder's group conveyed to Americans a view of the Russians that was little different from Nazi racial doctrine.³³ Therefore, the fact that these prejudiced interpretations made it into official U.S. Army publications was no surprise. For example, U.S. Department of the Army Pamphlet 20-269, *Small Unit Actions During the German Campaign in Russia* describes the character of the Russian soldier as "cruelty bordering on bestiality...coupled with childlike kindness and susceptibility to sudden fear and terror."³⁴

A similar U.S. Army publication, published in 1950 and entitled *Russian Combat Methods in World War II*, contains a paragraph describing the Russian soldier as a fighter who

³¹ Erhard Raus, *Panzer Operations: The Eastern Front Memoir of General Raus, 1941-1945*, trans. Steven H. Newton (Cambridge: Da Capo Press, 2003), xiii.

³² Fritz, *Ostkrieg*, 480.

³³ Smelser and Davies, *The Myth of the Eastern Front*, 69.

³⁴ U.S. Department of the Army Pamphlet No. 20-269, *Small Unit Actions During the German Campaign in Russia* (Washington D.C., 1953), 2.

“possesses neither the judgment nor the ability to think independently, has a disregard for human beings and a contempt for death.”³⁵ Moreover, Soviet soldiers are often compared to herds of automatons who, because of their inability to stand on their own in combat, must compensate by numerical superiority.³⁶ These types of assertions reinforce the common misconception that the Red Army bested the Wehrmacht through sheer numerical dominance. Little surprise that this Department of the Army Pamphlet was based on material furnished by former German commanders who had fought in the Eastern Campaign.

As a result of mass produced post-war German publications, the American Armed Forces developed a mutual identity with their former nemesis. Where once they had been bitter enemies, *now* they were fellow Anglo-Saxons facing a Communist threat from the Asiatic descendants of Genghis Khan. Not surprisingly, the U.S. Army acknowledged its post-war position in Central and Western Europe as comparable to the Nazis on the Eastern Front.³⁷

Halder and his cronies proved so influential that the U.S. Army changed its entire doctrine to reflect German precepts developed during World War II. Additionally, by 1954, more than 1,760 essays, authored by Wehrmacht generals and compiled in a *Guide to Foreign Military Studies* appeared on the War Department’s reading list for U.S. Army officers.³⁸ It would appear that by the mid-1950s, the pool of Nazi generals that encompassed the German Section of the Historical Division were well on their way to revising the reputation of the German army, thus molding post-war opinion in their own image.

³⁵ U.S. Department of the Army, *Russian Combat Methods in World War II* (Washington D.C., 1950), 3.

³⁶ *Ibid.*, 7.

³⁷ Smelser and Davies, *The Myth of the Eastern Front*, 70.

³⁸ Souter, “To Stem the Red Tide,” 664.

Indeed, Gregory Liedtke, in *Enduring the Whirlwind: The German Army and the Russo-German War 1941-1943* termed this “a kind of historiographical perfect storm,” which not only insulated the preponderance of German accounts from scrutiny but largely guaranteed a dominance of the German perspective as related to the Eastern Front.³⁹ Amazingly, the influence of these former Nazi officers went much further than the American military.

An American subculture comprised of collectors, war gamers, reenactors, aficionados and popular historians, smitten with the spit and polish of a professional German army, aided those former German officers in shaping the widespread view of the German military to the point that many have, and still to this day, romanticize the German army. Like the Confederate South who lost the American Civil War on the battlefield, yet won it in the history books and in popular culture, so the Wehrmacht has been lionized in the public imagination. Two phenomena help explain how this happened.⁴⁰

First, the crowd is indeed fickle, and a generation of post-war historians and war enthusiasts, motivated by a mutual hatred and fear of Communism, shifted their allegiance from the Russians to the Germans, which has in many cases, contributed to a whitewashing of the more nefarious activities of the German army in an attempt to perpetuate an unsullied reputation as to its conduct during the war. Events like the Berlin Airlift, Senator McCarthy’s Communist “witch hunts,” the execution of the Rosenberg’s and similar Cold War sensationalism, fomented a sort of collective amnesia when it came to the Wehrmacht’s role in war crimes. As the ancient

³⁹ Gregory Liedtke, *Enduring the Whirlwind: The German Army and the Russo-German War 1941-1943* (West Midlands: Helion & Company, 2016), xxxi.

⁴⁰ Smelser and Davies, *The Myth of the Eastern Front*, 4.

Sanskrit proverb goes, the enemy of my enemy is my friend.⁴¹ This aptly describes the position of the post-World War II American military.

Second, a plethora of historiography, research articles, documentaries, Hollywood films, scale models and war memorabilia...all related to the Wehrmacht, has helped advance the notion that German tactics, tanks, rifles, artillery and “blitzkrieg” far surpassed that of their adversaries and but for American mass production, Jewish conspiracies, Lend-Lease and Soviet numerical superiority, Germany would most likely have won the war in the East.⁴²

Regarding the prevailing historiography supporting this idea, one of the finest, yet concise single volume histories of World War II is James L. Stokesbury’s *A Short History of World War II*. Prior to his death in 1995, Stokesbury authored several single volume histories along the lines of *A Short History of World War II*. Written chronologically, Stokesbury addresses the standard points of the Russo-German War. The speed of the German assault, the interference of Hitler in August 1941, bad weather, etc., are all offered as reasons why the Germans failed. Stokesbury, like most other historians writing in the twilight of the Cold War, attributed Soviet success to sheer numbers.⁴³

Another single volume study of World War II is renowned British historian John Keegan’s *The Second World War*. There is really nothing new in Keegan’s book that has not already been addressed in similar histories. He does, however, argue that Operation Barbarossa stimulated a second industrial revolution for the Soviets as they uprooted much of their war making factories and moved them eastward.⁴⁴ This sets the stage for Keegan to explore a

⁴¹ Kautilya, *Arthashastra*, trans. R. Shamasastri (Spastic Cat Press, 2009), 5862, Kindle.

⁴² Smelser and Davies, *The Myth of the Eastern Front*, 220.

⁴³ Stokesbury, *A Short History of World War II*, 240-44.

⁴⁴ Keegan, *The Second World War*, 209.

“quality over quantity” discussion, in which he shows how America’s economic might prevailed and bailed the Russians out.

One of the more detailed accounts of Hitler’s eastern drive into Russia is Albert Seaton’s *The Russo-German War 1941-45*. At over 600 pages, *The Russo-German War* is packed with operational level detail, complete with unit designations, order of battle, relative strengths, etc. Seaton manages to subscribe primarily to the pro-German viewpoint as he reveals what both sides were doing and why, but this is likely because *Russo-German War* was written during the Cold War. Nevertheless, Seaton’s work is a fine source for a study of the Eastern Front.⁴⁵

Robert Kershaw’s *War Without Garlands: Operation Barbarossa 1941-1942* is a masterful treatise on the subject of Operation Barbarossa. Kershaw spends seventeen lengthy chapters analyzing the operation through the eyes of the German *landser* (infantryman).⁴⁶ Although a secondary source, Kershaw draws on numerous after action reports involving crucial sub battles, esoteric SS files now made public and war diary entries of some of the leading figures involved in the operation, primarily German.

Considered one of the best, if not *the* best histories written of Nazi Germany is William L. Shirer’s *The Rise and Fall of the Third Reich: A History of Nazi Germany*. Written in 1960, Shirer’s work has been often criticized in the realms of military history because he was a journalist and not a military historian. However, Shirer draws upon a veritable treasure trove of

⁴⁵ Albert Seaton, *The Russo-German War 1941-45* (California: Presidio, 1971), xiii.

⁴⁶ Robert Kershaw, *War Without Garlands: Operation Barbarossa 1941-1942* (Surrey: Ian Allan, 2000), 289-302.

Nazi documents discovered after the war as well as personal diary entries of some of Germany's leading Nazi's.⁴⁷

Rise and Fall of the Third Reich is a panoramic treatise of how and why Germany plunged the world into an unprecedented time of death and destruction. Hitler's childhood and rise to Chancellor are covered in-depth, which helps explain his fanatical hatred of the Russians and eventual attack in June 1941. Shirer spends the twenty-third chapter solely detailing Germany's invasion of Russia and provides the source for Hitler's famous "rotten structure" analogy of Russia and why Germany must "kick in the door."⁴⁸

M.K. Barbier's *Kursk: The Greatest Tank Battle 1943* summarizes what is still considered one of the greatest tank battles in history. While Barbier's treatment of the events leading to Operation Citadel is somewhat sophomoric, she includes all the details one would expect and shows how Soviet numerical superiority pushed the Germans out of the salient and into a headlong retreat that ended with the Battle of Berlin.⁴⁹

One of the more controversial research monographs that has attempted to clean up the stained Wehrmacht's reputation is Benton L. Bradberry's *The Myth of German Villainy*. Writing from what could be categorized as flagrant Holocaust denial, Bradberry postulates some truly outlandish theories regarding why Germany lost the war. Admittedly, however, his credibility suffers from wild assertions. As an example, Bradberry avers that no physical evidence exists that proves the Nazis ever killed Jews in the gas chambers of Auschwitz.⁵⁰

⁴⁷ William L. Shirer, *The Rise and Fall of the Third Reich: A History of Nazi Germany* (New York: Simon and Shuster, 1960), 69.

⁴⁸ *Ibid.*, 856.

⁴⁹ M.K. Barbier, *Kursk: The Greatest Tank Battle 1943* (London: Amber Books, 2002), 93-101.

⁵⁰ Benton L. Bradberry, *The Myth of German Villainy* (Indiana: AuthorHouse, 2012), 7.

Writing from a similar ideological bent as Bradberry, David Irving's *Hitler's War* depicts Hitler as an even tempered, fair-minded leader who sought only to restore Germany's political status as a dominant power in Europe. Astonishingly, Irving even asserts that Hitler only paid lip service to the anti-Semitic aspect of the Nazi party and left the dark side of the Nazi death camps to Himmler.⁵¹

Osprey Publishing, a British-based firm that has turned out literally thousands of titles relating to all eras of military history, is noteworthy for their masterful color illustrations and highly readable material. Military modelers, war reenactors and history junkies alike appreciate the level of detail provided by the fine folks at Osprey. A quick visit to their publishing website, however, reveals that of the 45 titles related to military modelling, over half are devoted to the Wehrmacht. Similarly, websites and blog pages abound that prop up the German Wehrmacht.⁵²

This author attended a toy soldier collector show in Anaheim, California earlier this year and was stunned by how much German army models, dioramas, books and collectible action figures dominated the show. Indeed, one was hard pressed to find much that did *not* have to do with the Wehrmacht amidst the numerous tables in the large hotel showroom. When asked why there was such an obvious interest in the German army, a reenactor's reply was "Germany may have lost the war...but they won the fashion show."

Despite the obtuse fascination with the Wehrmacht, an abundance of primary and secondary sources have surfaced in recent years that offer a more balanced view of why the Soviets defeated the Wehrmacht in the east. Once historians gained access to the Russian Archives, some truly outstanding primary sources became available. Additionally, the collapse of

⁵¹ David Irving, *Hitler's War and The War Path* (London: Focal Point Publications, 2000), xxiv.

⁵² Osprey Publishing, <https://ospreypublishing.com/store/military-history/period-books/world-war-2>

Communism in Eastern Europe has helped make Soviet material more acceptable in the realm of Eastern Front historiography.⁵³

Brigade Commander Georgii Samoilovich Isserson's *The Evolution of Operational Art* was, until recently, inaccessible to western readers. Ahead of his time, Isserson, along with Marshal Mikhail N. Tukhachevski and others, pioneered the Soviet concept of deep battle. Isserson foresaw how mechanized units, attacking laterally and from depth, could obviate linear strategies that had been used aforesaid.⁵⁴ Even though Isserson's work was shelved during the late 1930s due to Stalin's purges, one can see its tenets executed during Soviet counterattacks such as Operation Uranus.

Similar to the revolutionary ideas of Isserson and Tukhachevski, V. K. Triandafillov's treatise, *The Nature of the Operations of Modern Armies*, initially published in 1929, represents his early attempt to develop the Soviet theory of operational art by carefully examining trends learned from previous wars.⁵⁵ Contrary to common belief, the Germans were not the sole practitioners of advanced operational art, nor were they the only ones to write memoirs relating their experience on the Eastern Front.

Twenty-four-year-old Lyudmila Pavlichenko was the highest scoring female sniper in the Red Army and most successful female sniper to date. Highly educated, Pavlichenko survived the war and graduated from Kiev University as an historian.⁵⁶ This allowed her to not only provide a broad perspective of the campaigns in which she fought, but also the political background into

⁵³ Glantz and House, *When Titans Clashed*, xii.

⁵⁴ Georgii Samoilovich Isserson, *The Evolution of Operational Art*, trans. Bruce W. Menning (Combat Studies Institute Press, 2013), 100-102. Kindle.

⁵⁵ V. K. Triandafillov, *The Nature of the Operations of Modern Armies*, ed., Jacob W. Kipp, trans. William A. Burhans (Essex: Frank Cass, 1994), vii.

⁵⁶ Lyudmila Pavlichenko, *Lady Death: The Memoirs of Stalin's Sniper*, ed., Alla Igorevna Begunova, trans. David Foreman (South Yorkshire: Greenhill Books, 2018), 98-107. Kindle.

which she found herself immersed. Unlike the majority of war memoirs, *Lady Death: The Memoirs of Stalin's Sniper* provides a female perspective to the Russo-German War, particularly fighting during the Battle of Sevastopol.

Marshal Vasili Ivanovich Chuikov commanded the Soviet 62nd Army in the defense of Stalingrad and published *The Battle for Stalingrad* in 1963. His account of the battle is somewhat biased, as to be expected, but so are nearly all the German accounts. In this respect, Chuikov's work levels the "playing field" of post-war historiography. Where Chuikov's account differs from that of most high-ranking military leaders, is that he shuns taking personal credit and instead praises everyone in his command for their heroic stand during what was arguably the turning point battle of the war.⁵⁷

Boris Gorbachevsky's *Through the Maelstrom: A Red Army Soldier's War on the Eastern Front* takes the reader on a journey through the eyes of a Soviet soldier who fought for three years on the Eastern Front. His memoir details what it was like at the individual level. Unlike many German memoirs, Gorbachevsky is an "equal opportunity" critic. He candidly exposes the many problems inherent in the Red Army, but also details his role in the pursuit of retreating Wehrmacht forces after the liberation of Rzhev in 1943.⁵⁸

In addition to personal accounts, a number of secondary monographs also lend credence to the argument that the Soviets were not simply a mass of mindless automatons that prevailed because of freezing temperatures, endless reserves and good fortune. They took to heart lessons

⁵⁷ Vasili Ivanovich Chuikov, *The Battle for Stalingrad* (Ballantine Books, 1968), 221.

⁵⁸ Boris Gorbachevsky, *Through the Maelstrom: A Red Army Soldier's War on the Eastern Front, 1942-1945*, trans. and ed. Stuart Britton (Lawrence: University Press of Kansas, 2008), ix-xi.

learned during the Russo-Japanese and Great War and turned things around, albeit somewhat late in the game.

Richard W. Harrison, using material from the Soviet archives, explains the development of a distinctive Russian methodology that helped defeat the Wehrmacht. *The Russian Way of War: Operational Art, 1904-1940* reveals how Soviet officers synthesized the works of Georgii Isserson, Mikhail Tukhachevski, and V. K. Triandafillov, thus finalizing a new concept of war called “operational art,” or the aspect of modern war that lies between the traditional nature of strategy and tactics.⁵⁹

The Russo-German War dealt with mobile armies deployed over hundreds of miles using industrialized long-range weapons, which presented Soviet leaders with something they had not yet experienced. Harrison asserts that Soviet military theorists were still stuck on the Napoleonic notion of the “decisive battle” that they tried to accomplish during the Russo-Japanese War and Great War. Harrison traces how these experiences necessitated a rebirth of operational art, resulting in the development of highly sophisticated doctrines designed to guide the employment of large-scale forces on the Eastern Front.⁶⁰

Michael K. Jones’ *Stalingrad: How the Red Army Triumphed* offers a radical elucidation on the seminal battle of the Eastern Front. Combining eyewitness testimony, never before seen photographs and quality maps, *Stalingrad: How the Red Army Triumphed* highlights the Soviet 62nd Army’s performance under the capable leadership of Marshal Vasili Chuikov. Jones tackles some of the aforementioned pro-Wehrmacht myths of Stalingrad, i.e. the Soviets were mindless

⁵⁹ Richard W. Harrison, *The Russian Way of War: Operational Art, 1904-1940* (Lawrence, University Press of Kansas, 2001), 2-6.

⁶⁰ Gary Cox, “RUSSIA & THE C.I.S.,” *History: Reviews of New Books* 29, no. 4 (2001): 168.

automatons who overwhelmed the German Sixth Army due to numerical superiority.⁶¹ He also seeks to correct the errors of western historians like Antony Beevor and William Craig.

In a recent book, *The Battle for Moscow*, author David Stahel attacks the familiar Wehrmacht “lost opportunity” myth by analyzing current historiography that depicts the defense of Moscow as a close-run thing. If only the Germans could have somehow managed to edge a few kilometers closer, they might have seized Moscow. Rather than portraying the Soviets as beaten, *Battle for Moscow* reveals the Russians far from it in November and December 1941.⁶²

A unique approach to the study of the Eastern Front finds purchase in R. L. DiNardo’s *Mechanized Juggernaut or Military Anachronism? Horses and the German Army of World War II*. DiNardo ruins the prevailing viewpoint that the German Army was the bastion of a modern, mechanized force that crushed those that got in its way with lightning-fast efficiency. DiNardo argues that from 1939, throughout the duration of the war, the German Army was in reality one of the least modern armies engaged on the battlefields of Europe. The fact is, according to DiNardo, the Germans relied heavily on draft animals.⁶³ Obviously, this erodes the common idea that vehicles of all shapes and sizes pushed the Soviets back to gates of Moscow.

One of the leading experts on Eastern Front warfare is David M. Glantz. Glantz and Jonathan M. House’s *When Titans Clashed: How the Red Army Stopped Hitler* is perhaps the first collaborative effort of many data rich studies to utilize newly released archival material that was previously inaccessible. Through exhaustive analysis, Glantz and House show how the

⁶¹ Michael K. Jones, *Stalingrad: How the Red Army Triumphed* (South Yorkshire: Pen and Sword Books, 2007), 2066. Kindle.

⁶² David Stahel, *The Battle for Moscow* (Cambridge University Press, 2015), 5.

⁶³ R. L. DiNardo, *Mechanized Juggernaut or Military Anachronism? Horses and the German Army of World War II* (Mechanicsburg: Stackpole Books, 1991), 13.

Russians adapted to the new style of warfare thrust upon them and reversed the political milieu that had hamstrung the Red Army during the late 1930s and early 1940s. Using revelatory material from the Russian Ministry of Defense, Glantz and House clearly expound exactly how the Red Army stopped Hitler.⁶⁴

Another offering by David Glantz is his *Barbarossa Derailed: The Battle for Smolensk, 10 July-10 September 1941 Volume 4 Atlas*. Colonel Glantz served more than 30 years in the U.S. Army and then retired to teach history at the U.S. Military Academy. Glantz's *Barbarossa Derailed* is a compendium of high-quality color maps. The benefit of this atlas is that it underscores the inability of the Wehrmacht to detect and properly identify newly raised and positioned Soviet armies once they went into action along the Eastern Front.⁶⁵

One aspect of the Eastern Front that has received little attention is the anti-partisan conflict that raged between Wehrmacht soldiers and civilian partisans. Partisan warfare is certainly nothing new. In 1938, Chinese Communist leader Mao Zedong consolidated his theories on partisan warfare in a treatise entitled *On Protracted War*, whose Chinese-language original was translated as *On Guerrilla Warfare* by U.S. Marine officer Samuel B. Griffith. Griffith, inspired by Mao's teachings, established and commanded the First Marine Raider Battalion on Guadalcanal.⁶⁶

Similarly, the Soviets discovered the utility of partisan warfare and used it to great effect against the Nazis. In 1943, a partisan's "how to" guide was published under the title, *The Red Army's Do-It-Yourself Nazi-Bashing Guerrilla Warfare Manual: The Partizan's Companion*.

⁶⁴ Glantz and House, *When Titans Clashed*, 359-64.

⁶⁵ David M. Glantz, *Barbarossa Derailed: The Battle for Smolensk, 10 July-10 September 1941 Volume 4 Atlas* (West Midlands: Helion & Company, 2015), viii.

⁶⁶ Max Boot, *Invisible Armies: An Epic History of Guerilla Warfare From Ancient Times to the Present* (New York: Liveright Publishing, 2013), 340, Kindle.

Edited by Lester Grau and Michael Gress, this guidebook helped train new Soviet guerrillas to a common standard during the Russo-German War. The *Partizan's Companion* covers partisan tactics, German counter-guerrilla tactics, demolitions, scouting and other methods that contributed to the deaths of almost a million German soldiers. So successful were Eastern European partisans, Hitler commissioned a special badge to be awarded to German units who fought the partisans.⁶⁷

Certainly, the Russo-German War was first and foremost a ground conflict. While there were aerial dogfights between German Stukas and Soviet Yakovlevs, the clash of these two colossal armies across the Russian steppe, near rivers and in cities like Leningrad, Stalingrad and Kharkov has become the stuff of legend and represents a veritable goldmine of data for armor enthusiasts and historians. Most deliberations on Eastern Front combat inevitably gravitate towards tanks, tank destroyers, the overhyped German blitzkrieg and the impermeable perception that Germany was powerless after 1941 to provide adequate personnel and equipment replacements to the Eastern Front.⁶⁸

Richard Forczyk, a former tanker himself and leading expert on armored warfare, published *Tank Warfare on the Eastern Front 1941-1942 Schwerpunkt* in 2013. Forczyk reveals why the Germans enjoyed great advantages during the first few years of the war. However, contrary to the wearisome opinion that Germany had better tanks than any other belligerent, *Tank Warfare on the Eastern Front* highlights German shortcomings regarding the decision to dispense with a high torque diesel engine for their heavy tanks.⁶⁹ While Forczyk does discuss the

⁶⁷ Ernst Blass, ed., *Der Lohn der Tat: Die Auszeichnungen des Heeres* (Hamburg, 1944), 19.

⁶⁸ Liedtke, *Enduring the Whirlwind*, 375-80. Kindle.

⁶⁹ Richard Forczyk, *Tank Warfare on the Eastern Front 1941-1942 Schwerpunkt* (Yorkshire: Pen & Sword, 2013), 223. Kindle.

German benefits of better optics, radio communications and combined-arms tactics, he reveals that the Soviets turned a disastrous situation to their gain in the end and produced a tough as nails tank that was virtually impervious to German anti-tank weapons.

