

THE RUSSO-JAPANESE WAR OF 1904-1905 AND THE EVOLUTION OF OPERATIONAL ART

A Monograph

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2013-02

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REPORT DOCUMENTATION PAGE				Form Approved OMB No. 0704-0188	
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1. REPORT DATE (DD-MM-YYYY) 11-12-2013		2. REPORT TYPE Monograph		3. DATES COVERED (From - To)	
4. TITLE AND SUBTITLE THE RUSSO-JAPANESE WAR OF 1904-1905 AND THE EVOLUTION OF OPERATIONAL ART				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S) Major William A. Hammac				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) School for Advanced Military Studies 320 Gibson Avenue Fort Leavenworth, KS 66027-2301				8. PERFORMING ORG REPORT NUMBER	
9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES) U.S. Army Command and General Staff College ATTN: ATZL-SWD-GD Fort Leavenworth, KS 66027-2301				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION / AVAILABILITY STATEMENT Approved for Public Release; Distribution is Unlimited					
13. SUPPLEMENTARY NOTES					
14. ABSTRACT The Russo-Japanese War provides a unique opportunity to examine the early roots of operational art, which allowed the Japanese military to overcome a stronger adversary. Although Russia had superiority in land and naval forces, the Japanese were able to use fundamental operational design processes to achieve victories. This monograph takes a qualitative research approach through the study of two cases that focus on the Battle of Port Arthur and the sea battle at Tsushima. These major battles of the war provide insight to the Russian and Japanese approaches in modern warfare and their leverage of operational art. As result of the case analysis, it was discovered that modern warfare during the Russo-Japanese evolved from the ideas of operational scale and reach.					
15. SUBJECT TERMS Operational Art					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
a. REPORT (U)	b. ABSTRACT (U)	c. THIS PAGE (U)			19b. PHONE NUMBER (include area code)
			Unlimited	55	

MONOGRAPH APPROVAL PAGE

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Monograph Title: The Russo-Japanese War of 1904-1905 and the Evolution of Operational Art

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ABSTRACT

THE RUSSO-JAPANESE WAR OF 1904-1905 AND THE EVOLUTION OF OPERATIONAL ART, BY MAJOR WILLIAM A. HAMMAC, 55 PAGES.

The Russo-Japanese War provides a unique opportunity to examine the early roots of operational art, which allowed the Japanese military to overcome a stronger adversary. Although Russia had superiority in land and naval forces, the Japanese were able to use fundamental operational design processes to achieve victories. This monograph takes a qualitative research approach through the study of two cases that focus on the Battle of Port Arthur and the sea battle at Tsushima. These major battles of the war provide insight to the Russian and Japanese approaches in modern warfare and their leverage of operational art. As result of the case analysis, it was discovered that modern warfare during the Russo-Japanese evolved from the ideas of operational scale and reach.

The ability of the general staff to link these elements through a series of tactical actions enabled Japan to achieve its strategic aim. Operational art demonstrated the importance of bridging the continuum of tactics to strategy in modern warfare. The Russo-Japanese War illustrated the evolution of operational art in terms of time and space, the elements of scale including mass of armies, the impact of revolution in military affairs, and the importance of campaign objectives in war. The Japanese developed clear strategic goals and understood the operational environment (OE). Japan's limited strategic aim utilized through an operational design achieved a position of relative advantage over their adversary. Japan's victory would stun world observers and allowed Japan to negotiate a favorable peace with Russia.

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INTRODUCTION

On the news that the Tsar had sent the troops icons to boost their morale, General Dragomirov quipped: “The Japanese are beating us with machine-guns, but never mind: we’ll beat them with icons.”

– Orlando Figes¹

In all the schools of the country military training had an important place, and children and young men took part in the pleasure. Military walks involved problems of fieldcraft, deployments, surprise attacks, movements at the double. In every school the study of Japanese history must have helped strengthen patriotism and the conviction that Japan was invincible.