Red Army Tanks of World War II: A Guide to Soviet Armored Fighting Vehicles by Tim Bean and Will Fowler traces the origin of Soviet tanks and outlines the development of light, medium and heavy tanks during the Russo-German War. Of particular interest is the detailed appendix at the end of the book which tracks and compares Soviet and German tank production. Also included is a section on self-propelled guns, which the Soviets introduced late in the war as an answer to the German Sturmgeschütz III (StuG III) assault gun.⁷⁰

A seldom explored aspect of the Russo-German War concerns the Lend-Lease provision of Studebaker US6 “deuce and a half” trucks to the Soviet military. Between 1941 and 1945, the Midwest based General Motors Corporation produced almost 200,000 US6 trucks, of which 152,000 were shipped to the Soviet Union. Jamie Prenatt’s *Katyusha: Russian Multiple Rocket Launchers 1941-Present* reveals how the Soviets used the Studebaker trucks to mount the BM-13 multiple rocket launcher (MRL) as early as 1941. The Katyusha, nicknamed “Stalin’s Organ” by the Germans, crushed German resistance during the Soviet counterattack of 1942.⁷¹

In 2007, Dr. Weichong Ong, Assistant Professor of History at the Rajaratnam School of International Studies, wrote a thought provoking article for the Royal United Services Institute (RUSI) Journal entitled *Blitzkrieg: Revolution or Evolution?* In this article, Dr. Weichong challenges the popular opinion that the Wehrmacht’s swift victories in 1939 and 1940

⁷⁰ Tim Bean and Will Fowler, *Red Army Tanks of World War II: A Guide to Soviet Armored Fighting Vehicles* (London: Amber Books, 2017), 130-36.

⁷¹ Jamie Prenatt, *Katyusha: Russian Multiple Rocket Launchers 1941-Present* (Osprey Publishing, 2016), 134-55.

demonstrated a revolutionary style of warfare, i.e. blitzkrieg. Weichong asserts that the concept of blitzkrieg was neither a technological, doctrinal nor operational revolution in any sense, but rather an evolutionary development of Prussian militarism, which culminated in “lighting-war.”⁷² There was nothing groundbreaking about blitzkrieg. Contrary to popular opinion, Heinz Guderian did not invent the concept. Thanks to mechanized warfare, the Germans simply took the next evolutionary step in tactics that had been developed hundreds of years before by Frederick the Great.

Another scholarly article that challenges common perceptions surrounding the Russo-German War is David R. Stone’s *Stalingrad and the Evolution of Soviet Urban Warfare*. Written for the *Journal of Slavic Military Studies*, Stone’s article on urban fighting in Stalingrad shifts from a German focus to Soviet tactics. In particular, Stone reveals how the Russians learned on the fly regarding urban combat. Stone points out that none of the pre-war Soviet doctrinal treatises on strategy dealt with defensive warfare.⁷³ In Stalingrad, the Soviets were forced to adapt. Contrary to the majority of Cold War-era writings, Stone depicts the Soviets as analytical and innovative, traits typically not ascribed to the Red Army.

Reina Pennington’s *Was the Russian Military a Steamroller? From World War II to Today* addresses the common misconception that the Red Army bested the Wehrmacht through sheer numerical superiority. To answer the article’s title, Pennington reveals that the Russian military was not a steamroller that flattened the Nazis due to an endless supply of faceless Soviet hordes. On the contrary, the Red Army did not keep getting bigger, rather it maintained its size

⁷² Weichong Ong, “Blitzkrieg: Revolution or Evolution?” *RUSI Journal* 152 (2007): 84.

⁷³ David R. Stone, “Stalingrad and the Evolution of Soviet Urban Warfare,” *The Journal of Slavic Military Studies* 22, no. 2 (2009), 196-204.

while the Wehrmacht steadily lost ground both literally and figuratively.⁷⁴ Holding a PhD, Ms. Pennington currently teaches military and Russian history and was a former U.S. Air Force intelligence officer and Soviet analyst. Pennington's article includes statistical data that is largely omitted from scholarly works and challenges the common myth that the Red Army was victorious because of sheer numbers.

Supporting Pennington's argument is the aforementioned *Enduring the Whirlwind: The German Army and the Russo-German War 1941-1943*. Liedtke shatters the widespread belief that Germany was unable to sustain itself on the Eastern Front due to logistical shortfalls, understrength units and a lack of reserves. Drawing upon a host of primary documents and secondary monographs, Liedtke argues convincingly that the Wehrmacht was actually able to regenerate its forces to a remarkable degree with a steady influx of fresh troops and equipment.⁷⁵

Alongside Liedtke, Lev Lopukhovskiy and Boris Kavalerchik's *The Price of Victory: The Red Army's Casualties in the Great Patriotic War*, uncovers previously suppressed statistical data to clearly show that the Soviets outfought the Wehrmacht. The numbers do not lie. German superiority, according to Lopukhovskiy and Kavalerchik, was a myth that must be debunked if posterity ever hopes to glean the true reason why the Germans lost.⁷⁶

As previously mentioned, a mountain of literature continues to prop up the notion that the German Wehrmacht was not truly defeated by the Red Army on the battlefield. This literature has created a gap in the historiographic record that must be addressed. Indeed, the general

⁷⁴ Reina Pennington, "Was the Russian Military a Steamroller? From World War II to Today," War on the Rocks.

⁷⁵ Liedtke, *Enduring the Whirlwind*, 408. Kindle.

⁷⁶ Lev Lopukhovskiy and Boris Kavalerchik, *The Price of Victory: The Red Army's Casualties in the Great Patriotic War*, trans. Harold Orenstein (South Yorkshire: Pen & Sword, 2017), 1-5.

consensus in Eastern Front historiography, despite all evidence to the contrary which the following chapters will address, is that the German Army was a modern paragon of success whose loss on the Eastern Front was solely attributable to what Jonathan House referred to as Germany's three alibis: Hitler, weather and numbers.⁷⁷ A neutral assessment of primary and secondary sources, however, yields a different verdict.

Chapter one will highlight the transformation of warfare from lessons learned during the Napoleonic era to the slaughter on the Western Front during the Great War. A key component focuses on the contributions of pivotal Soviet theorists, whose ideas eventually changed how the Red Army waged war. Additionally, this chapter includes key battles, which both highlights enhanced Soviet tactics and reveals that the Wehrmacht was not the superior fighting force for which it is remembered.

The second chapter focuses on the development of the tank and how the Red Army capitalized on Henry Ford's assembly-line production methods to turn out record numbers of medium and heavy tanks beginning in 1942. Also examined are technical comparisons between German and Soviet tanks. Additionally, an analysis of famous tank battles like Kursk will reveal how tanks actually squared off against one another in the heat of battle and the importance of armored units in effecting victory.

Chapter three will detail how the martial élan of the Red Army outperformed that of the flaunted German Wehrmacht. Contrary to most historical accounts, the Red Army was *not* vastly superior in numbers to the Germans, nor were the Germans suffering from critical manpower shortages throughout 1942, 1943 and 1944. Moreover, this chapter examines the rampant use of

⁷⁷ The Dole Institute of Politics, "How the Red Army Defeated Germany: The Three Alibis – Dr. Jonathan House," YouTube Video, 55:35, May 2, 2013, <https://youtu.be/zinPbUZUHDE>.

methamphetamine, cocaine and heroin from the top levels of Nazi leadership down to the individual soldier in an attempt to boost performance.⁷⁸

While it is certainly true that the Nazi Wehrmacht made impressive gains in the opening months of the Russian invasion, those gains were short-lived. Also true is the fact that the Soviets suffered incredible losses as three German army groups pummeled them across the length of the Russian Front. Record-breaking numbers of captives at places like Smolensk and Kiev, coupled with staggering losses in Soviet strength instilled a false sense of security into the German High Command and reinforced the notion that they could not be beaten.

Hitler had even boasted to General Alfred Jodl during the preliminary planning stages of the invasion that once the Wehrmacht attacked the Soviet Union, the “whole rotten structure would come crashing down.”⁷⁹ When that did not occur, Nazi leaders scrambled to ensure ultimate victory. Units were cannibalized of personnel, vehicles and equipment in an effort to reinforce outfits that had been depleted through months of grueling combat. It did not make a difference.

Despite colossal losses in manpower, the Soviet Union remained intact. Moreover, by early 1942, the Red Army had fully learned the lessons needed to affect a complete turnaround. Like a boxer pinned against the ropes, the Red Army began launching a series of devastating “haymakers” that sent the Germans reeling. Indeed, the Soviets began tearing the guts out of the Wehrmacht and they would not stop until they reached Berlin.

⁷⁸ Norman Ohler, *Blitzed: Drugs in the Third Reich*, trans. Shaun Whiteside (New York: Houghton Mifflin, 2016), 205, Kindle.

⁷⁹ Shirer, *Rise and Fall of the Third Reich*, 856.

One

...myths, once buttressed by public credibility, assume a veneer of historical truth and are more easily enlarged upon than refuted.
– Charles W. Sydnor Jr.

Warfare during Napoleon's time saw thousands of soldiers, bedecked in splendidly colored uniforms, march to a pitched battlefield to await the arrival of the enemy force. Once the opposing force was in place, battle would begin with either an artillery barrage or a cavalry charge or sometimes both. Similar to their eighteenth-century forebears, the vast majority of these soldiers stood in a tidy skirmish line and fired their muskets across the battlefield while those next to them fell out of line when hit. Cover, camouflage and concealment were foreign ideas to European armies in the early nineteenth century. However, this would change before the turn of the century.¹

The American Civil War (1861-65) and the Franco-Prussian War (1870-71) provided military theorists, staff officers and historians a preponderance of lessons learned to be mulled over, analyzed and either discarded or modified. Both conflicts saw the introduction of improved gun barrels, which dramatically improved the accuracy of small arms and artillery fire. Both conflicts also saw the invention of groundbreaking rifles such as the Spencer repeater and French Chassepot respectively.²

Given the advancements of the Industrial Revolution, armorers were able to fashion cannon and gun barrels from hardened steel as opposed to previously used softer materials. This permitted the use of more powerful explosive charges due to the weapon's ability to withstand

¹ Richard Preston, Alex Roland and Sydney F. Wise, *Men in Arms: A History of Warfare and its Interrelationships with Western Society, Fifth Edition* (Ohio: Cengage Learning, 2009), 122-24.

² Stephen Badsey, *The Franco-Prussian War 1870-1871* (Oxford: Osprey, 2003), 32.

the increased pressures created upon firing. As a result, artillery and rifles could be fired at greater distances from the enemy, obviating the need to face off against one's adversary across a battlespace of a few hundred yards. Such changes demanded an alteration in the nature of armed combat.³

The advent of the rifled musket directly influenced war's transformation from one of offensive to defensive, however, that change was slow in coming. Noted Civil War historian Earl J. Hess posits that the continued close contact with the enemy was the most significant factor leading to the rapid development of trench warfare during the latter portion of the American Civil War. Considering the increased lethality of the conical-shaped Minié ball, massed linear formations of attacking infantry, like Pickett's Charge, nearly always guaranteed high casualty rates. Amazingly, throughout the duration of the Civil War, linear tactics were still considered the correct system to be used with the rifled musket.⁴

Such developments help explain why both Union and Confederates alike suffered huge casualty rates during this brutal conflict. While both sides employed an offensive strategy, massed formations of charging infantry were simply cannon fodder in the wake of murderous canister and musket fire. Occasionally, Civil War troops dug fortifications, but it was not until General Grant's Overland Campaign in 1864 that soldiers began consistently digging trenches to escape the storm of steel that filled the air.⁵

³ Martin Van Creveld, *Technology and War: From 2000 B.C. to the Present* (New York: The Free Press, 1991), 173-75.

⁴ Earl J. Hess, *Civil War Infantry Tactics: Training, Combat, and Small-Unit Effectiveness* (Baton Rouge: Louisiana State University Press, 2015), xiv.

⁵ Earl J. Hess, *Trench Warfare under Grant and Lee: Field Fortifications in the Overland Campaign* (University of North Carolina Press, 2007), xv.

Similar experiences surfaced across the globe as the Russo-Turkish War of 1877-78 and the Russo-Japanese War of 1904 forced men to dig trenches to survive the maelstrom of shot and shell.⁶ Predictably, the lessons offered by late nineteenth and early twentieth century conflicts were largely lost on military leaders, and the old adage that generals always fight the last war rang true during the Great War.

Had French and British generals given more attention to analyzing Ulysses S. Grant over Robert E. Lee, they could potentially have mitigated the slaughter during the Battle of the Somme in 1916. In 1927, British strategist Captain B.H. Liddell Hart quipped that an entire generation of officers (British) had been taught “to enumerate the blades of grass in the Shenandoah Valley.”⁷ To be sure, the obsession with the Confederate quest for the decisive battle pushed British and French operational planning into Napoleonic directions.

The cavalry charge had become obsolete and even General Grant realized that the future of warfare lay not in the open field, but in trenches. British General Douglas Haig foolishly thought he could wage war against the Germans much the way Napoleon had done a hundred years earlier with pre-attack artillery bombardments followed up with cavalry charges in the vein of the infamous “Charge of the Light Brigade” during the battle of Balaclava (1854).⁸ Moreover, British planners gravely underestimated the German capacity to survive in their deep dugouts during the week-long artillery bombardment preceding the battle. When British soldiers went over the top, they were horrified to discover the German defenses largely intact.

⁶ Russell F. Weigley, *The American Way of War: A History of the United States Military Strategy and Policy* (Bloomington: Indiana University Press, 1973), 195.

⁷ Brian Bond, *The Victorian Army and the Staff College, 1854-1914* (London: Eyre Methuen, 1972), 157.

⁸ Martin Van Creveld, *Technology and War: From 2000 B.C. to the Present* (New York: The Free Press, 1991), 175.

As British military theorist, Major General John Frederick Charles Fuller so incisively observed at the outset of the Great War, technological improvements steadily forced the rifle to the fore as the premier combat multiplier.⁹ Along with the refining developments of Hiram Maxim's machinegun and the introduction of recoil-based artillery, the entire character of warfare changed. Movement and maneuverability gave way to static defense. Combatants were so vulnerable to fire that, to preserve their lives, "men went to the earth like foxes."¹⁰

Part of the deadlock that defined the Great War was due in large part to the lack of mobility on the battlefield. Men spent months, even years eking out a mole-like existence in trenches. Occasionally, their subterranean routine was interrupted by an artillery barrage or a night patrol across "No-Man's-Land," but gone were the days of protracted encounters across pre-selected battlefields. When a commander gave orders for an infantry assault, the lethality of machine gun fire negated tactical gains. Indeed, taking and holding ground during the Great War was measured in yards, if at all.¹¹

For most military theorists who took the time to truly analyze the lessons of the Great War, the majority recognized that maneuverability must be returned to attacking armies. Although the invention of the airplane eleven years prior to the outbreak of the Great War added a substantial element to this realization and refined aerial reconnaissance, it did not and could not refute the combat truism that enemy ground is taken and held by attacking infantry. Moreover,

⁹ J.F.C. Fuller, "The Tactics of Penetration: A Counterblast to German Numerical Superiority," *Journal of the Royal United Service Institution* 59, (1914), 380.

¹⁰ J.F.C. Fuller, "Progress in the Mechanicalisation of Modern Armies (lecture)," *Journal of the Royal United Service Institution* 70, (1925), 74.

¹¹ Barbara W. Tuchman, *The Guns of August* (New York: Ballantine Books, 2009), 438-40, Kindle.

artillery, although greatly improved since the Napoleonic era, had yet to reach the zenith of its tactical potential.¹²

As one example, the British experimented with what they referred to as “the creeping barrage,” whereby the men moved forward behind a steadily advancing curtain of explosions intended to both pulverize barbed wire and stun German defenders hiding in their dugouts. The barrage was timed precisely to go forward in lifts of fifty yards each minute. Obviously, advancing too quickly resulted in a most unpleasant effect upon the soldier. In fact, more than one in ten British soldiers were killed during these barrages.¹³ What was needed was a means whereby advancing infantry could rapidly progress across the battlefield, while being protected from the effects of small arms fire and shrapnel.

Since the era of ancient warfare, the horse furnished a formidable shock aspect to combat. The momentum of charging cavalry coupled with hand-held weapons proved quite effective against dismounted infantry. Indeed, classic battles like Gaugamela, Sajo River and Manzikert showcased the supremacy of cavalry over infantry. However, while the horse certainly increased the mobility of soldiers during the attack, its vulnerability to shot and shell limited its utility during the Great War to about the first six weeks.¹⁴ The dawn of the internal combustion engine, however, proved yet another force multiplier in the evolution of military tactics and sounded the death knell for cavalry’s role in twentieth century warfare.

¹² P.E. Cleator, *Weapons of War* (London: Robert Hale Limited, 1967), 162-65.

¹³ Martin Gilbert, *The Somme: Heroism and Horror in the First World War* (New York: Henry Holt and Company, 2006), 3755, Kindle.

¹⁴ Roman Jarymowycz, *Cavalry from Hoof to Track* (Connecticut: Praeger Security International, 2008), 125.

In the first of two volumes, *Tanks: The History of the Royal Tank Regiment and its Predecessors, Heavy Branch, Machine-Gun Corps, Tank Corps and Royal Tank Corps*, Captain Liddell Hart claimed leaders of the cavalry school realized the futility of trench warfare and were ready to revive battlefield mobility.¹⁵ Not until the 1930s, however, did armored fighting vehicles make their debut. The lack of mechanical reliability made armored fighting vehicles unsuitable for long-range operations.¹⁶

Once the “kinks” were ironed out in the interwar years, armored fighting vehicles, particularly tanks, revolutionized warfare and returned maneuverability to the battlefield. In a 1924 lecture addressed to French motorcar company Citroën, Major General (then Colonel) Fuller spoke of the tank’s ability to “burst right through the enemy’s battle front and attack his headquarters and supply centers in the rear.”¹⁷ Fuller clearly anticipated the utilitarian synthesis of mechanized warfare as the apotheosis for breaching the frontline of static defenses.

Fuller’s assessment of the potential for mechanized weaponry and his subsequent writings on this subject has affected virtually all military theorists since. American generals like George S. Patton Jr, Dwight D. Eisenhower and Douglas MacArthur were weaned on a steady diet of Fuller’s assertions. German General Heinz Guderian was an ardent disciple of Fuller, as was Soviet theorist and Brigade Commander, Georgii Samoilovich Isserson¹⁸

In 1936, Isserson authored a treatise entitled *The Evolution of Operational Art*. Incorporating the theories of his mentor, V.K. Triandafillov, Isserson conceptualized some of the

¹⁵ B.H. Liddell Hart, *The History of the Royal Tank Regiment and Its Predecessors, Heavy Branch, Machine-Gun Corps, Tank Corps, and Royal Tank Corps, 1914-1945* (Praeger, 1959), 1:200.

¹⁶ David French, “The Mechanization of the British Cavalry between the World Wars,” *War in History* 10, no. 3 (2003), 307.

¹⁷ Fuller, “Progress in the Mechanicalisation of Modern Armies (lecture),” 75.

¹⁸ Georgii Samoilovich Isserson, *The Evolution of Operational Art*, trans. Bruce W. Menning (Combat Studies Institute Press, 2013), 99. Kindle.

same thoughts Fuller advanced in his interwar writings. In fact, Isserson even credited Fuller with being the first to formulate the question of deep combat. The problem, however, was that Fuller never fully answered his own question.¹⁹

Isserson took Fuller's ideas further and underscored the necessity of simultaneously breaking through echeloned defenses to reach the enemy's rear using combined-arms. According to Isserson, Fuller's ideas were revolutionary, but shortsighted in that they lacked the scope needed to fully exploit the enemy's depth. Using the Great War as his "laboratory," Isserson concluded that fighting along a single line of direct contact yielded what amounted to one-dimensional linear combat, which kept armies confined to defensive deadlocks.²⁰ Rather than pose an unanswerable question, Isserson revealed four conditions in *Evolution of Operational Art*, which must be satisfied for an attacking force to breakthrough and exploit an enemy's depth.

First, a sufficient means of neutralizing opposing main elements of defensive fire must be available to the attacking force. Impervious to bullets, tanks provided a mechanism whereby sufficient shock and power could penetrate straightway into defensive depths.²¹ Second, the attacking force must execute simultaneous attacks along the enemy's entire defensive depth. If simultaneity is not achieved, the attacking force could potentially exhaust itself trying to whittle away the enemy's depth while he draws upon seemingly endless reserves. Third, tactical breakthrough echelons must be capable of immediate penetration and possess different tactical characteristics, i.e. weapons systems, than those of attacking echelons. Finally, the attacking force must isolate enemy reserves from access to their breakthrough sectors.²²

¹⁹ Isserson, *The Evolution of Operational Art*, 102.

²⁰ *Ibid.*, 100.

²¹ *Ibid.*

²² *Ibid.*, 101.

Obviously, Isserson had in mind a combined-arms approach when he conceptualized these conditions. Aviation would serve as the isolation system, while tanks provided the shock and awe factor in breaking through enemy depths. Armored fighting vehicles would facilitate simultaneous attacks along the opposing defensive while artillery negated the arrival of reserves from the enemy rear. These concepts, known as deep battle doctrine, formed the genesis of Soviet *Field Service Regulations of 1936* (PU-36) and constituted a watershed moment in the development of Soviet military art.²³

Isserson's mentor, V.K. Triandafillov, was a veteran of the Russian Civil War and former Soviet officer. Born into a peasant family in the Turkish village of Magaradzlie, Triandafillov was conscripted into the tsarist army in 1914 and rose through the ranks to become a brigade commander. After graduating from the Frunze Military Academy in 1923, Triandafillov became Deputy Chief of Staff for the Red Army.²⁴

During his tenure, he began publishing papers, which analyzed operations of the Russian Civil War and led him to conclude that the nature of future war demanded a revolution in tactical and strategic thinking. In fact, his book, *The Nature of the Operations of Modern Armies*, focused heavily on the structure of combined arms and the logistical requirements necessary to sustain a modern army in the field.²⁵ Triandafillov's work was so influential that, during the Gulf War (1990-91), more than 70 graduates of the U.S. Army's Command and General Staff College had read *The Nature of the Operations of Modern Armies*.

²³ Ibid., xv.

²⁴ V. K. Triandafillov, *The Nature of the Operations of Modern Armies*, ed., Jacob W. Kipp, trans. William A. Burhans (Essex: Frank Cass, 1994), xiv.

²⁵ Ibid., xvii.

Unlike Isserson who tended to agree with Fuller, Triandafillov was rather critical of Fuller's assertion that fielding small, professional armies was the wave of the future regarding operational art. As one who had firsthand experience with the industrialized carnage of the Western Front, Major General Fuller was predictably averse to a repeat where entire divisions were wiped out during the first few moments of battle.²⁶ Triandafillov, however, disagreed.

When confronted with the specter of another total war, Triandafillov conjectured,

The best conditions for free maneuver, for extensive tactical and operational art will be achieved not through a return to the small armies of armchair warriors, but by the corresponding increase in the mobility of modern million-men armies.²⁷

Prescient in his analysis, Triandafillov rightly concluded that modern armies in total war must exercise their maximum mobilization capabilities. Ideologically, this did not present a major issue because the Soviet state could rely upon the toiling proletariat masses.²⁸ However, it should be understood that Triandafillov never advocated heaving untrained hordes at the enemy. He realized the quality over quantity argument long before Hitler invaded Russia.

Another area Triandafillov tackled in his *The Nature of the Operations of Modern Armies* and which was put into practice during the Russo-German War concerned the role of mobile artillery. Triandafillov assessed the functionality of artillery during the Great War and concluded that modern artillery not only required increased calibers, but also a means of what he termed "mechanical traction."²⁹ Triandafillov's thoughts on mobile artillery dovetailed nicely with Isserson's idea of utilizing a combined arms approach to affect a breakthrough into the enemy's

²⁶ Isserson, *The Evolution of Operational Art*, 102.

²⁷ *Ibid.*, xxxv.

²⁸ *Ibid.*, 48-53.

²⁹ *Ibid.*, 16.

depth. Both men were certainly ahead of their time. Unfortunately, Stalin's paranoia contributed to a temporal shelving of their revolutionary ideals and ensured the woeful wartime unpreparedness of the Red Army.

In 1937, Stalin began his *Ezhovshchina*, or what is commonly known as the Great Purge. Named for Stalin's Chief of Police, Nikolai Ezhov, groups of Red Army officers found themselves accused of disloyalty. While the vast majority of targeted officers and political commissars were innocent, Stalin nevertheless ordered the arrest and removal of approximately 1,336 colonels and generals and 1,385 of their commissar equivalents over a two-year period.³⁰ Among those purged were Aleksandr Svechin and Mikhail Tukhachevski, two men who lobbied for armor and aircraft innovation at the expense of cavalry.

In their place, Stalin retained and elevated a handful of men who had sided with him against Leon Trotsky during the Russian Civil War. One of those men was an incompetent officer named Kliment Voroshilov who was a cavalry officer during the Great War. After Tukhachevski's execution, General Voroshilov abolished all tank formations larger than a brigade. Another Stalin sycophant was Grigory Kulik, who not only opposed the distribution of automatic weapons to foot soldiers, but halted the production of anti-tank and anti-aircraft guns.³¹ While Isserson somehow survived the purges, his ideas were anathema to those trying to distance themselves from the *Ezhovshchina*.³²

³⁰ Roger R. Reese, "Stalin Attacks the Red Army," *MHQ: The Quarterly Journal of Military History*, Autumn, 2014, 43.

³¹ Keegan, *The Second World War*, 176.

³² "Architect of Soviet Victory in World War II," The USAHEC. YouTube video, Posted by Dr. Richard Harrison. July 23, 2014. <https://www.youtube.com/watch?v=56N9iPjQDIU>

Without any viable proponents left to cultivate the ideas of Tukhachevski, Isserson or Triandafillov, Stalin all but guaranteed his nation's poor showing against the stalwart Finns during the Winter War of 1939-40. Indeed, the very man entrusted with planning the Soviet invasion of Finland was none other than General Voroshilov. Voroshilov was a typical Stalin "yes-man," who approved of the arrest and execution of Marshal Tukhachevski.³³

Ironically, Tukhachevski's operational tactics were the very tactics required to breach Finland's Mannerheim Line, yet Stalin's purges left neophytes like Voroshilov in charge. As a result, the Finns managed to kill over 250,000 Russian soldiers during a skirmish lasting only 105 days.³⁴ Only when Stalin shed the dead weight of incompetent commanders and brought in two of the most astute tacticians in Soviet military history, Semyon Timoshenko and Georgi Zhukov, did things turn around for the Red Army. In fact, General Timoshenko became the key to extricating the Red Army from the quagmire of Finland.

An assessment of the Winter War reveals several missteps taken by the Red Army. First, Stalin sent his troops into Finland without proper winter clothing, resulting in more than 130,000 frostbite casualties. Additionally, Russian field commanders lacked the freedom to issue combat orders without every order being second-guessed by a political commissar, most of whom, had zero combat experience.³⁵ Without adequate intelligence maps and the experience of fighting in arctic conditions, the Soviet Army of 1939 was miserably prepared to fight in the frozen vastness of Finland. Unfortunately for the Red Army, their opponent was more than up to the task.

³³ Reese, "Stalin Attacks the Red Army," 42.

³⁴ William R. Trotter, *Frozen Hell: The Russo-Finnish Winter War of 1939-40* (North Carolina: Alonguin Books, 1991), 263.

³⁵ Trotter, *Frozen Hell*, 36.

The Winter War surely embarrassed the Soviet Union, but also provided the needed wake-up call to prepare for the eventual clash with Nazi Germany. Indeed, in his reflection on the Winter War, Soviet Foreign Minister Vyacheslav Mikhailovich Molotov wrote of the “numerous cases of exceptionally barbarous atrocities” perpetrated by the Finns.³⁶ Whether true or not, Molotov’s statement underscores the reality that Russia must be fully prepared in the future to deal with any brand of barbarous activities an adversary might employ.

Following the Winter War, Stalin and his top generals underwent a significant paradigm shift. As previously mentioned, an internal house cleaning ensued with the elevation of Generals Timoshenko and Zhukov to key positions in the Red Army. Both Timoshenko and Zhukov had proved their mettle earlier in 1939; Zhukov at Khalkin-Gol and Timoshenko during the attack on Poland.³⁷ Almost immediately, Timoshenko began major renovations to Soviet tactical doctrine. Moreover, the Soviet High Command (Stavka) dusted off the theories of Isserson, Tukhachevski and Triandafillov, which had been officially fleshed out in 1936 as *Provisional Field Regulations for the Red Army* (PU-36). Unfortunately, it was too little...too late.

The speed of the German onslaught across the Soviet border, which began at 0300 hours on 22 June 1941 shocked the Soviets. Code-named Barbarossa, initial gains were both rapid and substantial. Even the panzer groups marveled at the speed with which they raced across the Russian expanse. General Heinz Guderian noted that his Second Panzer Group reached Smolensk on 16 July.³⁸ Considering this was a distance of over 450 miles in three weeks through enemy territory, this was truly remarkable by any standards. Such early success prompted

³⁶ V.M. Molotov, *Soviet Foreign Policy: The Meaning of the War in Finland* (New York: Workers Library, 1940), 9.

³⁷ Antony Beevor, *Stalingrad* (New York: Penguin, 1998), 535, Kindle.

³⁸ Guderian, *Panzer Leader*, 35260.

German Army Chief of Staff Franz Halder to record in his diary on 3 July 1941, “It is probably not an exaggeration when I claim that the campaign against Russia was won within fourteen days.”³⁹

Additionally, the German Luftwaffe was able to annihilate most of the Red Air Force during the opening hours of the invasion. The Russians had aligned their aircraft in tidy rows on the tarmac, which enabled German aircraft to take out 1,200 Soviet planes by the end of 22 June...a quarter of their total air strength.⁴⁰ In less than three weeks, German Army Group Centre had virtually annihilated the Soviet Western Front and pushed 285 miles into Soviet territory.⁴¹ One would think Stalin was totally surprised by the invasion, which in fact he was.

Even as his front-line units were being pulverized by invading Germans, Stalin’s intransigence prevented his raising the readiness posture of his forces. It was not so much that Stalin refused to believe Hitler would double-cross him, he just did not think it would happen as soon as it did. Like Neville Chamberlain, Stalin preferred appeasement over rattling sabers with the Führer and this was evident by his meticulous adherence to the dictates outlined in the Molotov-Ribbentrop Pact. In fact, as German troops flooded across the Soviet border, the scheduled trainload of grain, cotton, petroleum, timber, manganese and chromium reached German territory the same day, as per agreement.⁴² In addition to his reticence, Stalin also distrusted his own information channels.

³⁹ Franz Halder, *The Halder War Diary 1939-42*, eds., Charles Burdick and Hans-Adolf Jacobsen (Greenhill Books, 1988), 38.

⁴⁰ Keegan, *The Second World War*, 184.

⁴¹ Liedtke, *Enduring the Whirlwind*, 3191. Kindle.

⁴² Alexander Werth, *Russia at War 1941-1945* (New York: Carroll & Graf Publishers, 1964), 113.

Soviet intelligence and district commanders had repeatedly forewarned Stalin of massive buildups along the border prior to the attack. Furthermore, Winston Churchill sent word to Stalin that the Germans had deployed panzer groups to Southern Poland and even the U.S. Under-Secretary of State flatly told the Russian ambassador in Washington that he held information proving Germany intended on attacking his country.⁴³ Nevertheless, as Wehrmacht forces raged across the border into Russia, Stalin kept insisting it was mere provocation until the storming of the eighteenth-century citadel at Brest-Litovsk finally alerted the Soviet leader to the gravity of the situation.

Outraged over Hitler's duplicity, Stalin went over the radio and delivered a message to the Soviet people eleven days after German troops crossed the Soviet border. His famous speech changed the nature of the Russo-German War. Stalin called the attacks "perfidious" and assailed the apparent invincibility of the "German fascist troops." His message served as a clarion call to unite the people of Russia in what he termed a great "patriotic war of liberation." Like his adversary, Stalin characterized the war as anything but ordinary. Rather than appealing to Soviet loyalty to the State, Stalin stressed Russian nationalism and used this speech to call for guerilla resistance and a scorched earth policy towards the Nazi invaders.⁴⁴

The Soviet leader also began mobilizing forces and ordering frontline commanders to repel the aggressors. Unfortunately for the Soviets, Stalin's paranoia had effectively hamstrung the Red Army before they fired the first shot in retaliation. The purges of the late 1930s, coupled with Stalin's neglect to develop Soviet armor, all but sealed the fate of his frontline forces. Battle-hardened panzer groups, with trailing infantry, made short work of bewildered Russian

⁴³ Keegan, *The Second World War*, 179-80.

⁴⁴ Joseph V. Stalin, "Joseph V. Stalin's Radio Broadcast, July 3, 1941" (speech, Moscow, July 3, 1941), Historical Resources About the Second World.

troops along the Western Soviet border. Moreover, inexperienced Russian pilots flying obsolete aircraft proved no match for the Luftwaffe.⁴⁵

To blunt the German advance, Stalin dispatched army groups of his own to answer Generals Leeb, Bock and Rundstedt's three-pronged attack from the west. Additionally, Stalin mustered forty new divisions, comprising roughly 840,000 men.⁴⁶ Despite these measures, the Russian defense proved somewhat anemic in stopping the tidal wave of German success during the invasion's opening weeks. Expert Soviet historian David M. Glantz sheds light on why this occurred.

Prior to the initial air strikes on Soviet territory, Red Army organization and command rapidly disintegrated. German special force units known as Brandenburgers, dressed in Red Army uniforms, dropped behind enemy lines and cut telephone lines, seized key bridges and sowed confusion in Soviet rear areas.⁴⁷ As a result, Red Army commanders lacked detailed information about what was taking place at the front. When ordered to mount counteroffensives against the Germans, most leaders wavered. Additionally, newly formed Soviet mechanized corps lacked the sophisticated command and control structure of their Nazi equivalents.⁴⁸

Before the invasion was a week old, the Germans had taken more than 324,000 prisoners, destroyed 3,300 Soviet tanks and 1,800 artillery pieces.⁴⁹ Army Group North, arguably the weakest of Hitler's three armies, penetrated fifty miles into the Russian interior before the sun

⁴⁵ Werth, *Russia at War 1941-1945*, 102.

⁴⁶ Keegan, *The Second World War*, 190.

⁴⁷ Glantz and House, *When Titans Clashed*, 59.

⁴⁸ Keith Cumins, *Cataclysm: The War on the Eastern Front, 1941-45* (West Midlands: Helion & Company, 2011), 15.

⁴⁹ Murray and Millett, *A War to Be Won*, 123.

had set on 22 June, and the 8th Panzer Division had secured the bridges over the Dvina River.⁵⁰ By the end of June, the Western Front had virtually ceased to exist as an organized force as the German Second and Third Panzer Groups encircled three Soviet army groups near Minsk.⁵¹ Things could not have gone better for the Wehrmacht. German generals were exuberant over the rapid victories along the frontier, the first of which was won by taking the Brest Fortress.

The attack on the citadel at Brest-Litovsk was to the Soviet Union what the Alamo was to Texas. This bastion of nineteenth century Soviet military power was located at the convergence of the Muchaviec and Bug Rivers and housed seven Soviet rifle battalions. Destroying such a symbolic edifice so early in the campaign would garner an appreciable propaganda victory for the Wehrmacht. Therefore, to guarantee swift victory, General von Bock tasked twenty-seven German infantry battalions along with General Guderian's Second Panzer Group with taking the fortress.⁵²

As outlined in Fuhrer Directive 21, issued on 18 December 1940, Hitler emphasized that panzers, rather than infantry, would constitute the tip of the spear for the invasion. Additionally, Hitler, Halder and others in the Army High Command, envisioned the destruction of Soviet forces along the borders before they had a chance to fall back and regroup.⁵³ The German term for this strategy was *Schwerpunkt*, meaning focal point, and it had been superbly executed the previous year as Germany conquered Western Europe.

⁵⁰ Robert Kershaw, *War Without Garlands: Operation Barbarossa 1941-1942* (Surrey: Ian Allan, 2000), 151-3.

⁵¹ Glantz and House, *When Titans Clashed*, 61.

⁵² Kershaw, *War Without Garlands*, 69.

⁵³ Murray and Millett, *A War to Be Won*, 117.

However, the geographical layout of the fortress precluded Guderian from simply rolling over it. Fortress Brest was surrounded by moats and was situated in the midst of heavy forested terrain. Because of these factors, Guderian chose to route his panzers along both sides of the fortress, effectively skirting the objective.⁵⁴ This left the job of taking the fortress to the German 45th infantry.

Preliminary German assaults profoundly shocked the sleeping inhabitants of Fortress Brest, but once the Russians roused from their slumber, fighting began in earnest. Especially lethal to the attacking Germans were the Soviet snipers. The construction of the Brest Fortress proved a sniper's paradise. Hundreds of openings from which to fire from, towers, cupolas and underground bunkers made ideal hiding spots.⁵⁵ Moreover, German artillery created even more sniper positions as sections of the fortress walls crumbled.

In what should have taken the Wehrmacht a day or two at most, turned into a six-week siege for the surprised Germans.⁵⁶ Within the first twenty-four hours, the 45th Division lost twenty-one officers and 290 noncommissioned officers, two-thirds of the total losses suffered during the entire French campaign.⁵⁷ The stubborn Soviet resistance foreshadowed the sort of fighting that lay ahead for the Wehrmacht. In a sense, Fortress Brest became a microcosm for the entire Russo-German campaign.

While Army Group Center had its hands full with Brest, Minsk and Smolensk, Army Group North scythed its way through the Baltic towards Leningrad. With only half the strength of the other two German Army Groups, Army Group North failed to apply encirclement tactics

⁵⁴ Guderian, *Panzer Leader*, 2937.

⁵⁵ *Brest Fortress*, directed by Aleksandr Kott (Belarusfilm, 2010), DVD.

⁵⁶ Kershaw, *War Without Garlands*, 69.

⁵⁷ *Ibid.*, 113.

as the Russians were more dispersed and possessed a greater depth of reserves. Ironically, this was Hitler's doing. Part of the Molotov-Ribbentrop Pact ceded to Stalin the very Baltic States in which General von Leeb's forces were now engaged. This would not be the last time Hitler's rash decision making would stymie his troops. Nevertheless, German panzers made a good showing and after annihilating the 2nd Soviet Tank Division in the Lithuanian city of Daugavpils, they pressed towards the Dvina River.⁵⁸

Army Group South, under General von Rundstedt, was tasked with capturing the heartland of Russian industrialization...the Ukraine. With the modern city of Kiev as his focus, General Ludwig von Kleist's First Panzer Group passed easily through Soviet border defenses during the first few days of the invasion. However, progress slowed when he approached the newly formed South Western Front, under the capable General Mikhail Kirponos.⁵⁹

Nevertheless, Kleist's Panzer Group was able to stave off Kirponos' efforts to pinch off the German advance towards Kiev. The spearhead continued. Exasperated over trying to shield Kiev, Kirponos pressed Stavka for reinforcements, but was to be disappointed as the bulk of reserve troops were deployed to the Pripyat marshes to blunt Army Group Center's advance towards Moscow.⁶⁰ Kirponos quickly realized that without adequate reinforcements, the Germans would likely encircle his forces. This is precisely what occurred. Hitler achieved his Cannae as five Soviet armies were encircled and annihilated. Approximately 665,000 Russian soldiers marched off into captivity, the highest number ever taken in a single engagement.⁶¹ Drunk on the euphoria of victory, the Wehrmacht continued to press its advantage into Russia.

⁵⁸ Ibid., 153.

⁵⁹ Murray and Millett, *A War to Be Won*, 191.

⁶⁰ Ibid., 124.

⁶¹ Glantz and House, *When Titans Clashed*, 95.

In keeping with his ideologically driven goal of wiping out the birthplace of Bolshevism, Hitler ordered Army Group North towards the city of Leningrad on 8 August. Because Stalin assumed Hitler would replay history and try to attack Moscow as Napoleon had in 1812, Soviet defenses around Leningrad were sparse at best. In an eleventh-hour attempt to slow the German advance, more than half a million Soviet civilians were pressed into service building fortifications around the city.⁶² Additionally, Stalin placed the Northwestern Front and newly formed Leningrad Front under General Zhukov's control. It mattered little as Hitler once again changed his mind and decided to heed Halder's advice, ordering a resumption of the drive on Moscow.⁶³

Führer Directive No. 35 mandated that three motorized corps and a portion of Luftwaffe support be shuffled back to Army Group Center for the strike on Moscow. As a result, General Leeb's Army Group North was unable to advance into Leningrad. Instead, Hitler ordered a massive shelling of the city from enormous Krupp 24cm Kanone 3 (K3) siege guns in addition to Luftwaffe bombing raids.⁶⁴ For 862 days, the citizens of Leningrad endured unimaginable suffering and starvation. Nevertheless, the stalwart Soviets held out.

Months of disastrous defeats had schooled top Soviet commanders in how to counter German tactics. Over the course of the summer and autumn of 1941, important changes had been made in Soviet Air Force organization and in the use of artillery. Rather than political pedigree, Stalin held distinction in the field as a top criterion for how he shuffled his top leaders.⁶⁵ These

⁶² Werth, *Russia at War 1941-1945*, 199.

⁶³ Glantz and House, *When Titans Clashed*, 96-7.

⁶⁴ Ian V. Hogg, *German Artillery of World War II* (Mechanicsburg: Stackpole Books, 1997), 104.

⁶⁵ Werth, *Russia at War 1941-1945*, 226.

changes paid off as Hitler executed what he considered the coup de grâce against the Russian capital.

Operation Typhoon, launched on 2 October 1941, was a combined offensive consisting of the Second, Third and Fourth Panzer Groups. Typhoon did not stem from Germany's overriding dominance and power, but rather was born of increasing desperation, necessitated by past failures to force an end to the conflict.⁶⁶ To that end, it was hoped that Typhoon would culminate in a climactic battle of annihilation at the gates of Moscow. In their hubris and shortsightedness, however, the German Army failed to appreciate several salient facts regarding their campaign.

In the first place, Hitler and Halder never envisioned the destruction of the Soviet Union taking longer than a few weeks.⁶⁷ Therefore, winter clothing was never issued to the troops. As temperatures began to plummet in October, so did the morale of German soldiers. Also, the rains turned roads into quagmires, from which tracked vehicles had a tough time navigating. What previously had been rapid gain, slowed to a crawl.

The Russian winter, which dogged Napoleon's retreat from Moscow in 1812, proved every bit as daunting in 1941. By December, the temperatures were as low as 40 below zero. The iron hobnails of the German boots proved ideal for conducting frozen temperatures to the feet inside and more than 100,000 German soldiers suffered frostbite during the race to Moscow.⁶⁸ The scarcity of winter clothing and anti-freeze for vehicles also compounded Wehrmacht hardships.⁶⁹

⁶⁶ Kay, Rutherford and Stahel, *Nazi Policy on the Eastern Front, 1941*, 39-40.

⁶⁷ Shirer, *The Rise and Fall of the Third Reich*, 852.

⁶⁸ Kershaw, *War Without Garlands*, 481.

⁶⁹ Guderian, *Panzer Leader*, 4919.

Conversely, the Russians wore felt boots, which aptly protected their feet from the frigid cold. Hungarian, German and Irish horses perished from fatigue or starvation, while Russian ponies survived on little more than birch twigs. It became painfully obvious to the Germans that their Russian opponent was inured to freezing temperatures.⁷⁰ Had Hitler thought about the Mongol blood running through Soviet veins, he might have recalled the tenacity of Genghis Khan.

Secondly, the vastness of Russia severely hampered the German logistical system. Rather than converging, German units diverged from one another because of the magnitude of Russia. As more and more Russian soldiers were fed into the fight, an exasperating thought took hold in the hearts and minds of the Wehrmacht as many began to sense the enormity of their crusade. German war correspondent Felix Lützkendorf wrote in the 3 August 1941 edition of *Das Reich* of the vastness of Russia. Lützkendorf stated, “This land is endless, beneath an endless sky with roads trailing endlessly towards an incalculable destination.”⁷¹

Thirdly, forward thinking beyond the attacks’ initial success was virtually nonexistent. In fact, the German High Command had not even bothered to choose objectives for dealing with the interior because they arrogantly assumed the Red Army would simply throw down its arms in submission to the Aryan supermen. Much to their chagrin, they discovered the rapidity of the advance actually worked against them. Instead of pacing for a marathon, the German Wehrmacht looked at the invasion like a 50-yard dash and their supply system could not keep up.⁷²

⁷⁰ Keegan, *The Second World War*, 199.

⁷¹ Kershaw, *War Without Garlands*, 293.

⁷² Shirer, *The Rise and Fall of the Third Reich*, 860.

Finally, General Guderian remarked that it was a mistake for the German High Command to have so underestimated the Russian as an enemy.⁷³ Indeed, one reason for the staggering casualty rate of the Red Army was due to the manner in which the Russian soldier fought. Rather than surrender when tactical defeat was imminent, Russian soldiers fought with a fanaticism bordering on suicide. Additionally, the brutality of German Einsatzgruppen units which spearheaded the Final Solution, virtually guaranteed the Russians would respond in kind. Indeed, as the conflict progressed, German soldiers loathed the prospect of Eastern Front duty.

By late summer, the Germans discovered that the fine dust of the Russian steppe caused numerous breakdowns amongst their mechanized units. In fact, eight days into Typhoon, more than 700 vehicles lay on the side of the road awaiting spare parts and Guderian and Hoth's panzer groups were almost out of gas.⁷⁴ It became clear to even the most optimistic German strategist that Hitler had overreached. Hitler, however, did not see things that way.

In anticipation for a glorious showdown at Moscow's gates, Hitler pulled forces from both Army Group's North and South to create a textbook *schwerpunkt*. By 27 November 1941, Guderian's panzers were fourteen miles from Moscow and he could literally see the Kremlin spires through the dust cloud.⁷⁵ It would not be enough. Stalin reassigned Zhukov from the Leningrad Front and tasked him with the defense of Moscow.

Zhukov immediately set about fortifying Soviet defenses between the advancing Wehrmacht and Moscow. Known as the Mozhaisk line, two bodies of water flanked Zhukov's forces. He assigned 250,000 civilians to dig anti-tank ditches outside of the city and appointed

⁷³ Guderian, *Panzer Leader*, 3024.

⁷⁴ Kershaw, *War Without Garlands*, 365.

⁷⁵ Chris Mann, ed., *Great Battles of World War II* (Bath: Parragon Books Ltd, 2008), 71.

veteran commanders Konstantin Rokossovsky and Nikolai Vatutin to lead his armies. Perhaps most importantly, he garnered twenty-one rested and battle-hardened Siberian reserve divisions.⁷⁶

With Soviet strength now on par with the Germans, the defense for Moscow ensued. As the German supply situation continued to exacerbate an already overextended army, Generals Guderian and Rundstedt began voicing their concerns to the Führer. For their troubles, Hitler dismissed them both and assumed overall command for the German attack.⁷⁷ Hitler believed only his unassailable will could save the Wehrmacht from destruction. He was wrong.