– General Kuropatkin²

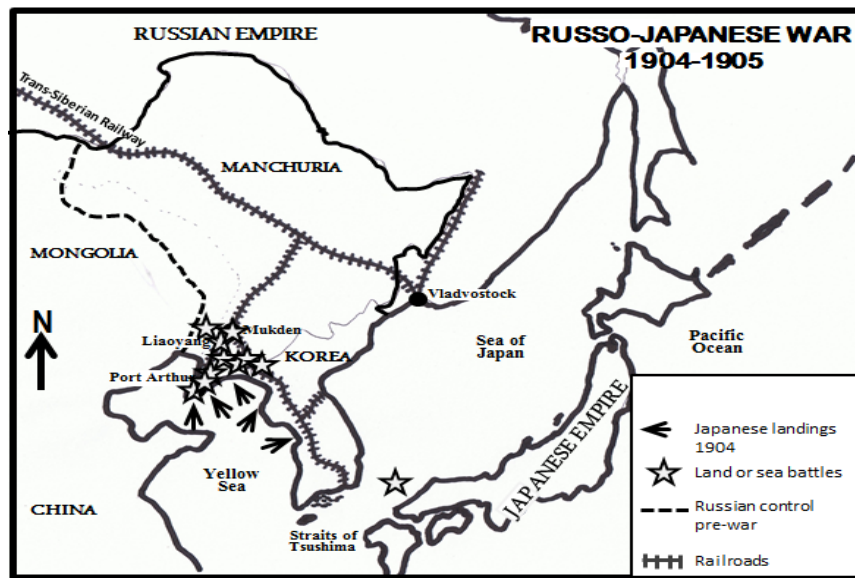


Figure 1. A Map of the Theater of Operation

Source: Created by author

The Russo-Japanese War lasted from February 8, 1904 through September 5, 1905 and was the result of imperial ambitions by both the Russian Empire and the Empire of Japan. For

¹ Orlando Figes, *A People's Tragedy: A History of the Russian Revolution 1891-1924*, (New York: Oxford University Press, 1998), 534.

² J.N. Westwood, *Russia against Japan, 1904-5: A New Look at the Russo-Japanese War* (Albany: State University of New York Press, 1986), 1. Note from General Kuropatkin, who was the Russian war minister paying an official visit to Japan in 1903. His memoirs describe a positive view of Japan, unlike the Tsar, who viewed Japan's inhabitants as puny yellow men from whom Europeans had little to fear.

decades, Russian policy was predicated on the acquisition of a Far East ice-free sea port to support their navy and maritime trade. Since the Port of Vladivostok froze during the winter, Port Arthur provided the opportunity for year round operations. During negotiations Russia and Japan could not agree to terms. Japan proposed recognizing Russian dominance in Manchuria in exchange for Russia's recognition of Japanese dominance over Korea. Russia did not agree to the terms proposed, and Japan began to plan the use of military means to remove Russian influence from the Far East. Russia came to an agreement with China to lease Port Arthur to harbor its Pacific Fleet. Relations soon deteriorated between Japan and Russia leading to the Imperial Japanese Navy attack on Port Arthur. The Japanese were able to defeat the Russian forces over the 18-month campaign, stunning world observers. The war would check Russian expansion eastward and elevate Japan's power and influence in East Asia.

The Russo-Japanese War provides insight to Western and especially Russian military theorists on the operational level of war. World opinion was almost unanimous that the Japanese could not wage and win a war against Russia. This is based upon the premise that the overwhelming numerical superiority of the Russian Army and Navy would inevitably lead to Russian victory.³ When the war began, Russia already had a sizeable force in Manchuria and the Trans-Siberian railroad provided a line of communication across the Russian frontier. Likewise, Russia had an established naval fleet at Port Arthur to maintain control of the seas. The Japanese strategic goals were the occupation of Korea and the Liao-Tung Peninsula and the demilitarization of Manchuria. The Japanese conducted careful planning and sequencing operations on sea and land to achieve this.⁴

³Paul Holmes, "Japanese Operational Art in the Russo-Japanese War" (Monograph, Naval War College, 1996).