The German blitzkrieg ground to a bone chilling halt only miles from the Soviet capital. German troops were exhausted, starving and utterly demoralized by late November. Hitler's best generals were gone and Zhukov planned a counterstrike that was a mirror image to what the Germans had been doing since the initial invasion. Zhukov would drive headlong into Army Group Center, while Generals Konev and Timoshenko advanced from the South. Stalin wanted to give Hitler's army a taste of its own medicine by encircling them within reach of their goal.⁷⁸

At 0300 hours on the morning of 5 December 1941, Zhukov launched a massive two-pronged counteroffensive into the beleaguered German advance. The attack took the Germans completely by surprise. Fighting was brutal, but the Soviets slowly began to retake captured territory, First Klin in the north, and then Stalinogorsk in the south were liberated. The following day, Zhukov's Western Front pushed back General Hoepner's Third and Fourth Panzer Groups some fifteen miles.⁷⁹

⁷⁶ Glantz and House, *When Titans Clashed*, 102-105.

⁷⁷ *Ibid.*, 107.

⁷⁸ *Ibid.*, 112.

⁷⁹ *Ibid.*, 110.

For the next two months, the Red Army held the initiative along the Central Front. Due to worsening supply issues and the winter weather, Hitler's remaining generals pleaded for a retreat authorization. The Führer would not budge. In his opinion, the Wehrmacht had failed to make sufficient progress against the weather and there were no rearward positions on which to fall back.⁸⁰ Supported by other offensives in the Leningrad and Lake Ilmen areas, the Ukraine and in the Crimea, Stalin's forces stayed the German advance. Like Charles XII and Napoleon before him, Hitler suffered from a flawed understanding of the eastern theatre of war, which denied him Moscow.⁸¹

Typical of most historians, Albert Seaton cites an extended front, a dearth of mobile German reserves and an apparent endless supply of Soviet artillery and tanks as crucial factors in weakening the Wehrmacht prior to the launching of Operation Typhoon.⁸² Seaton's argument meshes nicely with other pro-German assessments of Barbarossa, but Seaton's figures are incorrect. In reality, German forces committed to Operation Typhoon enjoyed a better than two-to-one ratio in armor over the Soviets. Moreover, Army Group Center possessed 1,929,406 troops as opposed to 1,252,591 Soviets the day before Typhoon began.⁸³

In his popular memoir, *Panzer Battles: A Study in the Employment of Armour in the Second World War*, former German General Friedrich von Mellenthin bolsters the popular myth that Soviet numerical superiority accounted for Germany's loss. In melodramatic fashion, Mellenthin alibis the Wehrmacht's defeat because, "the weak German forces were like rocks in the ocean, surrounded by endless waves of men and tanks which surged around and finally

⁸⁰ Albert Seaton, *The Russo-German War 1941-45* (California: Presidio, 1971), 211.

⁸¹ Kay, Rutherford and Stahel, *Nazi Policy on the Eastern Front, 1941*, 20.

⁸² Seaton, *The Russo-German War 1941-45*, 172-5.

⁸³ Liedtke, *Enduring the Whirlwind*, 3449. Kindle.

submerged them.”⁸⁴ Again, this apparent Soviet numerical superiority was chimerical and it is therefore inaccurate to chalk up the failure of German forces before Moscow to their lacking manpower to achieve their objective. The numbers do not lie.

When Army Group Center stalled outside Moscow, Hitler and the Army High Command rapidly formed four new infantry divisions and rushed them to the Eastern Front. Additionally, another nine infantry divisions and three new panzer divisions were battle ready by the spring of 1942.⁸⁵ To assert that the Germans were “swimming in Soviets” is simply not true. Moreover, Former Chief of Staff for Panzergruppe 4, General Walter Chales de Beaulieu, attributed the apathy and demoralization of German troops in December 1941 to physical and mental exhaustion as opposed to lack of fuel, impassable terrain, bad weather or hordes of Russian troops.⁸⁶

Despite the final outcome of Operation Barbarossa, the Wehrmacht visited enormous damage upon the Red Army. Even the most conservative figures reveal staggering losses for the Soviets. Over a six-month span, Red Army deaths numbered 802,191.⁸⁷ To put that number into perspective, approximately 4,456 Soviet soldiers died each day, 185 per hour, 3 men every minute until the end of 1941.

Historians often point to the Battle of Cannae in 216 B.C. as the most prolific killing ground in the history of western warfare, with the Carthaginians butchering 76,000 Romans in a

⁸⁴ F. W. von Mellenthin, *Panzer Battles: A Study in the Employment of Armour in the Second World War*, ed., L.C.F. Turner, trans. H. Betzler (University of Oklahoma Press, 1964), 365.

⁸⁵ Liedtke, *Enduring the Whirlwind*, 4382. Kindle.

⁸⁶ Walter Chales de Beaulieu, “Sturm bis vor Moskaus Tore. Der Einsatz der Panzergruppen 4. Teil II: November 1941-Januar 1942,” *Wehrwissenschaftliche Rundschau* 6, no. 8 (1956), 431.

⁸⁷ Grigori F. Krivosheev, *Soviet Casualties and Combat Losses in the 20th Century* (Mechanicsburg: Stackpole Books, 1997), 94, 246-55.

single afternoon. In fact, one modern source estimates that in order for the necessary killing to be accomplished in the eight hours that historians estimate the battle lasted, over 100 Romans had to be dispatched every minute.⁸⁸ While certainly noteworthy, the carnage visited upon the Red Army from 1941 to 1943 arguably surpasses even that of Cannae.

Additionally, casualty figures for 1941 reveal there were 1,336,147 sick and wounded and more than 2.3 million Russian soldiers missing in action for a total casualty rate of 4,473,820.⁸⁹ Tallying overall manpower losses between June 1941 and the start of Operation Blue the following June, the ratio between Soviet and German casualties was nearly 4 to 1 in favor of the Germans for the first year of the Russo-German War.⁹⁰ Looking at these figures alone would lead even the most conservative historian to deduce that the Wehrmacht was indeed winning the Russo-German War at the end of 1941. These figures, however, do not characterize the remainder of the war.

Such incredible losses motivated the Stavka to rework Soviet battle tactics for the duration of the conflict.⁹¹ The Soviets implemented Isserson's tactics and by the end of 1941, more than 3.5 million reservists were deployed to the front into successive echelons. Therefore, it was not so much that the Germans froze to death outside Moscow's gates that doomed Barbarossa to failure, rather, the scale of mobilization and echeloning throughout the depths of the Soviet Union obviated any hope for German victory.⁹²

⁸⁸ Robert L. O'Connell, *The Ghosts of Cannae: Hannibal and the Darkest Hour of the Roman Republic*, read by Alan Sklar (Tantor Audio, 2010), Audiobooks, 2010.

⁸⁹ TIK, "The Numbers Say it All | The Myth of German Superiority on the WW2 Eastern Front," YouTube Video, 44:14, August 18, 2017, https://youtu.be/_7BE8CsM9ds.

⁹⁰ Liedtke, *Enduring the Whirlwind*, 4327. Kindle.

⁹¹ Horst Boog, Werner Rahn, Reinhard Stumpf and Bernd Wegner, *The Global War*, vol 6 of *Germany and the Second World War*, trans. Derry Cook-Radmore (Oxford University Press, 2015), 884-89.

⁹² Liedtke, *Enduring the Whirlwind*, 3234-43. Kindle.

By early 1942, Soviet tactical changes evinced a marked variance in the casualty figures, particularly a decrease in the number of Soviet soldiers who were captured. The ratio of captured Red Army troops compared to German soldiers was 325 to 1 in favor of the Wehrmacht in 1941. The following year, this ratio plummeted to 12 to 1, still favoring the Wehrmacht. Although more Soviet soldiers died in 1942, significantly less were captured and this trait continued for the duration of the war.⁹³

What is rather odd, however, is the ratio of captured soldiers actually begins favoring the Soviets by 1944. With the Wehrmacht on the retreat by 1944, their advantage over attacking Soviets *should* have revealed a higher casualty rate inflicted upon the Red Army since in combat the defender typically enjoys the advantage.⁹⁴ This, however, was not the case. Casualty figures, which have been tabulated using recently available sources, undeniably reveal the Soviets began outfighting the vaunted Wehrmacht as early as Stalingrad.⁹⁵

This was largely due to incorporating the lessons learned from the writings of Soviet theorists, the Winter War debacle and Barbarossa. Rather than mounting suicidal frontal attacks like they did in Finland, the Red Army fleshed out Isserson's theory of executing simultaneous attacks along the Wehrmacht's entire defensive depth.⁹⁶ Additionally, Triandafillov's emphasis on the need for "mobile artillery" was realized in the use of the Katyusha mobile multiple rocket launcher system.

The Soviet BM-13 or Katyusha multiple rocket launcher (MRL) was one of the first multiple rocket systems used during World War II. Thanks to the Lend-Lease Act of 1941, U.S.

⁹³ TIK, "The Numbers Say it All"

⁹⁴ Baron Antoine Henri De Jomini, *The Art of War*, trans. Capt. G.H. Mendell and Lieut. W.P. Cragighill (1862), 2586, 974-82.

⁹⁵ TIK, "The Numbers Say it All"

⁹⁶ Isserson, *The Evolution of Operational Art*, 66, Kindle.

Studebaker US6 trucks arrived in significant numbers to Soviet production facilities. The Soviets crafted a launcher assembly and discovered they could mount it on virtually any truck chassis, the Studebaker US6 being the most commonly used.⁹⁷ Mechanized rocket artillery units were quickly formed and used during the opening weeks of the invasion. William Lubbeck, a soldier who served in Army Group North, described the high-pitched whir sound made from Katyusha attacks as terrifying to German troops who nicknamed the weapon “the Stalin organ.”⁹⁸

Designed as a saturation weapon, the Katyusha fired sixteen salvoes of 130mm rockets in rapid succession. During the Battle of Stalingrad, General Zhukov secluded batteries of these MRLs behind the high bank of the Volga. Thus hidden, they would reverse out to the water’s edge to unleash their payload against enemy formations and then drive back in again. Antony Beevor considered the Katyusha the “most psychologically effective weapon of the Red Army.”⁹⁹ Indeed, Boris Gorbachevsky, a Red Army soldier who fought near Rzhev in the summer of 1942 boasted “the tremendous firepower of a Katiusha [sic] salvo drove some men insane.”¹⁰⁰ In early 1945, Gorbachevsky noted how the Katyushas set fire to German armor and scattered their infantry.¹⁰¹

On the German side, about the only equivalent weapon to the Katyusha was the German Nebelwerfer-41. The Nebelwerfer was a six-barreled tubular projector, with 3-foot long barrels capable of firing 150mm rockets. Unlike the Katyusha, Nebelwerfer rockets were never fired simultaneously as the blast from the six rockets would capsized the weapon. Nicknamed the

⁹⁷ Prenatt, *Katyusha*, 134.

⁹⁸ William Lubbeck and David Hurt, *At Leningrad’s Gates: The Combat Memoirs of a Soldier with Army Group North* (Philadelphia: Casemate, 2006), 2442, Kindle.

⁹⁹ Beevor, *Stalingrad*, 152.

¹⁰⁰ Gorbachevsky, *Through the Maelstrom*, 94.

¹⁰¹ *Ibid.*, 366.

“Screaming Mimi,” Nebelwerfers were utilized in much the same manner as the Katyusha, however, the weapon’s accuracy left much to be desired according to U.S. intelligence reports.¹⁰²

Another tactical edge the Soviets developed over the Wehrmacht had to do with their sniper corps. Snipers were certainly not a novelty during WWII. In fact, military sniping dates back to the Battle of Litchfield in 1643 during the English Civil War.¹⁰³ Since that time, talented military marksman have been singled out for specialized duty, given precision rifles and utilized with great effect. Both the Wehrmacht and the Red Army used snipers effectively in WWII. However, the Red Army clearly excelled in this subsidiary branch of the military arts and had a head-start over their German counterparts when it came to organized sniper instruction.

After two years of fighting the Soviets, the Wehrmacht still considered Soviet snipers an oddity. Sepp Allerberger, a German sniper who fought on the Eastern Front remarked in 1943 “...the Germans were helpless against the sniper phenomenon due to the shortage of heavy weapons...and the German side suffered from a total lack of snipers.”¹⁰⁴ Apparently, it had not occurred to the German High Command to put together an organized sniper course for use in the Eastern Campaign. This was likely due to hubris.

The Wehrmacht did not feel the need for dedicated sniper units due to its superiority in the field and the fact that heavy weapons were used to tackle Red Army snipers. The speed and surprise of blitzkrieg tactics pushed the idea of having snipers of their own to the backburner. In

¹⁰² U.S. War Department Intelligence Bulletin, Vol. II, no. 3 (November 1943), 9-14.

¹⁰³ Andy Dougan, *Through the Crosshairs: A History of Snipers* (New York: Carroll & Graf Publishers, 2005), 7-8.

¹⁰⁴ Sepp Allerberger, *Sniper on the Eastern Front: The Memoirs of Sepp Allerberger Knight’s Cross*, ed. Geoffrey Brooks (South Yorkshire: Pen & Sword, 2005), 3.

fact, it was not until the waning months of 1943 that a four-week course was finally introduced.¹⁰⁵

Conversely, the Red Army had been recruiting talented marksman as early as 1927. The Osoaviakhim (Society for Promoting Defense, Aviation and Chemical Construction) was a para-military organization designed to train young men and women for army service and included a two-year sniper school.¹⁰⁶ Lyudmila Pavlichenko, the Red Army's most successful female sniper to date, completed the course and enlisted two days after Germany invaded her homeland.¹⁰⁷

Pavlichenko, along with Vasily Zaitsev, would become iconic snipers of the Russo-German War. Both were from humble stock and both have been immortalized on the silver screen. In 2001, Paramount Pictures released *Enemy at the Gates*, based on William Craig's 1973 non-fiction account *Enemy at the Gates: The Battle for Stalingrad*. Similarly, 20th Century Fox released *Battle for Sevastopol* in 2015, which traces the rise of Pavlichenko from history student to record-breaking sniper. Throughout the course of the war, Pavlichenko racked up an impressive 309 confirmed 'Fascist' kills, while Zaitsev claimed 225 kills.¹⁰⁸

In Stalingrad, Red Army snipers deliberately targeted and preferred German officers. As an example, the German 259th Infantry Division lost three regimental commanders to sniper kills in a three-week span.¹⁰⁹ Although the Wehrmacht did employ German snipers in Stalingrad, urban combat was not their forte. In fact, German doctrine on urban fighting was more focused

¹⁰⁵ Ibid., 83.

¹⁰⁶ Pavlichenko, *Lady Death*, 393-433.

¹⁰⁷ Ibid., 652.

¹⁰⁸ Ibid., 191.

¹⁰⁹ Beevor, *Stalingrad*, 137.

on small villages than on cities. Moreover, the Germans never expected to encounter large-scale urban combat.¹¹⁰ When they did, such combat revealed a cardinal weakness in German doctrine.

Because the Wehrmacht was more accustomed to rapid breakthroughs using a combination of tanks, airpower and infantry, such a landscape as Stalingrad allowed even poorly equipped Soviet infantry units to seriously hamper German progress. Quite frankly, the Wehrmacht was totally ill-prepared to deal with what they called *Rattenkrieg* (war of the rats). The possibility that a Soviet sniper might be lurking beneath every pile of rubble, in sewers or on rooftops exacted a psychological toll on the German psyche and contributed to massive cases of battle fatigue and desperation. Halder's diary entry for 20 September 1942 states, "In Stalingrad we are beginning to feel the approaching exhaustion of our assault troops."¹¹¹

During his stint in the Red Army, Boris Gorbachevsky had the opportunity to observe the effects from both Soviet and German snipers during his time on the Eastern Front. He assessed that German snipers tended to keep their distance when firing at Soviet targets.¹¹² Vasily Zaitsev, the famous sniper of Stalingrad also noted a slight tactical variation between German and Red Army snipers. According to Zaitsev, German snipers typically preferred to take up positions within their own line of defense, while Soviet snipers crawled to the edge of their own front lines.¹¹³

Whether this decreased overall effectiveness remains to be seen and has yet to be effectively tabulated in prevailing historiography. On one occasion, however, Gorbachevsky related how he had been shot by a German sniper in the left arm during the fighting at Rzhev. He

¹¹⁰ Kay, Rutherford and Stahel, *Nazi Policy on the Eastern Front, 1941*, 1142.

¹¹¹ Franz Halder, *War Journal of Franz Halder* (Historical Division, 1939), 7:396.

¹¹² Gorbachevsky, *Through the Maelstrom*, 239.

¹¹³ Vassili Zaitsev, *Notes of a Russian Sniper*, ed., Neil Okrent, trans. David Givens, Peter Kornakov and Konstantin Kornakov (London: Frontline Books, 2009), 148.

also remarked that “there were a lot of ace snipers in the Germany army, and their optical sights were far superior to ours.”¹¹⁴ This would explain why German snipers preferred to take longer shots. Lyudmila Pavlichenko related in her memoir that most of her shooting was done at relatively close range, typically no more than 400 meters.¹¹⁵ While not a major force multiplier, snipers nevertheless contributed to enemy attrition both physically and psychologically in a manner unmatched by the Wehrmacht.

Stalingrad provided the Red Army the ideal situation whereby they adjusted accordingly in order to cultivate tactics which obviated the German blitzkrieg and forced the Wehrmacht to fight on Soviet terms. For all intents and purposes, the rested and refitted German army should have been able to steamroller their way through Stalingrad. Indeed, by the time German troops crossed the Don River on their approach into Stalingrad proper, they had about 170,000 men, 500 tanks and 3,000 artillery pieces. The Soviets defended with 90,000 troops, 120 tanks and 2,000 artillery pieces.¹¹⁶ In terms of both troop and tank strength, the Soviets defending Stalingrad were at a striking disadvantage.

Nevertheless, General Chuikov masterfully exploited the German aversion to close-quarters combat to Soviet advantage. He quickly recognized that the key infantry weapons employed in Stalingrad would be the sub-machine gun, the grenade and the sniper.¹¹⁷ Moreover, the effects created by sustained Luftwaffe air attacks reduced Soviet city centers to piles of rubble, creating a deadly killing ground for German infantry.

¹¹⁴ Gorbachevsky, *Through the Maelstrom*, 239, 343.

¹¹⁵ Pavlichenko, *Lady Death*, 161.

¹¹⁶ Christer Jorgensen, ed., *Great Battles: Decisive Conflicts That Have Shaped History* (Bath: Paragon Books Ltd, 2010), 217.

¹¹⁷ Beevor, *Stalingrad*, 153.

Lest one think the Red Army was expertly prepared for urban combat, it must be emphasized that, similar to German tactical doctrine, Soviet urban fighting tactics were an afterthought. After the German invasion began in 1941, the inaugural year of fighting provided the Soviets with little concrete experience in urban combat. Notwithstanding the numerical superiority of the German army at Stalingrad, the fact that the Soviets were able to stop the Germans is directly related to an analytical and innovative comprehension of technology, an effective employment of resources and heavy reliance on the initiative and flexibility of individual soldiers and junior officers.¹¹⁸

Because German attacks in cities routinely involved large numbers of tanks, Red Army defenders utilized a lesson learned from their Finnish adversary...the Molotov cocktail. Rather than taking on a tank outright, Red Army soldiers channeled German tanks towards anti-tank zones, in which handfuls of anti-tank crews waited. Once in the zone, anti-tank guns and Molotov cocktails annihilated German tanks.¹¹⁹ Additionally, Chuikov utilized the few Russian tanks at his disposal as stationary firing points within individual buildings.¹²⁰

Such tactical defensive improvisations within Stalingrad also included the transformation of interior rooms within buildings as fortresses. These fortresses served as resistance centers and it was not uncommon for opposing forces to hole up in different floors of the same building and then battle for control of that single structure. In fact, a Stavka directive dated 14 October 1942 declared that “each house, street and block be turned into a fortress, capable of extended

¹¹⁸ Stone, “Stalingrad and the Evolution of Soviet Urban Warfare,” 196.

¹¹⁹ *Ibid.*, 201.

¹²⁰ Chuikov, *The Battle for Stalingrad*, 70-72.

resistance.”¹²¹ Chuikov took this directive to heart and employed another innovative tactic within the ruins of Stalingrad.

The employment of storm-groups in Stalingrad, comprised of small parties of soldiers, proved a significant innovation in Red Army tactical doctrine. Chuikov told his officers, “...the commander of all units and formations are not to carry out operations like whole units...the offensive should be organized with tommy guns, hand grenades, bottles of incendiary mixture and anti-tank rifles.”¹²² These limited hit and run assaults kept the Germans off-balance and allowed the Red Army to recapture strategic strongpoints within Stalingrad.¹²³ The defensive battle for Stalingrad provided the context for the Stavka to not only allow combat leaders the freedom to think on their own, it also expanded its offensive planning to strategic proportions.¹²⁴

Snipers, storm-groups and mobile rockets were not the only tactical innovations the Red Army utilized to blunt the Wehrmacht’s progress during the Russo-German War. Another potential weapon lay in the use of guerilla forces. By 1942, the Stavka decided to expand partisan war to incorporate local Soviet citizens living under German occupation with the caveat that they (the Stavka) assumed control over all partisan forces. Military officers were assigned to lead guerilla bands, enforce discipline, train to a common standard and assign specific missions.¹²⁵

¹²¹ Harold S. Orenstein, trans., *The Winter Campaign 1941-1942*, vol. 2 of *Soviet Documents on the Use of War Experience* (New York: Frank Cass, 1991), 240-41.

¹²² Chuikov, *The Battle for Stalingrad*, 150.

¹²³ Stone, “Stalingrad and the Evolution of Soviet Urban Warfare,” 204.

¹²⁴ David M. Glantz, “Soviet Military Strategy during the Second Period of War (November 1942-December 1943): A Reappraisal,” *The Journal of Military History* 60, no. 1 (1996), 117-18.

¹²⁵ Lester Grau and Michael Gress, eds., *The Partisan’s Companion*, rev. ed. 1942 (Philadelphia: Casemate, 2011), 184, Kindle.

Part of the appeal of joining a partisan band lay in the patriotic zeal fomented by the nature of the Russo-German War. To the Wehrmacht, the invasion of Russia was part of their leaderships' strategic plan. They must expand to the east in order to feed the German masses.¹²⁶ However, to the average Soviet citizen, Hitler's invasion instantly became the Great Patriotic War. To this day, Russians old enough to remember this conflict still refer to it as such.

Much like most American citizens on 8 December 1941, a spirit of revenge arose in the breasts of Russian men, women and children. Their Motherland had been invaded by ruthless Fascists. Nothing less than a merciless, scorched earth policy would quench the hatred burning in Soviet hearts.¹²⁷ This helps explain the radicalization that characterized the fighting on both sides of the conflict.

Prior to Operation Barbarossa, the Red Army was deployed in Poland, well-ahead of its forward defensive lines per the backroom agreement between Stalin and Hitler. When Germany invaded on 22 June 1941, large concentrations of Russian troops, Jews, Gypsies and others considered *untermenschen* by the Germans were instantly behind enemy lines. Hitler's Commissar Order, dated 6 June 1941, essentially relieved the Wehrmacht of any responsibility to conduct themselves according to international law.¹²⁸

Under SS-Reichsführer Heinrich Himmler's direction, specialized death squads called Einsatzgruppen went behind invading German soldiers with the express purpose of rounding up surviving stragglers. Additionally, Order Police Battalions comprised of civilian law enforcement personnel and Gestapo agents supplemented Himmler's forces. Captivity, however,

¹²⁶ Kay, Rutherford and Stahel, *Nazi Policy on the Eastern Front, 1941*, 108.

¹²⁷ Stalin, Radio Broadcast, July 3, 1941.

¹²⁸ Halder, *War Journal*, 2:335.

was not to be the fate for those countless unfortunates who were snagged. The Nazis did not discriminate when it came to those whom they targeted for extermination.¹²⁹

Due to the Wehrmacht's rapid advance once the invasion was underway, the Einsatzgruppen were able to move into cities and towns with little delay. As early as 2 July 1941, Himmler's "iron brooms" arrived in Vilna, Lithuania and began rounding up people to shoot. The brutality of the Einsatzgruppen, Police Battalions and the Gestapo secret police knew no bounds. Elderly Lithuanian Jews were dragged from their homes and ordered to dance in the streets, after which their beards were set on fire.¹³⁰ Thousands were captured or killed, while others took their weapons into the forests to resist. These forces formed the foundation for the partisan resistance movement.¹³¹

To the countless number of Red Army soldiers trapped behind enemy lines, part of Stalin's 3 July 1941 radio address included a section specifically directing that guerilla units be formed in enemy occupied regions. Everything from the blowing up of bridges, setting forest fires and destroying railways was listed as acceptable practice with the result that, "They must be hounded and annihilated at every step, and all their measures frustrated."¹³²

During the Russo-German War, the Soviet Union fielded the largest guerilla force in history. Over 1.1 million men and women served as partisans in approximately 6,000 separate detachments.¹³³ Moreover, Soviet historians credit partisans with tying down ten percent of the

¹²⁹ Richard Rhodes, *Masters of Death: The SS-Einsatzgruppen and the Invention of the Holocaust* (New York: Vintage Books, 2003), 921-33, Kindle.

¹³⁰ Allan Levine, *Fugitives of the Forest: The Heroic Struggle of Jewish Resistance and Survival During the Second World War* (Guilford: The Lyons Press, 2009), 26.

¹³¹ Grau and Gress, *The Partisan's Companion*, 144.

¹³² Stalin, Radio Broadcast, July 3, 1941.

¹³³ A. S. Knyaz'kov, "Partzanskoe dvizhenie v Belikoy Otechestvennoy Voyne 1941-1945," *Voennaya Entsiklopediya*. vol. 6 (Moscow: Voenizdat-Ministry of Defense, 2002), 273.

German army and with killing almost a million enemy soldiers. Clearly, partisans deserve a measure of credit for the eventual Soviet victory.¹³⁴

Initially, partisan units did not fare well. Being in occupied Poland, many partisans did not know the locals and did not speak Polish. Due to ethnic differences and racial hatred, many Polish citizens did not immediately flock to Soviet partisan bands as expected. Additionally, there was little logistical support available to clothe, arm, or feed partisans. What little they managed to scrounge came from the locals or dead Nazis. This changed in 1942.¹³⁵

In September 1942, Stalin decreed the People's Commissariat on Defense Order 189, effectively giving legitimacy and state sanction to the partisan movement. Moreover, the decree expanded the movement to include all Soviet nationalities that had German soldiers in their territory. Partisan units were systematically organized under a military command structure and formed into companies and platoons.¹³⁶ Without a doubt, the partisan movement was every bit as important to the Soviet cause as was their regular armed forces. It also proved extremely effective.

By July 1944, there were some 280,000 partisans under arms. Besides killing, wounding or capturing a million enemy personnel, partisan forces destroyed 4,000 armored vehicles, 58 armored trains, 10,000 railroad engines, 2,000 railroad bridges and 65,000 trucks.¹³⁷ So successful was partisan activity, the Wehrmacht took special measures to fight against these forces.

¹³⁴ Grau and Gress, *The Partisan's Companion*, 70.

¹³⁵ Ben Shepherd and Juliette Pattinson, eds., *War in a Twilight World: Partisan and Anti-Partisan Warfare in Eastern Europe, 1939-45* (New York: Palgrave MacMillan, 2010), 36.

¹³⁶ Grau and Gress, *The Partisan's Companion*, 207.

¹³⁷ *Ibid.*, 233.

During the American Civil War, both sides waged irregular warfare, but Confederate guerilla action was more efficacious, primarily because it spawned significant changes in Union policies. One of those changes involved the issuance of the Lieber Code in 1863, which outlined specific guidance for how to deal with partisans.¹³⁸ Similar to the Union army of 1863, the Wehrmacht also employed means to combat Soviet partisans.

For the average German soldier, he did not require a specialized order to liquidate suspected partisans. The Commissar Order, issued prior to Barbarossa, already placed anti-partisan activity beneath the umbrella of accepted Wehrmacht behavior.¹³⁹ What was needed was a delineation of which German units would swerve from their normal combat mission to form anti-partisan hunting parties.

In conjunction with the German invasion, anti-partisan divisions were formed and dispatched to regions where significant partisan activity was reported. Areas in the Balkans as well as occupied Poland drew the majority of German anti-partisan forces. Units such as the German 369th and 707th Infantry Divisions operated in Yugoslavia and around Minsk and yielded enormous recorded body counts and captured partisan weapons.¹⁴⁰

In recognition for their efforts, Hitler authorized the manufacture and award of a special badge to be worn on the German uniform tunic for all Wehrmacht troops who were engaged in fighting partisan groups. The award was the *Bandenkampfabzeichen*, or Anti-Partisan Badge and was instituted on 30 January 1944. Like the German Wound Badge, the Anti-Partisan Badge

¹³⁸ Daniel E. Sutherland, *A Savage Conflict: The Decisive Role of Guerillas in the American Civil War* (North Carolina: University of North Carolina Press, 2009), 1669, Kindle.

¹³⁹ U.S. National Archives and Records Administration, *Directives for the Treatment of Political Commissars [Commissar Order] (June 6, 1941)*, Nuremberg Trial, National Archives Record Group 238m, Entry 175, Box 27, NOKW-1076 (College Park, MD).

¹⁴⁰ Ben Shepherd, "With the Devil in Titoland: A Wehrmacht Anti-Partisan Division in Bosnia-Herzegovina, 1943," *War in History* 16, no. 1 (2009), 81.

came in three grades: bronze, silver and gold representing 20, 50 and 100 days of anti-partisan combat respectively.¹⁴¹ The badge is rarely seen in wartime photos as many German troops considered it a liability due to the nature of the fighting.

While it is undeniable that the Wehrmacht surprised the Soviets on 22 June 1941 and wrought tremendous gains during the opening weeks of the invasion, the Soviets reinvented themselves in late 1941 and utilized the aforementioned tactics to overcome their opponent. No longer content to simply defend the Motherland, by late 1942, the Stavka had planned and executed a series of bold counterstrokes to exacerbate the defeat of the German Sixth Army.

Known as Operation Little Saturn, the Soviets took their cue from Isserson's theory regarding the simultaneity of breaking through echeloned defenses and shifted their Second Guards Army to defeat the German Fifty-Seventh Panzer Corps at the Aksai River, while the Soviet Southwestern Army annihilated the Italian Eighth Army defending the Don River. At the same time, in the Kotelnikovskaya operation, the Stalingrad Front drove the German Fourth Panzer Army back toward Rostov. The Stavka then extended its offensive operations northward along the Don, striking and defeating German and allied armies in succession.¹⁴²

While it is obvious that the Red Army had indeed turned the tide of the war by late 1942, much of the principal historiography relating to the Russo-German War continues to buttress a handful of salient myths, which belies the fact that by the end of 1942, the Soviets were clearly outfighting the Germans.¹⁴³

¹⁴¹ Blass, *Der Lohn der Tat*, 29.

¹⁴² Glantz, "Soviet Military Strategy during the Second Period of War," 121-2.

¹⁴³ Liedtke, *Enduring the Whirlwind*, 418-23. Kindle.

The first myth postulates that the Germans captured or killed many more times the number of Soviets during the Russo-German War, thus cementing their reputation as the premier fighting force of the war. This is false. At most, the ratio of Soviet losses in favor of the Germans was 4.27 to 1.¹⁴⁴ Hardly the 10 to 1 ratio often spouted by revisionist historians with a pro-German bent. This myth gets its fuel from only looking at figures during the first year of the war, which evinced staggering numbers of killed and captured Red Army troops.

The second myth argues that the Wehrmacht lacked the manpower to sustain its losses and slowly dwindled in size as the war progressed. Between 22 June 1941 and 30 June 1942, the Wehrmacht actually increased its size by 110,000. Additionally, from 1 July 1942 to 30 June 1943, the Wehrmacht again budded by adding 365,000 men. Total German losses from the outset of Barbarossa to 30 June 1943 ring in at 3,965,000 men. Amazingly, they were not only able to replace those losses, but actually increased their numbers by 475,000.¹⁴⁵

Myth number three claims the Soviets had vastly more men in the field at any one moment in time than did the Germans. This notion is also completely false. David Glantz, in *When Titans Clashed*, shows that on the day Barbarossa began, German troops outnumbered frontline Soviets with 3,118,910 soldiers to 2,743,000 Red Army troops for a ratio of one Red Army soldier for every 1.4 Germans.¹⁴⁶ This trend continued until 1 December 1942 when the Soviets for the first time outnumbered the Germans. However, the ratio is a trifling 1.52 to 1 and yet the Germans were still unable to advance.

¹⁴⁴ Glantz and House, *When Titans Clashed*, 390-1.

¹⁴⁵ Burkhardt Müller-Hillebrand, *Das Heer 1933-1945: Entwicklung des Organisatorischen Aufbaues Band III*, (E.S. Mittler & Sohn, 1969), 110.

¹⁴⁶ Glantz and House, *When Titans Clashed*, 383.

This is all the more perplexing considering the fact that the Germans were able to reverse their losses in June 1942, just in time for Operation Blue. Despite General Manstein's assertion that "German troops, convinced of their superiority as soldiers...did much to compensate for the enemy's numerical preponderance," the Germans proved incapable of besting an enemy that, at the very most, outnumbered them 1.93 to 1 by the summer of 1943.¹⁴⁷ Interestingly, the traditional narrative touts the defensive prowess of the Wehrmacht. If that were the case, why don't casualty figures reflect this?

The fourth myth avers the Germans lost in Russia because they were fighting a two-front war and couldn't deploy all their men in the east. While the Germans were fighting in North Africa, they only allocated two divisions for that theatre. Rather than waging a two-front war like they did in 1914, the Germans were merely protecting their borders just as the Soviets were theirs by keeping a sizable portion of their reserves in the Far East to keep an eye on Japan. It really was not until late 1943 or mid-1944 that Germany truly had their hands full fighting a two-front war and by that stage of the war, Germany had already lost.¹⁴⁸

The final myth argues the German army failed to keep up production in tanks or equipment. In actuality, German tank production increased both in number *and* quality between 1941 and 1942, and yet, they were still unable to press through to Moscow during Operation Typhoon. By 1 July 1943, Soviets tanks only outnumbered Germans tanks by a ratio of 1.84 to 1.¹⁴⁹ Given this near parity in tank numbers, only a superiority of Soviet armor explains how the Red Army managed to stop the Wehrmacht.

¹⁴⁷ Manstein, *Lost Victories*, 441.

¹⁴⁸ TIK, "The Numbers Say it All"

¹⁴⁹ *Ibid.*

Two

Tanks are a new and special weapon-newer than, as special, and certainly as valuable as the airplane. – General George S. Patton Jr.

The Germans were ardent students of history and if the Great War taught them anything, it taught them the value of the tank. In fact, nowhere had the Allies succeeded in ending the stalemate of trench warfare, except where tanks had allowed British infantry to advance 3,000 meters with negligible casualties, a veritable miracle concerning trench warfare.¹ Frankly, tanks terrified German soldiers during the Great War, and the very men who would command troops in battle along the Eastern Front, never forgot the lessons of the previous war.

The tank, or *Panzerkampfwagen* (PzKw), as the Germans called it, was destined to spearhead Wehrmacht victory over the Soviets. The images most often invoked when one contemplates the Eastern Front involve tough looking German soldiers, dressed in smart SS camouflage, walking either ahead or behind Panther or Tiger tanks. Even the majority of artwork depicting scenes from the Battle of Kursk highlights German armor, particularly the Tiger tank as if it were the only thing that mattered. The reasons for this are understandable.²

After all, there is something visually appealing about German armor. Perhaps it is the striking camouflage paint schemes, which adorn various vehicles. Or, it may also be the panzer commander in his dashing black uniform, death's head badge and black beret.³ Whatever the reason, American, British and even Soviet tanks appear lackluster when compared to the German

¹ Arthur Cotterell, *Chariot: From Chariot to Tank, The Astounding Rise and Fall of the World's First War Machine* (New York: Overlook Press, 2004), 293.

² Alex Preston, "This man owns the largest collection of Nazi artifacts," *New York Post*, June 27, 2015.

³ George Forty, *German Tanks of World War Two* (London: Arms and Armour, 1999), vi.

panzers. Even the German word for tank, “*panzer*,” suggests power. However, the old proverb that “beauty is only skin-deep” aptly applied to the Wehrmacht’s mechanized forces, which, as will be later discussed, were really not all that mechanized.

When Germany began flexing her military muscle during the years leading to Hitler’s invasion of Poland in September 1939, Germany’s tank park was abysmal with a total of just 1,680 tanks. When Hitler launched his invasion of Western Europe in the spring of 1940, the French and British had 4,204 tanks compared to 2,582 German tanks.⁴ In only three days of combat against French tanks in May 1940, the Third and Fourth German Panzer Divisions lost 25 percent of their tanks.⁵ Given these statistics, one wonders how the Germans were able to defeat the Western Allies so quickly.

When it came to their tank arm (*panzerwaffe*), what the Germans lacked in quality they made up for in utility. German Army *Regulation 300 Truppenführung*, written in 1933 by Generals Ludwig von Beck, Werner von Fritsch and Otto von Stulpnaegel, contains an entire section devoted to armored fighting vehicles. In fact, specific instructions address attacking in deeply echeloned formations, moving at maximum speed and using the supporting elements of aircraft and infantry.⁶ Known as *bewegungskrieg*, Commander-in-Chief of the German Army, Walther von Brauchitsch, ordered the immediate implementation of this doctrine as early as 1938.⁷

⁴ Thomas L. Jentz, ed., *Panzertruppen: The Complete Guide to the Creation & Combat Employment of Germany’s Tank Force 1933-1942* (Schiffer Publishing, 1996), 120-121.

⁵ Forczyk, *Tank Warfare on the Eastern Front*, 520, Kindle.

⁶ Bruce Condell and David T. Zabecki, eds., *On the German Art of War Truppenführung: German Army Combat Manual for Unit Command in World War II* (Pennsylvania: Stackpole Books, 2001), 193.

⁷ Walther von Brauchitsch, *Arbeitsgrundlage für das planvolle Weiterentwickeln aller schnellen und beweglichen Truppen* (Berlin: Oberbefehlshaber des Heeres, 1938), 4.

Leading panzer commanders like Heinz Guderian, Hermann Hoth and Erwin Rommel took *Triuppenfuhrung* to heart and executed textbook attacks during the invasion of Western Europe, relying upon combined-arms coordination via an intra-tank radio system. In mid-May 1940, Rommel noted, “The French troops were completely overcome by surprise at our sudden appearance, laid down their arms and marched off to the east beside our column.”⁸ Without a doubt, the Germans utilized their tanks in a highly effective manner as they sliced through Poland and Western Europe in 1939-1940.

At the outset of Barbarossa, the Wehrmacht fielded seventeen panzer divisions, equipped with 6,364 tanks against 22,600 Soviet tanks.⁹ Regarding German tanks, the vast majority consisted of the light Czech-built PzKw 35(t), PzKw 38(t) and PzKw III medium tanks. Each of these tank variants gave a fairly good showing in combat during the opening months of Barbarossa. By 1942, the PzKw 35(t) and 38(t) were pretty much obsolete and replaced by the PzKw III and IVs. While these two tank variants managed to take out Soviet light tanks with relative ease, their low firepower and thin armor proved woefully inadequate when up against Soviet medium and heavy tanks.¹⁰

This was due to the Wehrmacht’s lethargy to develop technical requirements for a new medium tank. Even General Guderian remarked in 1941, “German vehicle production was insufficient to meet our greatly increased requirements.”¹¹ Additionally, Hitler failed to prioritize tank production before the launch of Barbarossa and he allowed his manufacturing base to operate at peacetime standards well into 1942.¹²

⁸ Erwin Rommel, *The Rommel Papers*, ed. B.H. Liddell Hart (New York: Harcourt Brace, 1953), 21-22.

⁹ Krivosheev, *Soviet Casualties and Combat Losses in the 20th Century*, 349-58.

¹⁰ Forty, *German Tanks of World War Two*, 48-51.

¹¹ Guderian, *Panzer Leader*, 2835.

¹² Forczyk, *Tank Warfare on the Eastern Front*, 483, Kindle.

Unfortunately, this meant there were not enough Panzer III and IV medium tanks to outfit all existing panzer divisions for the invasion of Russia. Even though Guderian quipped in 1941 that obsolete PzKw I and IIs had been almost completely replaced by PzKw III and IVs, this was certainly not representative throughout all three German army groups.¹³ In actuality, the majority of panzer divisions crossed into the Soviet frontier with more light tanks than medium.

General Erhard Raus, commander of Army Group North's Sixth Panzer Division, stated the predominant panzer model was the light PzKw 35(t), whose frontal armor had a maximum thickness of only 25mm. According to Raus, only one company out of each battalion possessed some PzKw IVs and a few PzKw IIIs.¹⁴ Apparently, the German High Command did not see this as particularly concerning in 1941. Consequently, panzer commanders planned to repeat what had worked so well in Poland, Belgium, France and the Netherlands. Russia, however, was not Western Europe.

During the planning phases for Barbarossa, Hitler and his Command Staff welcomed the fact that the Soviet Union was virtually a flat, table-top steppe land ideally suited for lightning-fast panzer operations, yet they ignored its numerous rivers, dense forests and immense distances.¹⁵ Additionally, the Germans were particularly surprised by the nearly universal absence of all-weather roads in the Soviet Union. Unpaved roads exacerbated the level of wear and tear on armored vehicles, causing widespread breakdowns.¹⁶ Such rapid advances across the steppe created a massive dust problem.

¹³ Guderian, *Panzer Leader*, 2839.

¹⁴ Raus, *Panzer Operations*, 11.

¹⁵ Forczyk, *Tank Warfare on the Eastern Front*, 263, Kindle.

¹⁶ *Ibid.*, 370.

Indeed, a major reason why German tanks bogged down at alarming rates was attributed to the thick dust clouds that clogged the pristine air filters. The meticulous workings of tank internals contributed to endemic breakdowns across the German tank corps. One German tank gunner assigned to the 13th Panzer Division remarked that as early as 30 June 1941, one-third of his company's tanks were out of commission and in need of repair.¹⁷ While German tank production steadily improved from 1942 to 1945, it was never quite able to match that of the Soviets.

Throughout the war, the standard system of German tank manufacture remained the progressive batch system. This involved the processing of bulk material in batches through each step of the assembly process. For example, vehicles had to be lifted by crane or pulled forward through a series of stationary stages until a key component was installed, i.e. a transmission, turret or gearbox. Then, after the sub-assemblies for that particular stage were meticulously tested and re-tested, the tank moved to another stage until that current batch was complete.¹⁸ At first glance, this method may have seemed efficient, but it fell short of the continuous flow process which Henry Ford outsourced to the Soviet Union.

The German war industry took on a blitzkrieg style of production methodology. This was a result of Germany lacking the manpower resources and raw materials for a prolonged war. Armament production was gauged in such a way as to supply the Wehrmacht for a quick war. Thus, during the period September 1939-July 1940 priority was given to the Army. With the fall of France on 22 June 1940, priority shifted to the Luftwaffe.¹⁹ Then, between September and

¹⁷ Willi Kubik, *Erinnerungen eines Panzerschützen 1941-1945. Tagebuchaufzeichnung eines Panzerschützen der Pz.Aufkl.Abt. 13 im Russlandfeldzug* (Würzburg, 2004), 25.

¹⁸ Forty, *German Tanks of World War Two*, 15.

¹⁹ Alan S. Milward, *The Germany Economy at War* (London: University of London, 1965), 34-40.

December 1940, priority shifted from aircraft to U-boat construction for the Battle of the Atlantic. Operation Barbarossa, in June 1941, saw priorities given to ammunition, guns, tanks and aircrafts; and thus, U-boat production was reduced.

It is apparent from German war production studies that the Nazi armaments industry suffered from a lack of focus. Hitler tried to plug production gaps in his Wehrmacht according to the nature of the theatre in which they were engaged. For example, the U-boat fleet never received the necessary weapons systems or required logistics to prosecute an effective maritime war.²⁰ As a result, the Kriegsmarine was constantly undersupplied in surface vessels. Had Hitler given more attention to Plan Z, which proposed increasing U-boat and surface vessel quantities, Germany could conceivably have won the Battle of the Atlantic, and perhaps the entire war.

Because German tanks tended to be complicated and elaborate, production time took longer on average than the Soviet, British and American process. Moreover, the overriding goal of the German production process was not standardized equipment but multiple types of weapons, all produced in small quantities. This resulted in an absence of economy of scale and scope.²¹ This can be seen in Hitler's fixation that "bigger was better" when it came to weapons development.

Germany sunk more Reichsmarks (RM) into producing Nazi "super-tanks" than simply rolling off scores of PzKw IIIs and IVs, arguably two of the best tanks of the war. At a cost of 321,500 RM (\$128,600) per one Tiger II tank, Germany *could* have built three PzKw IV tanks for every Tiger II.²² While the Skoda, Panther and Tiger tanks were absolutely stunning in

²⁰ Ioannis-Dionysios Salavrakos, "A Re-assessment of the German armaments production during World War II," *Scientia Militaria, South African Journal of Military Studies* 44, no. 2 (2016), 133.

²¹ *Ibid.*, 113.

²² *Ibid.*, 122.

appearance and firepower, they could be likened to the British Jaguar motorcar of the 1960s. Sleek, beautifully designed...but a disappointment under the hood.

Unlike Soviet tanks, all German tanks were fitted with gasoline engines.²³ Whether it was a six-cylinder or twelve-cylinder model, Maybach engines guzzled down fuel, which was often in short supply due to the Germans overextending their logistics tail. Moreover, because of the Maybach's low power output, the PzKw III and IVs were built in the 24 to 27-ton range, effectively making them medium tanks.²⁴ Hardly a match for the heavy Soviet KV-I.

While gasoline engines made for a cleaner running tank, the inherent danger of gasoline versus diesel proved disastrous when struck with armor piercing ammunition. Gasoline has a flash point far lower than diesel, meaning it takes less heat to ignite than diesel. This unfortunate chemical byproduct gave rise to the post-war nickname "Ronson" for another gasoline-powered tank, the U.S. M-4 Sherman. When struck, the Sherman would often burst into flames like a Ronson cigarette lighter, hence the morbid sobriquet.²⁵

Even the vaunted German Tiger and Panther tanks faced similar issues because of their Maybach engines. Wolfgang Faust, a German tanker who fought on the Eastern Front in 1943, witnessed a Panther tank being struck in its turret by a Soviet tank during a three-day scuffle. Faust described how the explosion separated the entire turret from the hull and then watched in horror as the crew burned in the hull, "covered in the seeping gasoline."²⁶ While certainly

²³ Forty, *German Tanks of World War Two*, vii.