⁴Julian S. Corbett, *Maritime Operations in the Russo-Japanese War 1904-1905, Volumes One and Two* (Annapolis and Newport: Naval Institute Press and Naval War College Press,

To contribute to the understanding of the evolution of operational art and the increasing importance of operational level warfare today, this monograph will examine the Russo-Japanese war through a lens focusing not on single tactical actions, but on the preparation for the battle and how it supports further actions to achieve the strategic aim. During this study, there were certain elements of planning that were incorporated by both the Japanese and Russians due to the time and space in which the war occurred. It can be shown that each of the elements contributed, in whole or in part, to how the West defines operational art. It will also become apparent that the elements discussed do not alone constitute operational art; rather than working independently, the elements are brought together with a genius and efficiency through a command structure that allows the exploitation of these elements to achieve the strategic objective.

The concept of operational art was developed in the late 18th century.⁵ Scholars who study the operational level of war highlight certain classic battles as the origin of the concept of linking tactical actions together in order to achieve an overarching strategy. There are arguments as to the origin of operational art, with the era of Napoleon, the American Civil War, and early 19th century Russia being focal points:

“Only a handful of books deal with the history of operational art. Most military historians still view war within the framework of strategy and tactics. The scholars who have studied the operational level of war agree it bridges strategy and tactics, but they rarely agree on the nature of operational art.”⁶

1994), 66.

⁵G.S. Isserson, translated by Bruce Menning, *The Evolution of Operational Art: Brigade Commander Georgii Samoilovich* (Combat Studies Institute Press, U.S. Army Combined Arms Center, Fort Leavenworth, Kansas, 2013), viii-16. Explains operational art as the movement from old concepts towards a new understanding of contemporary war and military art. During the Napoleonic Wars, the development the *Corps d’Armée* gave Napoleon a distinctive advantage over his opponents until at least 1807.

⁶Michael R. Matheny, *Carrying the War to the Enemy: American Operational Art to 1945*, (Norman, Oklahoma: University of Oklahoma Press, 201), xiii.

The exact definition of operational art proves to be somewhat elusive even today as it is influenced by political, economic, social, intellectual, and technological factors. How each factor affects time, space, and purpose feeds a complex framework on the exact understanding of the conduct of war at the operational level. Theorists today who look at operational art history take into account these characteristics to define the birth of operational art.

The Russo-Japanese War was potentially the first ‘modern’ war that included fleet battles at sea in conjunction with enormous scope and logistics in land battles. There were many warfare patterns tested on a large scale for the first time, only to reappear in full maturity a decade later.⁷ The Japanese set a limited objective and achieved it through sequencing battles to defeat the Russian military. During initial analysis of the tactical battles during the Russo-Japanese war as outlined in Table 1. *Tactical Battles of the Russo-Japanese War*, there is a question on how the Japanese were able to achieve tactical victories throughout the campaign against the Russians, who were a formidable foe. This monograph looks at the use of the early understandings of operational art, as understood by two leading theorists which expressed both operational scale and operational reach as a fundamental source in achieving a series of tactical victories. Understanding the complexity of war at the turn of the century, the fundamental pieces can be measured to determine a quantifiable measurement of victory and the sequencing for the next battle. The Russo-Japanese War provides an excellent model of understanding the use of operational scale and reach as armies were now separated geographically from their home bases of operations by either long expanses of land which applied to Russia or for a sea divide experienced by the Japanese.

⁷Rotem Kowner, *The Impact of the Russo-Japanese War* (Routledge: London, NY, 2007), xvi.