²⁴ Alexander Lüdeke. *Weapons of World War II* (Bath: Parragon, 2011), 68-71.

²⁵ Paul Richard Huard, "The M-4 Sherman Tank Was Hell on Wheels – And a Death Trap," *War is Boring*.

²⁶ Wolfgang Faust, *Tiger Tracks: The Classic Panzer Memoir*, trans. Sprech Media (Bayern Classic Publications, 2016), 99, Kindle.

noteworthy, engine problems were not the only challenge for German panzers. Initial tank actions along the Eastern Front proved a wake-up call for both the Germans and the Soviets.

The PzKw III turned out to be the main battle tank employed during the first part of the Russo-German War. Its main armament consisted of a 3.7cm gun, eventually upgraded to the short-barreled 5cm KwK 38 L/42.²⁷ Equipped with armor piercing rounds, the PzKw III could defeat any Soviet light tank out to 500 meters and could even damage a T-34 if able to get in a close-range shot.

For the majority of German army officers, the destruction of enemy tanks was superfluous to a tanks primary mission, which was to rapidly penetrate the enemy's front and scatter enemy infantry. The notion of tank-on-tank combat was foreign to the Wehrmacht. Nevertheless, when it came to taking out enemy tanks, Germans preferred to use small, easily-concealed anti-tank guns such as the *Panzerabwehrkanone 37* (Pak 37). High-velocity anti-tank guns such as the Pak 37 could penetrate 30-40mm of armor at ranges up to 500 meters.²⁸ This explains why post-battle statistics reveal such devastating losses of Soviet light tanks early in the war with the Soviets losing 14,805 of them by May 1942.²⁹

During the winter of 1940-41, the Red Army began turning things around. Given Stalin's First Five-Year Plan, the Soviets proved skilled at using off-the-shelf components in their tank factories. Additionally, Soviet tank designers copied the American-made Christie suspension and sloped-armor for their tanks, while the Wehrmacht was content to rely upon conservatively-designed tanks that were built in totally inadequate quantities.³⁰

²⁷ Forczyk, *Tank Warfare on the Eastern Front*, 503-06, Kindle.

²⁸ *Ibid.*, 515-17.

²⁹ TIK, "The Numbers Say it All"

³⁰ Forczyk, *Tank Warfare on the Eastern Front*, 452, Kindle.

The argument that the Soviets out produced the Germans in tank production is not without merit. Stalin spent around \$80 million on machine tooling and in 1929 sealed a deal with the Ford Motor Company, which transformed Soviet weapons production. Ford engineers designed, built and trained Soviet factory workers in assembly-line production at the vast Gorki automobile plant, which not only turned out Ford trucks but became the model for Red Army mechanization.³¹

In the late 1920s, Ford allowed hundreds of Soviet teachers, workers and engineers into his Highland Park plant to observe and participate in his groundbreaking training methods. Alexei Gastev, a Russian labor activist, praised the “continuous flow and rhythm of work” inherent in what he termed Fordizm.³² Ford’s contribution and influence over Soviet mechanization was so instrumental, *Fordizatsia* became a watchword for Soviet mass-production.³³ By 1935, the Soviet *Gorkovskii Avtomobilnii Zavod* (GAZ) factory became a carbon-copy of Ford’s Highland Park plant.³⁴

Copying the GAZ model, tank production was concentrated at the Leningrad Putilov Works and the Stalingrad Tractor Factory with an intended annual goal of 125,000 vehicles.³⁵ Although the Soviets did not achieve this pre-war tally, they still managed to enter the war with a huge stockpile of tanks, especially light tanks. On the day Barbarossa began, the Soviets had

³¹ Bean and Fowler, *Red Army Tanks of World War II*, 18.

³² Alexei Gastev, “Fordizm,” *Bol’shaya sovetskaya entsiklopediya* (Moscow, 1933), 131-35.

³³ David E. Greenstein, “Assembling Fordizm: The Production of Automobiles, Americans, and Bolsheviks in Detroit and Early Soviet Russia,” *Comparative Studies in Society and History* 56, no. 2 (2014), 259.

³⁴ Boris Shpotov, “The Ford Motor Company in the Soviet Union in the 1920s-1930s: Strategy, identity, performance, reception, adaptability,” *Institute of World History* 14, no. 93, 2-7.

³⁵ Bean and Fowler, *Red Army Tanks of World War II*, 16.

21,200 light tanks.³⁶ Contrary to popular narratives, the Red Army did not possess a profusion of KV-I heavy or T-34 medium tanks in 1941, but they did have some.

The evacuation of large Soviet industrial plants to the east disrupted production of medium and heavy tanks. Given their simplicity of construction, the Red Army turned out vast numbers of light tanks, which faced off against superior PzKw IIIs and IVs. Once the relocation and expansion of the Soviet armaments industry was finished in 1942, the Soviets opted to discontinue light tank manufacture and focused solely on producing medium and heavy tanks.³⁷

Along the four Soviet fronts initially deployed, the Red Army had approximately 447 KV-I and II heavy tanks, each armed with a 76.2mm main gun. Armor thickness was an impressive 90mm at the turret and 75mm in the front. Despite weighing in at 43 tons, the KV heavies were relatively fast and mobile.³⁸ To complement their heavy tanks, the Soviets had around 730 T-34 medium tanks on 22 June 1941, however, these KVs and T-34s still only made up 12 percent of available Soviet armor at the outset of the invasion.³⁹

Similar to German tank evolution, the Soviets experienced their fair share of ‘growing pains’ when it came time for a baptism by fire. In the opening weeks of Barbarossa, German tanks ran rings around Soviet troops resulting in large numbers of captured Red Army soldiers. Moreover, tank versus tank engagements were few and far between with the majority of Soviet light tanks destroyed by German anti-tank guns. In fact, the German *SturmGeschütz* (assault gun), or StuG as it was known, racked up far more Soviet tank kills in 1941 than did German

³⁶ Glantz and House, *When Titans Clashed*, 400.

³⁷ David Stahel, *Kiev 1941: Hitler's Battle for Supremacy in the East* (New York: Cambridge University Press, 2013), 38-44.

³⁸ Bean and Fowler, *Red Army Tanks of World War II*, 116.

³⁹ Forczyk, *Tank Warfare on the Eastern Front*, 898, Kindle.

PzKw IIIs and IVs.⁴⁰ The StuG's low silhouette and powerful 75mm L/48 main gun made it a proficient tank killer.

The Soviets were a quick study, however, and began reforming their tank divisions and rushing more medium and heavy tanks to the front by late 1941. During the first six months of 1941, 1,503 of the 1,684 tanks that rolled off the assembly-line floors were the heavy KV or medium T-34s.⁴¹ By September 1942, the Red Army had completely outfitted their four tank armies with medium and heavy tanks. Obviously, they were doing something right.

Indeed, new data extracted from the former Soviet Union's archival documents has revealed an incremental rise in the supply of armored vehicles, despite moving industrial production centers into the Russian interior. Looking at quarterly output statistics from 1941 to 1945, the Soviets consistently increased tank production each quarter, with the exception of the third quarter of 1945. By then, Germany was out of the war. Additionally, Soviet armored vehicle spending was more evenly spread out throughout the war, which prohibited any one project receiving disproportionate funding.⁴² While this certainly played to the Soviet's favor, the true test of any weapons system is always revealed on the battlefield.

The Battle of Kursk, fought in July 1943, goes down in history as one the greatest tank battles of all time. With Manstein's victory at Kharkov in February 1943, Hitler conferred with his generals about how best to exploit their recapture of Kharkov. As Hitler and his command staff pored over situation maps, they noticed a salient (bulge) in the Soviet lines had developed. Halder's replacement, General Kurt Zeitzler, suggested an attack on the salient.⁴³ If the

⁴⁰ Forty, *German Tanks of World War Two*, 75.

⁴¹ Liedtke, *Enduring the Whirlwind*, 2990. Kindle.

⁴² Mark Harrison, *Accounting for War: Soviet Production, Employment, and the Defence Burden, 1940-1945* (Great Britain: Cambridge University Press, 1996), 180-1.

⁴³ Barbier, *Kursk*, 28.

Wehrmacht could attack both “shoulders” of the salient simultaneously, they could “pinch-off” the Soviet forces within, effectively trapping them for destruction.

Hitler approved and the plan was code named Operation Zitadelle (Citadel). Army Group South, led by General Manstein would attack in Belgorod while General Günther von Kluge’s Army Group Center would hit Orel. The time set for Citadel was initially early May. By late April, the Soviet rainy season, which transformed roads into muddy quagmires would be over. Additionally, launching the attack in May would give the Germans a head start over the Soviets who would be prepping for their own renewed summer offensive. Unfortunately for the Germans, Citadel would not begin until early July.⁴⁴

A disagreement arose amongst Hitler’s top generals, which delayed Citadel by two months. Manstein believed the window of opportunity had already passed. Guderian, along with the new Minister of Armaments, Albert Speer, argued with Zeitzler over the availability of the newly produced Panther and Tiger tanks. The two men pointed out the numerous technical problems associated with the new tanks, which would reduce the overall number allotted for the operation.⁴⁵

Moreover, General Walter Model, Commander of the Ninth German Army, produced reconnaissance photographs revealing the Soviets had fashioned elaborate defensive networks in anticipation of the attack. Unlike Barbarossa, Kursk would not come as a surprise. Despite this revelation, General Kluge dismissed Model’s apprehension and appealed to Hitler’s fetish for the new super tanks. He downplayed Guderian’s concerns over the new tank’s “teething” problems and assured the Führer that the Panthers and Tigers were more than a match for the best Soviet

⁴⁴ Ibid., 30-32.

⁴⁵ Ibid., 38-39.

tanks. Guderian was adamant and he voiced it loud and clear to Hitler. The tension between Kluge and Guderian grew to the point that Kluge challenged Guderian to a duel!⁴⁶

Caught in the middle of all this pre-attack dithering was the Führer himself. Contrary to prevailing narratives, Hitler did not always circumvent his generals. In several respects, he actually listened and heeded their advice, thus transferring some of the blame for the Wehrmacht's defeat back on the military leadership. For two full days, Hitler and his generals hashed and rehashed Citadel.⁴⁷ In the end, the final date set for Citadel ended up 5 July 1943. By that time, the Soviets were more than ready.

Unlike the internal squabbling in the German High Command, Stalin and his generals were in one accord on how best to prepare for the German attack. In a meeting held on 12 April 1943, Stalin listened as Generals Zhukov, Vasilevsky and Antonov stressed the importance of using massed air attacks, coupled with tank and rifle units to denude German armor. Stalin assigned the defense of the Kursk salient to the Voronezh and Central fronts, commanded by Generals Nikolai Vatutin and Konstantin Rokossovsky respectively.⁴⁸

Operation Citadel marked the third major summer offensive of the Russo-German War. The previous three years had exacted a ponderous toll on both sides. In addition to millions of deaths, massive numbers of tanks, artillery pieces and ammunition had been expended and had to be replenished. The Germans tackled this issue by concentrating on building “bigger and better” tanks.⁴⁹

⁴⁶ Ibid.

⁴⁷ Dennis E. Showalter, *Armor and Blood: The Battle of Kursk, the Turning Point of World War II* (New York: Random House, 2013), 50-53.

⁴⁸ Barbier, *Kursk*, 45.

⁴⁹ Ibid., 166-71.

The problem with this, however, was new tanks required months of testing before they could confidently be deployed in battle. The Soviets must have subscribed to the “if it ain't broke, don't fix it” adage, because they simply rolled out massive amounts of their tried and true T-34s and KVs. Additionally, the Soviets received a boost in their tank numbers thanks to Lend-Lease to the tune of 6,000 British, Canadian and American models.⁵⁰

Even though scores of Panther and Tiger tanks participated in the Battle of Kursk, many broke down on the first day of the battle.⁵¹ Nevertheless, both sides suffered heavy losses in tanks, anti-tank guns, aircraft and men. After about ten days of savage combat, the Wehrmacht began a fighting retreat. Concerned over the Allied landings in Sicily on 10 July 1943, Hitler thought it best to ready his forces for what he perceived was the opening of the Allies second front.

Strategically, Kursk was a Soviet victory. Hitler and his Command Staff had no choice but to accept the fact that they could no longer sustain the losses suffered at the hands of the Red Army. David Glantz asserted that, “After Kursk, Germany could not even pretend to hold the strategic initiative in the East.”⁵² The Fourth Panzer Army alone lost 60 percent of its original strength at Kursk. Soviet losses were actually far greater than those of the Wehrmacht, yet they possessed the reinforcements to make up for it.

Epic armor battles like Kursk and Dubno-Brody provide historians a lens through which to compare each side of the conflict. Kursk was far too complicated an affair to categorically conclude that Red Army tanks *alone* drove the Wehrmacht from the field. There was more to it

⁵⁰ Ibid., 46.

⁵¹ Ibid., 69.

⁵² Glantz and House, *When Titans Clashed*, 175.

than that. To be sure, German tank commanders enjoyed better situational awareness than their Soviet counterparts and fielded some truly stellar tanks and assault guns.⁵³ Nevertheless, had Kursk been solely a tank on tank engagement, there is little doubt the Red Army would have exacted a greater level of victory than what occurred.

General Chuikov remarked, “German tanks did not go into action without infantry and air support. On the battlefield there was no evidence of the prowess of German panzer crews...the reverse was true...they operated sluggishly, extremely cautiously and indecisively.”⁵⁴ Indeed, German tanks were highly dependent upon other combatant arms of the Wehrmacht for success.

Excellent radios within each tank enabled tank commanders to coordinate combined-arms attacks on Red Army positions. The Soviets suffered from a lack of good radio communications, often relying on semaphore (flag signals) to coordinate movement and attacks. When it came time for tank versus tank, however, Soviet firepower made up for clumsily coordinated strikes.⁵⁵

German General Erhard Raus, Commander of the 6th Panzer Division, described his first encounter with Soviet tanks on the Eastern Front and stated, “These tanks were the super-heavy Russian model KV-I, the most dangerous heavy tank they possessed until the end of the war.”⁵⁶ Even the hyped up German anti-tank guns were anemic against the Soviet T-34s and KVs. A German artilleryman with the 71st Regiment described an encounter against T-34s and complained that their 37mm standard anti-tank shells “bounced off [them] like peas.”⁵⁷

⁵³ Forczyk, *Tank Warfare on the Eastern Front*, 420, Kindle.

⁵⁴ Chuikov, *The Battle for Stalingrad*, 33.

⁵⁵ Forczyk, *Tank Warfare on the Eastern Front*, 744, Kindle.

⁵⁶ Raus, *Panzer Operations*, 22.

⁵⁷ Josef Deck, *Der Weg der 1000 Toten* (Badenia Verlag Karlsruhe, 1978), 67.

Indisputably the best medium battle tank of World War II, the T-34 proved to be Stalin's "ace in the hole" against German tank design. The venerable T-34 had been in development for the previous six years but was not introduced into widespread service until January 1942.⁵⁸ Renowned for its sloped armor design, which deflected everything the Germans threw at it, (with the exception of 88mm shells) the T-34 was hard to beat. Moreover, when the intricately designed internals of German tanks froze or jammed during the Russian winter, the T-34 with its wide track base and Christie suspension soldiered on.

Unlike gasoline powered engines used in German tanks, the T-34s engine was a four-stroke, 12-cylinder diesel that generated an impressive 367kW at 1800rpm. It produced an excellent power-to-weight ratio and its range of operation was 290 miles compared to gasoline-powered tanks.⁵⁹ Rugged and simple, the august T-34 clearly overshadowed the best German panzers. Much of this was due to its inherent design.

The supremacy of Soviet armor design on the T-34 tank was substantiated and attested to during a 'reverse lend-lease' agreement, whereby the Soviet Union shipped from their Ural Tank Factory a brand-new T-34 to Maryland's Aberdeen Proving Ground in June 1942. After running the T-34 through a battery of tests, armor samples were sent to the Watertown Arsenal Laboratory in Watertown, Massachusetts, for metallurgical analysis. Armor samples were heat treated to extreme hardness levels and the overall assessment revealed the high chemical composition and mechanical properties of the armor.⁶⁰ According to historian Steven Zaloga, the

⁵⁸ Forczyk, *Tank Warfare on the Eastern Front*, 6640, Kindle.

⁵⁹ Bean and Fowler, *Red Army Tanks of World War II*, 91.

⁶⁰ *Experimental Report No. WAL. 640/91, Armor and Welding. Metallurgical Examination of Armor and Weld Joint Samples from Russian Medium Tank T-34 and Heavy Tank KV-1*, November 24, 1943 (Watertown Arsenal Laboratory, Watertown, MA), 1-9.

T-34 represented a “revolutionary leap in the “holy trinity” of tank design: firepower, armored protection and mobility.”⁶¹

It has been often said, “Imitation is the best form of flattery.” After the Germans got a taste of the T-34, an arms race ensued to see which side could “one-up” the other. Without a doubt, the T-34 came as a shock to the *panzerwaffe*. On 20 November 1941, a team of Army Ordnance officers arrived at the front to examine a captured T-34. Five days later, the German Armaments Ministry solicited contract bids to reverse engineer the T-34 as Germany’s newest medium tank. The Daimler-Benz Corporation was one of two to bid for the contract. The other was Maschinenfabrik Augsburg-Nürnberg (MAN).⁶²

Of the two firms, Daimler-Benz produced a tank closely resembling the T-34. It had 60mm of sloped armor protection on the front, weighed 34 tons and was powered by a MB 507 diesel engine. Hitler favored the Daimler-Benz model, but because the MB 507 had never been tested, MAN ended up producing the new PzKw V tank...better known as the Panther.⁶³ By early 1943, Panther tanks began appearing on the Eastern Front. Armed with a 75mm main gun, the Panther could knock out a T-34 head-on at 875 yards or an M-4 Sherman at over a 1,000. Like other gasoline-powered tanks however, it was highly flammable when hit in the right spot.

Vasiliy Bryukhov, commander of a Soviet T-34, described a duel with a Panther during fighting along the Second Ukrainian Front in 1944. After pulling out of a field on to a dirt road, Bryukhov spotted a Panther 400 meters away. As the Panther rotated its turret in Bryukhov’s direction, he ordered his gunner to fire an armor-piercing shell at the menacing Panther. When

⁶¹ Steven J. Zaloga, *Armored Thunderbolt: The U.S. Army Sherman in World War II* (Mechanicsburg, Stackpole Books, 2008), 10.

⁶² Forty, *German Tanks of World War Two*, 98-100.

⁶³ *Ibid.*

the loader delayed, Bryukhov knocked him over and fired the shot himself. Peering through the sights, he relayed, “A firework of sparks exploded on the armour of the German tank, and in an instant we saw flames engulf the Panther.”⁶⁴

Around the same time the Panther entered service, the PzKw VI, or Tiger tank graced the Eastern Front with its presence. Destined to be Germany’s über panzer, the Tiger was the heaviest German tank yet at 57 tons. The Tiger boasted an amazing 100mm of frontal armor protection, which meant the only way to take one out was to hit it where it was most vulnerable...the rear. By far, the most impressive and battle-changing element of the Tiger was its 88mm gun. Borrowed from the Luftwaffe’s anti-aircraft FlaK-88, the Tiger’s main gun was easily capable of ripping the turrets completely off T-34s.⁶⁵ While certainly awe-inspiring, the Tiger’s reign as “king of tanks” was short-lived.

In response to the Tiger, the Red Army began building a new heavy tank in 1943 to replace the aging KV-I. The end result was the Iosef Stalin (IS-85). Simply called the Stalin, this behemoth weighed 50.7 tons, had 120mm of armor protection and fired an earth-shattering 125mm main gun.⁶⁶

Not to be outdone, the Germans started developing the Maus (Mouse) tank, which Guderian sarcastically called “the gigantic offspring of the fantasy of Hitler.”⁶⁷ The Maus prototype debuted in the spring of 1944 and weighed an astronomical 189 tons! It was 38 feet long, 12 feet high and tall and sported a 128mm main gun.⁶⁸ The war ended before the Maus

⁶⁴ Vasilii Bryukhov, *Red Army Tank Commander: At War in a T-34 on the Eastern Front*, trans. Vladimir Kroupnik (South Yorkshire: Pen & Sword, 2013), 1264, Kindle.

⁶⁵ Forty, *German Tanks of World War Two*, 126.

⁶⁶ Bean and Fowler, *Red Army Tanks of World War II*, 138-41.

⁶⁷ Guderian, *Panzer Leader*, 5659.

⁶⁸ Forty, *German Tanks of World War Two*, 144.

could complete test trials and it is goes down in history as one of Hitler's many wonder weapons that never made it into combat.

As the war progressed, each side developed heavier, up-armored and more powerful tanks in an attempt to sustain the advantage of mobility. Ironically, the Wehrmacht lost the advantage of mobility almost as soon as they invaded. The vast majority of vehicles used were captured French trucks, which lacked spare parts and proved highly susceptible to mechanical failure.⁶⁹ Thus, at the outset of Barbarossa, Germany would have to rely upon a supplementary means of movement, one that consumed oats instead of gasoline.

An often-overlooked aspect of Germany's mechanized legacy concerns her reliance on horses. While the Soviets also used horses during the war, the perception that Germany only did at the end of the war has been propped up by propaganda, war movies and documentaries.⁷⁰ Despite the Wehrmacht's reputation as a contemporary military that smashed its way through Eastern Europe in state-of-the-art tanks, half-tracks and trucks, the fact is that Germany struggled with trying to remain a modern army.

In his book, *Mechanized Juggernaut or Military Anachronism: Horses and the German Army of WWII*, R. L. DiNardo argues that in order for Germany to have formed and maintained a large, motorized army, some prerequisites would need to be met. And yet, none of them were. Germany lacked a large tractor industry, suffered from an iron-ore shortage and desperately needed to augment her oil production.⁷¹ As a result of these deficits, Germany was forced to rely largely upon horses for infantry and artillery transportation.

⁶⁹ DiNardo, *Mechanized Juggernaut or Military Anachronism?* 36.

⁷⁰ *Ibid.*, 120-22.

⁷¹ *Ibid.*, 3.

When Germany invaded the Soviet Union, the Heer (Army) consisted of eighteen panzer, thirteen motorized infantry and seventy-eight infantry divisions. The disproportionate disparity between mobile and non-mobile infantry formations necessitated a logistical alteration. To their credit, the Germans entered Russia with some 750,000 horses.⁷² Each of the three army groups received an even distribution of horses, which were primarily utilized to move heavy artillery pieces. The 7th German Infantry Division noted it took ten horses to haul even a light field piece. Considering the attrition rate of horses, i.e., 264,956 lost by March 1942, one can certainly understand why the “blitzkrieg” stuttered.⁷³

Although the Germans replaced their lost horses with those captured in Russia or sent via railroads from Poland, they never managed to match the Soviets ability to increase motorization. Thanks to Lend-Lease trucks and their own *Fordizatsia*, the Soviet Union was fully mechanized by 1944. Besides having to contend with Allied air power, the Germans faced an army that was able to move much faster than the fuel-starved and horse-dependent German Heer.⁷⁴

In a scene from the final episode of award-winning HBO series, *Band of Brothers*, one of the characters, Private David Webster, verbally assails retreating German soldiers from the back of a deuce and a half truck. As columns of Germans march by, Webster stands up in the back of the truck and screams “You stupid Fascist pigs, look at you...you have horses...*what were you thinking?*”⁷⁵

⁷² Werner Haupt, *Die Schlachten der Heeresgruppe Süd* (Darmstadt: Podzun-Pallas-Verlag, 1985), 16.

⁷³ DiNardo, *Mechanized Juggernaut or Military Anachronism?* 52.

⁷⁴ *Ibid.*, 190-91.

⁷⁵ *Band of Brothers*, directed by Mikael Salomon (HBO, 2001) DVD (HBO Home Video, 2014).

Contrary to popular narratives, Germany invaded the Soviet Union with borrowed trucks, borrowed tanks and borrowed time. While they did manage to develop some truly remarkable armored fighting vehicles, a strained economy coupled with political infighting within the Wehrmacht's armaments divisions hamstrung their chances against the Soviets. The image of a mechanized juggernaut, with super tanks and fast-moving trucks proved illusory.

Three

If these beasts, our enemy, ever come to Germany there will be a bloodbath the like of which the world has never seen.
– Anonymous letter from the front, 10 July 1941

If swift victory were the sole criterion for assessing the martial effectiveness of a particular fighting organization, then surely the Wehrmacht earns high marks. After all, Hitler's forces scythed their way through Western Europe in a matter of a few months. Moreover, entire governments quaked and crumbled beneath the weight of the Nazi jackboot. Poland surrendered thirty-five days after being attacked, the King of Norway went into exile, Marshal Pétain signed the armistice, and England struggled to hold off the Luftwaffe. By late 1940, Germany's war of maneuver had paid off...or so it seemed.¹

The fact that Germany failed to reproduce in Russia the victories won in Western Europe is testament to the fighting prowess of their Soviet adversary. German hubris convinced the majority of German soldiers that the Russian Campaign would be a pushover. When that did not materialize, many lost the motivation to continue. A fifty-yard dash was one thing, but a marathon quite another. Frankly, the Germans were not prepared for a marathon.

The Soviets, on the other hand, were built for the type of protracted, brutal warfare that characterized their Great Patriotic War and while the strength of the Red Army's effectiveness wavered during the war, the fact that it did not disintegrate under the weight of internal problems and German firepower proves its superior effectiveness over its adversary.² Despite Stalin's purges, ineffective leadership, undependable logistics and enormous casualties, the Red Army

¹ Lyons, *World War II*, 95.

² Roger R. Reese, *Why Stalin's Soldiers Fought: The Red Army's Military Effectiveness in World War II* (University Press of Kansas, 2011), 3.

stayed the course and chased the invaders all the way back to their homeland. By all accounts, this makes the Red Army a more effective fighting force than the Wehrmacht.

In attempting to uncover the seminal reason for Red Army effectiveness, the standard interpretation posits that a coercive and repressive regime essentially forced Red Army soldiers to fight a war they were woefully unprepared to wage. While this explanation is partly true, it stops short of revealing *why* so many Soviet citizens volunteered to fight long before they learned of Nazi atrocities and the maltreatment of prisoners of war. Roger R. Reese argues that the “success of the Stalinist regime in mobilizing Soviet society for military service through institutional, voluntary, and coercive means ultimately stands as the foundation of the Red Army’s war-winning military effectiveness.”³

At the risk of oversimplification, the Soviets exhibited a superior marital ethos because they had been invaded. Their patriotic sensibilities and very way of life were threatened. One is reminded of a scene from the fictional 1984 John Milius film, *Red Dawn*. In the film, Cuban and Soviet forces invade small-town America. A group of well-armed teenagers take to the woods to wage guerilla warfare on the aggressors. When one of the teens prepares to execute a Soviet commando, his sympathetic younger brother objects, pleading, “Tell me what’s the difference between us and them?” Before shooting the commando with his revolver, the older brother answers, “Because...we live here!”⁴

While it is true that Czechoslovakia, Poland, Denmark, Norway, Belgium and France had been similarly invaded, none of those nations framed their struggle as did the Soviets. The Soviet state actually fomented among the post-Revolution/Civil War generation a yearning for historical

³ Ibid., 103.

⁴ *Red Dawn*, directed by John Milius (United Artists, 1984), DVD (MGM, 2001).

relevancy that only a war with capitalism could satiate. During the 1930s, Soviet media and literature promoted the inevitability of conflict with encroaching capitalist regimes.⁵ When Hitler handed the Soviet Union her just war by abrogating the Molotov-Ribbentrop Pact, millions of idealistic young communists were champing at the bit to fight. This was not dissimilar to American sentiment after Pearl Harbor.

Although many Wehrmacht troops were also patriotic, their motivation for visiting such wanton destruction without provocation cannot possibly be lumped into the same paradigm as the Soviets. At its most rudimentary level, World War II was a contest of good versus evil, in which a demonic, drug addicted lunatic wanted to rule the civilized world. Because of this, almost every positive aspect of the German military machine was tainted by an underlying malevolence. Similar to the Allied invasion of Normandy on 6 June 1944, the Soviets viewed the Russo-German War as their crusade for the continuance of their way of life. Indeed, Stalin's radio speech evoked such sentiment when he labeled the struggle "a patriotic war of liberation against the fascist enslavers."⁶

In an interview with Josef Finkelshteyn, he described the impact he felt upon hearing Stalin's speech. "He started the speech with the words brothers and sisters. He had never spoken to the people in this intimate manner before."⁷ For young communists like Finkelshteyn, such words from poppa Stalin reached deep down into the Russian psyche. The people who would form the core of the Red Army were tough, hardened and for the most part, isolated from the

⁵ Roger R. Reese, "Motivations to Serve: The Soviet Soldier in the Second World War," *Journal of Slavic Military Studies* 20, no. 2 (2007), 269.

⁶ Stalin, Radio Broadcast, July 3, 1941.

⁷ Josef Finkelshteyn, interview by iremember.ru, September 26, 2010.

outside world. Fears of capitalist encirclement instilled a xenophobic ethos into the citizenry which compelled them to arms.⁸

Contrary to what most German soldiers had been led to believe, the Soviet soldier was not an inferior animal, who threw up his hands as soon as German soldiers appeared. Rather, soon after crossing into Russia, German soldiers discovered a fearsome adversary. General Guderian observed of Soviet resistance, “the enemy continued to resist stubbornly...his battle technique, particularly his camouflage, was excellent.”⁹ During the Kiev battle, Guderian admitted that he had “underestimated the powers of Russian resistance.”¹⁰ In his memoirs, SS soldier Erwin Bartmann remarked how Russian soldiers “threw themselves into the killing fields of our machine guns.”¹¹

In Halder’s war diary, his assessment of Russian resistance on day three of the invasion is as follows: “The-stubborn resistance of individual Russian units is remarkable...bunker crews have blown themselves up with their bunkers, rather than surrender.”¹² Wilhelm Prüller, a German non-commissioned officer, was stupefied to witness Soviet soldiers, who had first survived German panzers mauling their foxholes as well as grenades being tossed in, still somehow manage to resist. After the war, Prüller wrote in his diary, “We had to creep up to each hole...and then finish the Russians with pistols or rifles.”¹³

⁸ Sheila Fitzpatrick, *The Russian Revolution* (Oxford University Press, 2008), 1308, Kindle.

⁹ Guderian, *Panzer Leader*, 3235.

¹⁰ *Ibid.*, 4507.

¹¹ Erwin Bartmann, *Für Volk and Führer: The Memoir of a Veteran of the 1st SS Panzer Division Leibstandarte SS Adolf Hitler*, trans. and ed. Derik Hammond (England: Helion Books, 2013), 48. Kindle.

¹² Halder, *War Journal*, 6:167.

¹³ Wilhelm Prüller, *Diary of a German Soldier*, eds., H.C. Robbins Landon and Sebastian Leitner (London: Faber and Faber, 1963), 78.

Red Army soldier Boris Gorbachevsky described his first experience in combat against the Germans. He wrote of his comrades, “Attacking waves of men followed one after another. I saw the soldiers as they reached the [German] trenches, broke into them; now frenzied hand-to-hand fighting with bayonets and fists ensued.”¹⁴

When the Germans attacked Stalingrad, General Chuikov turned their well-honed, methodical approach to combat against them. He encouraged even the lowliest Soviet soldier to become his own general when it came to close quarters fighting. This was so effective, German soldiers began complaining that their enemy employed gangster-like methods.¹⁵ Small “hit-squads” of Soviet soldiers roamed the sewers beneath the city, waiting for an opportune moment to suddenly pop up out of a manhole cover and spray unsuspecting Germans with their PPSH-41 submachine guns.

As German infantry tried to dislodge Soviet troops from the grain elevator in Stalingrad, one German soldier wrote of the enemy, “It is occupied not by men but by devils, whom no flame or bullets can destroy. If all the buildings of Stalingrad are defended like this, none of our soldiers will get back to Germany.”¹⁶ Unfortunately for the Germans, this was precisely how the buildings in Stalingrad were defended. The Commander of the 62nd Soviet Army saw to that.

General Chuikov masterfully exploited the enemy’s aversion to night-time and hand-to-hand combat within the ruins of Stalingrad. As a rule, German infantrymen loathed house-to-house fighting because it not only broke conventional military boundaries, but was psychologically disorienting.¹⁷ Russian soldiers preyed upon this fear and excelled in eliciting a

¹⁴ Gorbachevsky, *Through the Maelstrom*, 114.

¹⁵ Jones, *Stalingrad*, 2075.

¹⁶ *Ibid.*, 2620.

¹⁷ Beevor, *Stalingrad*, 148.

sense of foreboding amidst their attackers. Erhard Schaumann, a soldier with Army Group Center, admitted, “I was always afraid of the Russians.”¹⁸ For a nation such as Nazi Germany, whose military roots sprang from Prussian nobility, dealing with an adversary who fought so savagely necessitated radical changes in military policy.

Rather than simply attributing Soviet fierceness to a superior martial ethos, German officers found it easier to blame Red Army commissars and Stalin’s propaganda campaign. This in turn led to a radicalization in Eastern Front combat, particularly in how the German Army dealt with Soviet prisoners of war. In order to justify the systematic murder of captured Red Army officers, Hitler issued the Martial Jurisdiction Decree and Commissar Order, which required the German Army to commit murder.¹⁹

The Martial Jurisdiction Decree went out to all Army Group commanders on 31 May 1941 and the Commissar Order on 6 June 1941. Collectively known as Criminal Orders, both measures dealt with the treatment of “criminal acts” by either civilians or political officers and mandated summary execution, free from the shackles of international law. Essentially, German troops had a blank check to murder anyone they desired, civilian or otherwise.²⁰

Lest one think this decision originated solely with the Führer or was somehow restricted to the highest levels of Wehrmacht functionaries, Army Chief of Staff Franz Halder’s 19 September 1939 diary entry regarding this subject stated, “Missions must be known to the Army...House cleaning: Jews, intelligentsia, clergy, nobility.”²¹ Even before Poland was in German hands, plans were in place to annihilate the Soviets.

¹⁸ Kershaw, *War Without Garlands*, 297.

¹⁹ Kay, Rutherford and Stahel, *Nazi Policy on the Eastern Front, 1941*, 1817.

²⁰ Robert Gerwarth, *Hitler’s Hangman: The Life of Heydrich* (New Haven: Yale University Press, 2011), 314-17, Kindle.

²¹ Halder, *War Journal*, 2:10.

Predictably, one does not find evidence of these measures being carried out amidst the plethora of post-war German accounts. This is to be expected as no belligerent, to include Soviets soldiers who raped and murdered women during the Battle of Berlin, is in a hurry to transcribe their misdeeds for all to see. However, evidence exists that nearly all formations that fought on the Eastern Front willingly adhered to Hitler's Criminal Orders. Reports show that all 13 German armies, all 44 army corps and more than 90 percent at the division level routinely executed Soviet political officers.²²

Considering these statistics, claims such as Guderian's assertion that, "The so-called Commissar Order never even reached my Panzer Group" is preposterous.²³ There is little to support such claims. On the contrary, a complete analysis of German source material now reveals that the notion of intermittent application of the Commissar Order no longer holds water.²⁴ Moreover, by legitimizing the Nazi annihilation policy, soldiers were free to commit war crimes without feeling like heinous criminals, giving rise to the notorious Nuremberg defense alibi.

Of course, German atrocities only exacerbated the level of reprisal and groomed the Soviet ethos for brutal payback. Even though Hitler cancelled the Commissar Order in June 1942, the damage had been done.²⁵ Like opening 'Pandora's box,' Germany's resolve to wage total *vernichtungskrieg* (war of annihilation) upon their Eastern neighbors (Poland and Russia) unleashed a level of ferocity for which the average German soldier was unprepared. Better rifles,

²² Felix Römer, *Der Kommissarbefehl: Wehrmacht und NS-Verbrechen an der Ostfront 1941/42* (Verlag Ferdinand Schöningh, 2008), 399-400.

²³ Guderian, *Panzer Leader*, 3056.

²⁴ Kay, Rutherford and Stahel, *Nazi Policy on the Eastern Front, 1941*, 2112.

²⁵ *Ibid.*, 92.

snappier uniforms and Prussian heritage would not level the playing field. Something more potent would be required to heighten German aggressiveness to deal with the Red Army soldier.

On 31 October 1937, the Temmler chemical company patented the first German methamphetamine. Its trade-name was Pervitin. The following year, Berlin launched an advertising campaign to market the new stimulant. Posters appeared on buildings, on buses and on train station platforms. Packaged in an orange and blue tube, Pervitin promised everything from increased libido to uncanny levels of alertness. Temmler “pushers” visited hospitals and clinics throughout Germany, distributing samples to be given out to the population. It became an instant hit and was Germany’s most addictive substance. Even confectionary manufacturers laced their chocolates with the drug.²⁶

Students, typists, switchboard operators and medical practitioners readily consumed the new ‘speedamin’ like it was candy. Even the Führer, a self-professing teetotaler and vegetarian, took Pervitin. Soon, Pervitin spread throughout all social circles in Nazi Germany. Dr. Erich Neumann, who took the drug himself, detailed how Pervitin reduced stress, increased libido, enhanced motivation and enabled one to remain alert for as long as seventeen days in some instances.²⁷ The benefits of Pervitin to the Wehrmacht became obvious.

On 17 April 1940, just a few weeks before the invasion of Western Europe, an official “Stimulant Decree” was issued and the Wehrmacht ordered approximately 35 million Pervitin tablets for the planned campaign in the west. Thus, the German military became the first ever to rely upon a chemical drug to give its soldiers that extra energy boost.²⁸ Two nights before

²⁶ Ohler, *Blitzed*, 29-33,

²⁷ *Ibid.*, 88.

²⁸ The Daylux Dokus, “Schlaflos im Krieg Die pharmazeutische Waffe,” YouTube Video, 51:13, June 22, 2013, https://youtu.be/pv_gYslczFw.

Operation Fall Gelb kicked off, Pervitin was issued and consumed en masse. The results were significant. Belgian troops were taken aback by the fearless behavior of German troops and promptly retreated.

During Operation Barbarossa, General Guderians's panzer troops ingested between two and five Pervitin tablets per day and overall use became so habitual, one entire German army group consumed 30 million tablets within only a few months.²⁹ One German soldier, high on Pervitin, had been awake non-stop since the campaign's start. He stated, "We felt a high, an exceptional state...we were sitting in our vehicles, covered in dust, exhausted and wired."³⁰ Pervitin's use, or *abuse*, however, was not limited to the German Army.

During the London Blitz, Luftwaffe bomber pilot Horst Freiherr von Luttitz took Pervitin as a precautionary measure, just so he could maintain a heightened sense of alertness over the skies of Britain.³¹ In 1944, the Kriegsmarine constructed a mini-submarine called the *Seehund*, which was designed to be operated by two sailors. The idea was to pilot the explosive-laden craft into Allied ships in the English Channel as they made their way to Normandy. Like Japanese kamikaze pilots, these were strictly one-way missions.³²

For these suicide missions, Dr. Gerhard Orzechoski, head of pharmacology for the Naval Supreme Command, suggested combining Pervitin with cocaine and morphine derivatives in an attempt to create the strongest stimulant possible. On 17 March 1944, the German Navy administered a dosage of five tablets of the concoction to fifty sailors at the Blaukoppel training

²⁹ Tilmann Holzer, *Die Geburt der Drogenpolitik aus dem Geist der Rassehygiene: Deutsche Drogenpolitik von 1933 bis 1972* (Mannheim, 2006), 247.

³⁰ Wolfgang Fischer, *Ohne die Gnade der späten Geburt* (Munich, 1990), 62.

³¹ The Daylux Dokus, "Schlaflos im Krieg Die pharmazeutische Waffe"

³² Ohler, *Blitzed*, 197.

camp without any prior testing and then subjected them to test runs in the *Seehund*.³³ One sailor, who commented on the hallucinogenic effects, stated “We felt somehow elated and almost weightless, everything appeared in improbable colors.”³⁴

The fact that the Wehrmacht not only created improvised stimulants, but also dosed their own troops to the point that many were so ‘hopped up’ they barely knew where they were is indicative of their desperation in the latter stages of the war. Moreover, Hitler himself was arguably the biggest junkie in the Reich. His personal physician, Dr. Theodor Morell, routinely injected the Führer with a blend of cocaine, heroin, and a witch’s brew comprised of animal steroids, bull prostate and uterine blood. Between the autumn of 1941 until his suicide in 1945, Hitler hardly enjoyed a sober day.³⁵ Frankly, it is a wonder Morell’s quackery did not kill him before he took his life in the bunker.

Clearly, the Wehrmacht’s wide-spread sanction and dispersal of heroin, cocaine and Pervitin to their fighting men was a prophylactic attempt to bolster the endurance and fighting prowess of their forces.³⁶ Moreover, the idea of Aryan supermen, high on drugs, rushing through enemy territory at breakneck speed, gives new meaning to the term *blitzkrieg*. It was hoped these unorthodox methods would assure the Wehrmacht an edge over an opponent who did not require such enablement. In the end, it mattered little.

On 25 April 1945, Soviet forces united with American troops at the Elbe River, some 150 kilometers from Berlin. This historic meeting epitomized Stalin’s fulfillment of a Second Front

³³ Ibid., 194-95.

³⁴ Hartmut Nöldeke and Volker Hartmann, *Der Sanitätsdienst in der deutschen U-Boot Waffe* (Verlag: Mittler & Sohn, 1996), 214.

³⁵ Ohler, *Blitzed*, 114, 174.

³⁶ Bundesarchiv-Militärarchiv, Freiburg. Überblick über einen Bericht über Experimente mit Stimulanzien, 23 Feb. 1940, BA-MA RH 12-23/1882.

and essentially cut Germany in half. However, ten days prior, Soviet forces reached the outskirts of Berlin. As Soviet armor bludgeoned its way into Berlin's city center, Red Army superiority had at last been vindicated. After four years of growing pains, lessons-learned and a complete overhaul of their military structure, the Soviets showed the world that they had the right mix of tactics, armor and the ethos to, as Churchill so colorfully put it, "tear the guts out of the German Army."³⁷

³⁷ "Mr. Churchill's Review of the War in the House of Commons on August 2," *Bulletin of International News* 21, no. 17 (1944), 672.

Conclusion

Beyond question, the German Wehrmacht is arguably the most studied military machine among military and professional historians alike. Moreover, it is the one most cited as a role model for efficiency and effectiveness. Indeed, the case for the German Army possessing superior leadership and near-flawless operational and tactical acumen has become the mainstay upon which western perception has been formulated.³⁸

The image of Teutonic prowess that is almost universally accepted is certainly not new. Since their 1871 victory over France during the Franco-Prussian War, the German military has projected a persona of industrial and martial excellence.³⁹ While this persona is not without merit, the prevailing notion of the Wehrmacht's performance as a hallmark of combat distinction has been largely buttressed by biased post war historiography.

As a result, an objective verdict on Germany's performance during their war against the Soviets has suffered due to a nearly one-sided analysis. As has been addressed already in this study, the reasons for this are manifest. The specter of Communism following the end of World War II largely hindered Soviet accounts of the Russo-German War. Moreover, the authoritarian nature of the Stalin regime virtually guaranteed Russian historians would be curtailed in how and what they could relate in post war histories. Additionally, the Cold War fomented deep suspicion and antagonism, which transferred perceptions on western scholars that Soviet sources were dubious.⁴⁰

However, the collapse of the Soviet Union in the 1990s permitted historians an opportunity to peruse previously unavailable archival source material dealing with the war. Thus,

³⁸ Roger A. Beaumont, "On the Wehrmacht Mystique," *Military Review* 66, no. 7 (1986), 44.

³⁹ *Ibid.*, 45.

⁴⁰ Liedtke, *Enduring the Whirlwind*, 436. Kindle.

the acquisition of new source material yielded new historiography. Rather than a reliance on pro-German accounts, historians were able to extrapolate material that had been essentially subdued for over five decades. As a result, a more comprehensive narrative of the Russo-German War has since emerged.⁴¹

With new narratives, historians and scholars alike have been able to conclude that the Red Army was not necessarily the inept fighting force for which it has been characterized. Rather than a reliance on innumerable hordes of troops and the interference of Hitler with his general staff, the Red Army actually surpassed their German foe during the Great Patriotic War. A careful analysis of casualty figures substantiates this assertion.⁴²

Even though the Wehrmacht was able to replace its losses throughout the duration of the war, they were never able to advance any further than the outskirts of Moscow. Moreover, seminal battles that went either unreported or were marginalized in historiography reveal that Soviet tactical prowess was just as effective in blunting the German advance in 1941 as was poor weather, inadequate supplies and short-sighted operational objectives.⁴³

For an army with a reputation of fighting excellence, this presents a conundrum indeed. While the Germans *should* have been stronger on the defensive, the ratio of casualty losses actually favored the Soviets after Stalingrad. Simply put, the Soviets turned things around after Operation Barbarossa and, employing better tactics, outfought their German opponent.⁴⁴

Similarly, the pervasive opinion regarding German armor typically grants the edge to the Germans and their “super” tanks. However, the majority of German tanks that invaded Russia in

⁴¹ Jones, *Stalingrad*, 164

⁴² TIK, “The Numbers Say it All”

⁴³ David M. Glantz, “The Soviet-German War, 1941-1945: Myths and Realities,” (lecture, The U.S. Army Heritage and Education Center, Carlisle, PA, March 25, 2010.

⁴⁴ TIK, “The Numbers Say it All”

1941 were inferior by comparison. Gasoline Maybach engines rendered German tanks highly flammable when struck during battle. Additionally, the dearth of spare parts hindered timely repairs and the dusty Russian steppe caused frequent breakdowns, all of which has been substantiated by the Germans themselves.⁴⁵

Tank for tank, Soviet armor, proved more than up to the task. According to personal testimony, not a few German panzer officers praised the Russian medium and heavy tanks as superior to their own. Although the German army did possess superior anti-tank weapons like the Pak 37, the StuG III, the Hetzer and similar variants, the Soviets fielded such a preponderance of medium and heavy tanks, any advantage the Germans enjoyed because of their anti-armor force was obviated on the battlefield.⁴⁶

It is a military truism that wars are won with “boots on the ground.” Since time immemorial, the fighting ethos of infantry has often proved the deciding factor in combat.⁴⁷ This can be seen with the Russo-German War. To be sure, German troops were motivated by a fanatical ideology that permeated nearly every facet of the Wehrmacht. As a result, the level of wicked ferocity that characterized their invasion methodology guaranteed reprisal in kind.

While it is certainly true that German soldiers fought with a level of élan and passion, much of that was artificially induced by methamphetamine and other drugs. The use of Pervitin, cocaine and heroin reached all aspects of the German war machine.⁴⁸ On the other hand, the Soviets had been the recipients of Nazi betrayal. The surprise German attack and Hitler’s abrogation of the Molotov-Ribbentrop Pact steeled Soviet resolve and united its citizenry in a grandiose patriotic struggle to sustain their way of life. As the fighting waned in the streets of

⁴⁵ Forczyk, *Tank Warfare on the Eastern Front*, 815, Kindle.

⁴⁶ *Ibid.*, 837.

⁴⁷ Jomini, *The Art of War*, 2586.

⁴⁸ Ohler, *Blitzed*, 61-9

Berlin and a Soviet soldier raised his nation's flag atop the Reichstag building, the culmination of superior tactics, better armor and a superior fighting ethos had at last vindicated the Red Army and demonstrated to the Allies that they had indeed shouldered the lion's share of the fighting against the Nazi invaders.

Bibliography

Primary Sources

Bartmann, Erwin. *Für Volk and Führer: The Memoir of a Veteran of the 1st SS Panzer Division Leibstandarte SS Adolf Hitler*. Translated and edited by Derik Hammond. England: Helion Books, 2013. Kindle.

Blass, Ernst, ed. *Der Lohn der Tat: Die Auszeichnungen des Heeres*. Hamburg, 1944.

Brauchitsch, Walther von. *Arbeitsgrundlage für das planvolle Weiterentwickeln aller schnellen und beweglichen Truppen*. Berlin: Oberbefehlshaber des Heeres, 1938.

Bryukhov, Vasilii. *Red Army Tank Commander: At War in a T-34 on the Eastern Front*. Translated by Vladimir Kroupnik. South Yorkshire: Pen & Sword, 2013. Kindle.

Bundesarchiv-Militararchiv. Freiburg. Ost/Auswertegruppe, Die personelle Wehrleistungsfähigkeit der UdSSR, 23 Mar. 1942. BA-MA RH 2/1924.

_____. Überblick über einen Bericht über Experimente mit Stimulanzen, 23 Feb. 1940. BA-MA RH 12-23/1882.

Chales de Beaulieu, Walter. "Sturm bis vor Moskaus Tore. Der Einsatz der Panzergruppen 4. Teil II: November 1941-Januar 1942." *Wehrwissenschaftliche Rundschau* 6, no. 8 (1956): 423-439.

Chuikov, Vasili Ivanovich. *The Battle for Stalingrad*. Ballantine Books, 1968.

Deck, Josef. *Der Weg der 1000 Toten*. Badenia Verlag Karlsruhe, 1978.

Engel, Gerhard. *Heeresadjutant bei Hitler 1938-1943: Aufzeichnungen des Majors Engel*. Stuttgart: Deutsche Verlags-Anstalt, 1974.

Experimental Report No. WAL. 640/91. Armor and Welding. Metallurgical Examination of Armor and Weld Joint Samples from Russian Medium Tank T-34 and Heavy Tank KV-1. November 24, 1943. Watertown Arsenal Laboratory, Watertown, MA.

Faust, Wolfgang. *Tiger Tracks: The Classic Panzer Memoir*. Translated by Sprech Media. Bayern Classic Publications, 2016. Kindle.

Fischer, Wolfgang. *Ohne die Gnade der späten Geburt*. Munich, 1990.

Foerster, Wolfgang. *Generaloberst Ludwig Beck: Sein Kampf gegen den Krieg*. Islar Verlag: Muchen, 1953.

- Fuller, J.F.C. "Progress in the Mechanicalisation of Modern Armies (lecture)." *Journal of the Royal United Service Institution* 70, (1925): 73-89.
- _____. "The Tactics of Penetration: A Counterblast to German Numerical Superiority." *Journal of the Royal United Service Institution* 59, (1914): 378-389.
- Gastev, Alexei. "Fordizm," *Bol'shaya sovetskaya entsiklopediya*. Moscow, 1933.
- Goebbels, Joseph. *The Goebbels Diaries*. Edited and translated by Louis P. Lochner. London, 1948.
- Gorbachevsky, Boris. *Through the Maelstrom: A Red Army Soldier's War on the Eastern Front, 1942-1945*. Translated and edited by Stuart Britton. Lawrence: University Press of Kansas, 2008.
- Guderian, Heinz. *Panzer Leader*. Translated by Constantine Fitzgibbon. Pickle Partners, 2014. Kindle.
- Halder, Franz. *The Halder War Diary 1939-42*, eds. Charles Burdick and Hans-Adolf Jacobsen. Greenhill Books, 1988.
- _____. *War Journal of Franz Halder*. Vol. 1. Historical Division, 1939.
- Haupt, Werner. *Die Schlachten der Heeresgruppe Süd*. Darmstadt: Podzun-Pallas-Verlag, 1985.
- Himmler, Heinrich. "Audio Excerpts from the speech given by Heinrich Himmler to SS Group Leaders in Posen, occupied Poland." October 4, 1943. *The History Place*.
- Hitler, Adolf. *Mein Kampf*. Translated by James Murphy. White Wolf, 2014. Kindle.
- Holzer, Tilmann. *Die Geburt der Drogenpolitik aus dem Geist der Rassehygiene: Deutsche Drogenpolitik von 1933 bis 1972*. Mannheim, 2006.
- Isserson, Georgii Samoilovich. *The Evolution of Operational Art*. Translated by Bruce W. Menning. Combat Studies Institute Press, 2013. Kindle.
- Kautilya. *Arthashastra*. Translated by R. Shamasastri. Spastic Cat Press, 2009. Kindle.
- Kubik, Willi. *Erinnerungen eines Panzerschützen 1941-1945. Tagebuchaufzeichnung eines Panzerschützen der Pz.Aufkl.Abt. 13 im Russlandfeldzug*. Würzburg, 2004.
- Liddell Hart, B.H. *The History of the Royal Tank Regiment and Its Predecessors, Heavy Branch, Machine-Gun Corps, Tank Corps, and Royal Tank Corps, 1914-1945*. Vol. 1. Praeger, 1959.

- Lubbeck, William and David Hurt. *At Leningrad's Gates: The Combat Memoirs of a Soldier with Army Group North*. Philadelphia: Casemate, 2006. Kindle.
- Manstein, Erich von. *Lost Victories: The War Memoirs of Hitler's Most Brilliant General*. Minnesota: Zenith Press, 2004.
- Mellenthin, F. W. *Panzer Battles: A Study in the Employment of Armour in the Second World War*. Edited by L.C.F. Turner. Translated by H. Betzler. University of Oklahoma Press, 1964.
- Molotov, V.M. *Soviet Foreign Policy: The Meaning of the War in Finland*. New York: Workers Library, 1940.
- _____. "Reaction to German Invasion of 1941." June 22, 1941. Audio Speech.
- "Mr. Churchill's Review of the War in the House of Commons on August 2." *Bulletin of International News* 21, no. 17 (1944): 671-74.
- Pavlichenko, Lyudmila. *Lady Death: The Memoirs of Stalin's Sniper*. Edited by Alla Igorevna Begunova. Translated by David Foreman. South Yorkshire: Greenhill Books, 2018. Kindle.
- Prüller, Wilhelm *Diary of a German Soldier*, eds. H.C. Robbins Landon and Sebastian Leitner. London: Faber and Faber, 1963.
- Raus, Erhard. *Panzer Operations: The Eastern Front Memoir of General Raus, 1941-1945*. Translated by Steven H. Newton. Cambridge: Da Capo Press, 2003.
- Rommel, Erwin. *The Rommel Papers*. Edited by B.H. Liddell Hart. New York: Harcourt Brace, 1953.
- Stalin, Joseph V. "Joseph V. Stalin's Radio Broadcast, July 3, 1941." Speech, Moscow, July 3, 1941. Historical Resources About The Second World War.
- Triandafilov, V. K. *The Nature of the Operations of Modern Armies*. Edited by Jacob W. Kipp. Translated by William A. Burhans. Essex: Frank Cass, 1994.
- U.S. Department of the Army. *German Report on Campaign in Russia: Planning and Operations (1940-1942)*. Washington D.C., 1955.
- _____. *Russian Combat Methods in World War II*. Washington D.C., 1950.
- U.S. Department of the Army Pamphlet No, 20-269. *Small Unit Actions During the German Campaign in Russia*. Washington D.C., 1953.

U.S. National Archives and Records Administration. *Directives for the Treatment of Political Commissars [Commissar Order] (June 6, 1941)*. Nuremberg Trial, National Archives Record Group 238m, Entry 175, Box 27, NOKW-1076. College Park, MD.

U.S. War Department Intelligence Bulletin, Vol. II, no. 3 (November 1943): 1-21.

Wagener, Carl. "Der Vorstoss des XXXX. Panzerkorps von Charkow zum Kaukasus, Juli-August 1942. Part One." *Wehrwissenschaftliche Rundschau* 5, no. 9 (1955): 397-407.

Zaitsev, Vassili. *Notes of a Russian Sniper*. Edited by Neil Okrent. Translated by David Givens, Peter Kornakov and Konstantin Kornakov. London: Frontline Books, 2009.

Zhukov, Georgy. *Marshal of Victory: The Autobiography of General Georgy Zhukov*. Edited by Geoffrey Roberts. South Yorkshire: Pen & Sword Books, 2013.

Secondary Sources

Badsey, Stephen. *The Franco-Prussian War 1870-1871*. Oxford: Osprey, 2003.

Band of Brothers. Directed by Mikael Salomon. HBO, 2001. DVD. HBO Home Video, 2014.

Barbier, M.K. *Kursk: The Greatest Tank Battle 1943*. London: Amber Books, 2002.

Barr, John M. "Analysis: Lend Lease to Russia." *World at War*. October-November 2013.

Bean, Tim and Will Fowler. *Red Army Tanks of World War II: A Guide to Soviet Armored Fighting Vehicles*. London: Amber Books, 2017.

Beaumont, Roger A. "On the Wehrmacht Mystique." *Military Review* 66, no. 7 (1986): 44-56.

Beevor, Antony. *Stalingrad*. New York: Penguin, 1998. Kindle.

Bond, Brian. *The Victorian Army and the Staff College, 1854-1914*. London: Eyre Methuen, 1972.

Boog, Horst, Werner Rahn, Reinhard Stumpf and Bernd Wegner. *The Global War. Vol 6 of Germany and the Second World War*. Translated by Derry Cook-Radmore. Oxford University Press, 2015.

Boot, Max. *Invisible Armies: An Epic History of Guerilla Warfare From Ancient Times to the Present*. New York: Liveright Publishing, 2013. Kindle.

Bradberry, Benton L. *The Myth of German Villainy*. Indiana: AuthorHouse, 2012.

Cleator, P.E. *Weapons of War*. London: Robert Hale Limited, 1967.

- Connor, William M. "Analysis of Deep Attack Operations: Operation Bagration-Belorussia 22 June -29 August 1944." *Combat Studies Institute*. Fort Leavenworth: Kansas 1987.
- Cotterell, Arthur. *Chariot: From Chariot to Tank, The Astounding Rise and Fall of the World's First War Machine*. New York: Overlook Press, 2004.
- Cox, Gary. "RUSSIA & THE C.I.S." *History: Reviews of New Books* 29, no. 4 (2001): 168.
- Creveld, Martin Van. *Technology and War: From 2000 B.C. to the Present*. New York: The Free Press, 1991.
- Cumins, Keith. *Cataclysm: The War on the Eastern Front, 1941-45*. West Midlands: Helion & Company, 2011.
- DiNardo, R. L. *Mechanized Juggernaut or Military Anachronism? Horses and the German Army of World War II*. Mechanicsburg: Stackpole Books, 1991.
- Forczyk, Richard. *Tank Warfare on the Eastern Front 1941-1942 Schwerpunkt*. Yorkshire: Pen & Sword, 2013. Kindle.
- Forty, George. *German Tanks of World War Two*. London: Arms and Armour, 1999.
- French, David. "The Mechanization of the British Cavalry between the World Wars." *War in History* 10, no. 3 (2003): 296-320.
- Fritz, Stephen G. *Ostkrieg: Hitler's War of Extermination in the East*. Lexington: University Press of Kentucky, 2011.
- Gerwarth, Robert. *Hitler's Hangman: The Life of Heydrich*. New Haven: Yale University Press, 2011). Kindle.
- Gilbert, Martin. *The Somme: Heroism and Horror in the First World War*. New York: Henry Holt and Company, 2006. Kindle.
- Glantz, David M. *Barbarossa Derailed: The Battle for Smolensk, 10 July-10 September 1941 Volume 4 Atlas*. West Midlands: Helion & Company, 2015.
- _____. "Soviet Military Strategy during the Second Period of War (November 1942 - December 1943): A Reappraisal." *The Journal of Military History* 60, no. 1 (1996): 115-150.
- _____. "The Soviet-German War, 1941-1945: Myths and Realities."
- Glantz, David M. and Jonathan M. House. *When Titans Clashed: How the Red Army Stopped Hitler*. Rev. ed. Kansas: University Press, 2015.

- Greenstein, David E. "Assembling Fordizm: The Production of Automobiles, Americans, and Bolsheviks in Detroit and Early Soviet Russia." *Comparative Studies in Society and History* 56, no. 2 (2014): 259-89.
- Grier, Howard D. "The Eastern Front in World War II." *European History Quarterly* 44, no. 1 (2014): 103-112.
- Harrison, Mark. *Accounting for War: Soviet Production, Employment, and the Defense Burden, 1940-1945*. Great Britain: Cambridge University Press, 1996.
- Harrison, Richard W. *The Russian Way of War: Operational Art, 1904-1940*. Lawrence, University Press of Kansas, 2001.
- Hess, Earl J. *Civil War Infantry Tactics: Training, Combat, and Small-Unit Effectiveness*. Baton Rouge: Louisiana State University Press, 2015.
- _____. *Trench Warfare under Grant and Lee: Field Fortifications in the Overland Campaign*. University of North Carolina Press, 2007.
- Hogg, Ian V. *German Artillery of World War II*. Mechanicsburg: Stackpole Books, 1997.
- Huard, Paul Richard. "The M-4 Sherman Tank Was Hell on Wheels – And a Death Trap." *War is Boring*.
- Hughes, Thomas P. "How America Helped Build the Soviet Machine." *American Heritage* 39, no. 8 (1988): 1-17.
- Irving, David. *Hitler's War and The War Path*. London: Focal Point Publications, 2000.
- Isaev, Aleksei. *Dubno 1941: The Greatest Tank Battle of the Second World War*. West Midlands: Helion & Company, 2017.
- Jarymowycz, Roman. *Cavalry from Hoof to Track*. Connecticut: Praeger Security International, 2008.
- Jones, Michael K. *Stalingrad: How the Red Army Triumphed*. South Yorkshire: Pen and Sword Books, 2007.
- Jorgensen, Christer, ed. *Great Battles: Decisive Conflicts That Have Shaped History*. Bath: Paragon Books Ltd, 2010.
- Kavalerchik, Boris. "Once Again About the T-34." *The Journal of Slavic Military Studies* 28, no. 1 (2015): 186-214.
- Kay, Alex, Jeff Rutherford and David Stahel, eds. *Nazi Policy on the Eastern Front, 1941: Total War, Genocide, and Radicalization*. New York: University of Rochester Press, 2012.

- Keegan, John. *The Second World War*. New York: Penguin, 1989.
- Kershaw, Robert. *War Without Garlands: Operation Barbarossa 1941-1942*. Surrey: Ian Allan, 2000.
- Knopp, Guido. *Hitler's Warriors*. Translated by Angus McGeoch. England: Sutton Publishing, 2005.
- Krivoshchev, Grigori F. *Soviet Casualties and Combat Losses in the 20th Century*. Mechanicsburg: Stackpole Books, 1997.
- Levine, Allan. *Fugitives of the Forest: The Heroic Struggle of Jewish Resistance and Survival During the Second World War*. Guilford: The Lyons Press, 2009.
- Liedtke, Gregory. *Enduring the Whirlwind: The German Army and the Russo-German War 1941-1943*. West Midlands: Helion & Company, 2016.
- Lopukhovskiy, Lev and Boris Kavalerchik. *The Price of Victory: The Red Army's Casualties in the Great Patriotic War*. Translated by Harold Orenstein. South Yorkshire: Pen & Sword, 2017.
- Lüdeke, Alexander. *Weapons of World War II*. Bath: Parragon, 2011.
- Lyons, Michael J. *World War II: A Short History*. 4th ed. New Jersey: Prentice Hall, 2004.
- Mann, Chris, ed. *Great Battles of World War II*. Bath: Parragon Books Ltd, 2008.
- McNab, Chris. *Soviet Submachine Guns of World War II: PPD-40, PPSH-41 and PPS*. Osprey, 2014.
- McPadden, Christopher Paul. "Mikhail Nikolayevich Tukhachevsky (1893–1937): Practitioner and Theorist of War," *The Land War Papers* 56 (2006): 2-20.
- Nöldeke, Hartmut and Volker Hartmann. *Der Sanitätsdienst in der deutschen U-Boot Waffe*. Verlag: Mittler & Sohn, 1996.
- Ohler, Norman. *Blitzed: Drugs in the Third Reich*. Translated by Shaun Whiteside. New York: Houghton Mifflin, 2016. Kindle.
- Oliver, Dennis and Stephen Andrew. *The Tartar Road: The Wiking Division and the Drive to the Caucasus, 1942*. Doolittle Mill: ADH Publishing, 2015.
- Ong, Weichong. "Blitzkrieg: Revolution or Evolution?" *RUSI Journal* 152 (2007): 82-87.
- Osprey Publishing. <https://ospreypublishing.com/store/military-history/period-books/world-war-2>

- Pennington, Reina. "Was the Russian Military a Steamroller? From World War II to Today." *War on the Rocks*.
- Prenatt, Jamie. *Katyusha: Russian Multiple Rocket Launchers 1941-Present*. Osprey Publishing, 2016.
- Preston, Richard, Alex Roland and Sydney F. Wise. *Men in Arms: A History of Warfare and its Interrelationships with Western Society, Fifth Edition*. Ohio: Cengage Learning, 2009.
- Reese, Roger R. "Motivations to Serve: The Soviet Soldier in the Second World War." *Journal of Slavic Military Studies* 20, no. 2 (2007): 263-82.
- _____. "Stalin Attacks the Red Army." *MHQ: The Quarterly Journal of Military History*. Autumn, 2014.
- _____. *Why Stalin's Soldiers Fought: The Red Army's Military Effectiveness in World War II*. University Press of Kansas, 2011.
- Rhodes, Richard. *Masters of Death: The SS-Einsatzgruppen and the Invention of the Holocaust*. New York: Vintage Books, 2003. Kindle.
- Römer, Felix. *Der Kommissarbefehl: Wehrmacht und NS-Verbrechen an der Ostfront 1941/42*. Verlag Ferdinand Schöningh, 2008.
- Salavrakos, Ioannis-Dionysios. "A Re-assessment of the German armaments production during World War II." *Scientia Militaria, South African Journal of Military Studies* 44, no. 2 (2016): 113-145.
- Seaton, Albert. *The Russo-German War 1941-45*. California: Presidio, 1971.
- Shepherd, Ben H. *Hitler's Soldiers: The German Army in the Third Reich*. New Haven: Yale University Press, 2016. Kindle.
- _____. "The Clean Wehrmacht, the War of Extermination, and Beyond." *The Historical Journal* 52, no. 2 (2009): 455-473.
- _____. "With the Devil in Titoland: A Wehrmacht Anti-Partisan Division in Bosnia-Herzegovina, 1943." *War in History* 16, no. 1 (2009): 77-97.
- Shepherd, Ben and Juliette Pattinson, eds. *War in a Twilight World: Partisan and Anti-Partisan Warfare in Eastern Europe, 1939-45*. New York: Palgrave MacMillan, 2010.
- Shirer, William L. *The Rise and Fall of the Third Reich: A History of Nazi Germany*. New York: Simon and Shuster, 1960.

- Showalter, Dennis E. *Armor and Blood: The Battle of Kursk, the Turning Point of World War II*. New York: Random House, 2013.
- Shpotov, Boris. "The Ford Motor Company in the Soviet Union in the 1920s-1930s: Strategy, identity, performance, reception, adaptability." *Institute of World History* 14, no. 93: 1-7.
- Smelser, Ronald and Edward J. Davies II. *The Myth of the Eastern Front: The Nazi-Soviet War in American Popular Culture*. New York: Cambridge University Press, 2008.
- Smith, W.H.B. *Small Arms of the World*. Harrisburg: Stackpole, 1960.
- Sorensen, Charles E. with Samuel T. Williamson. *My Forty Years with Ford*. Detroit: Wayne State University Press, 2006.
- Souter, Kevin. "To Stem the Red Tide: The German Report Series and its Effect on American Defense Doctrine, 1948-1954." *The Journal of Military History* 57, no. 4 (1993): 653-88.
- Stahel, David. *Kiev 1941: Hitler's Battle for Supremacy in the East*. New York: Cambridge University Press, 2013.
- _____. *The Battle for Moscow*. Cambridge University Press, 2015.
- Stokesbury, James L. *A Short History of World War II*. New York: Harper Collins, 1980.
- Stone, David R. "Stalingrad and the Evolution of Soviet Urban Warfare." *The Journal of Slavic Military Studies* 22, no. 2 (2009): 195-207.
- Sutherland, Daniel E. *A Savage Conflict: The Decisive Role of Guerillas in the American Civil War*. North Carolina: University of North Carolina Press, 2009. Kindle.
- Sydnor Jr., Charles W. "The History of the SS Totenkopfdivision and the Postwar Mythology of the Waffen-SS." *Central European History* 6 no. 4 (1973): 339-62.
- TheDayluxDokus. "Schlaflos im Krieg Die pharmazeutische Waffe [Sleepless at War: The Pharmaceutical Weapon]." YouTube Video, 51:13, June 22, 2013. https://www.youtube.com/watch?v=pv_gYslczFw.
- The Dole Institute of Politics. "How the Red Army Defeated Germany: The Three Alibis – Dr. Jonathan House." YouTube Video, 55:35, May 2, 2013. <https://youtu.be/zinPbUZUHDE>.
- The USAHEC. "Architect of Soviet Victory in World War II." YouTube video, Posted by Dr. Richard Harrison. July 23, 2014. <https://www.youtube.com/watch?v=56N9iPjQDIU>.
- TIK. "The Numbers Say it All | The Myth of German Superiority on the WW2 Eastern Front." YouTube Video, 44:14. August 18, 2017. https://youtu.be/_7BE8CsM9ds.

- Trevor-Roper, Hugh, ed. *Hitler's War Directives 1939-1945*. London: Birlinn Ltd, 2004.
- Trotter, William R. *Frozen Hell: The Russo-Finnish Winter War of 1939-40*. North Carolina: Alanguin Books, 1991.
- Tuchman, Barbara W. *The Guns of August*. New York: Ballantine Books, 2009. Kindle.
- Weinberg, Gerhard L. "Some Thought in World War II." *The Journal of Military History* 56, no. 4 (1992): 659-668.
- Werth, Alexander. *Russia at War 1941-1945*. New York: Carroll & Graf Publishers, 1964.
- Zaloga, Steven J. *Armored Thunderbolt: The U.S. Army Sherman in World War II*. Mechanicsburg, Stackpole Books, 2008.