Table 1. Tactical Battles of the Russo-Japanese War

YEAR	BATTLE	DAY	LAND/SEA	CONCLUSION
1904	8 February	Port Arthur	Naval battle	Inconclusive
1904	9 February	Chemulpo Bay	Naval battle	Japanese victory
1904	30 April to 1 May	Yalu River	Land battle	Japanese victory
1904	25-26 May	Nanshan	Land battle	Japanese victory
1904	14-15 June	Telissu	Land battle	Japanese victory
1904	17 July	Motien Pass	Land battle	Japanese victory
1904	24 July	Ta-shih-chaio	Land battle	Japanese victory
1904	31 July	Hsimucheng	Land battle	Japanese victory
1904	10 August	Yellow Sea	Naval battle	Tactically inconclusive
1904	14 August	Ulsan	Naval battle	Japanese victory
1904-5	19 August to 3 September	Siege of Port Arthur	Land and Naval battle	Japanese victory
1904	24 August to 3 September	Liaoyang	Land battle	Inconclusive
1904	5-17 October	Shaho	Land battle	Inconclusive
1905	26-27 January	Sandepu	Land battle	Inconclusive
1905	21 February to 10 March	Mukden	Land battle	Japanese victory
1905	27-28 May	Tsushima	Naval battle	Japanese victory

Source: Created by author.⁸

Literature Review

Operational warfare was understood in 19th Century Russia as ‘оперативное искусство’ or operational art. It is a military theory that represents the level of command that coordinates the linkage of tactical actions with the overarching goals of strategy.⁹ Until relatively recent times,

⁸Data analysis of tactical battles obtained from the review of documents at the Russo-Japanese War Research Society at <http://www.russojapanesewar.com/index.html>

⁹Richard E. Simpkin, *Race to the Swift: Thoughts on Twenty-First Century Warfare*

the operational level of war has been introduced as a level of conflict between strategy and tactics. Since the inception of the operational art concept, there has been an intellectual debate on how the phenomenon is defined as a military theory. Not until the turn of the 20th century was there any study of a level of war that goes beyond a tactical battle but does not readily define itself as a strategy. Operational art is a bridge that fills the gap between tactics and strategy. Thus it permits an operational design that is shaped by strategy which affects the tactical level, in particular, a series of tactical actions that will achieve operational level outcomes from the sum of those actions.¹⁰

The ‘art’ of the operational warfare is the synchronization of military actions in a campaign in relation to time, space and purpose to achieve strategic objectives. Certain critical elements are found in military scholars’ varying definitions of operational art. These common threads provide several distinct features in identifying elements of operational level activities, which are used in the analysis of the Russo-Japanese War. Two clearly distinguishable characteristics are scale and reach. No longer were armies bound to one decisive action; instead, there was a series of actions combined with controlling and maintaining the large scale armies seen during the time of Napoleon. Now operational war was determined by moving large scale armies over vast territories, which required the planning of multiple actions, i.e. possessing key terrain, delaying the enemy, capture of strongpoints or cities, and operations against the enemy centers-of-gravity. Also, a military has to maintain the ability to project its power over distances without culminating. The distance and duration across which a unit can successfully employ military capabilities is known as operational reach.

(London: Brassey Defence Publishers, 1998), 24.

¹⁰Edward N. Luttwak, “The Operational Level of War,” *International Security*, Vol.5, No. 3 (Winter 1980-1981): 178.

As later pointed out, scale and reach are common elements in modern war. But the art comes from the employment of military forces within the bounds of those constraints. Early concepts of operational art have roots from the Soviets with A.A. Svechin and M.N. Tukhachevsky being the foremost military theorists. Taken from experiences in the Russo-Japanese War, they proposed that operational art was the “totality of maneuvers and battles in a given part of a theater of military action directed toward the achievement of the common goal, set as final in the given period of the campaign.”¹¹ Further, they established the relationship between operations, tactics, and strategy: “tactics makes the steps from which operational leaps are assembled; strategy points the way.”¹² The concept of maneuver is woven into modern understanding of operational art. Achieving one’s strategic objective requires the understanding of maneuver warfare to ensure tactical success. Operationally, the ability to maneuver in time and space requires a carefully designed plan to effectively employ forces. This planning must also take into account the possibility of enemy actions against the opposing forces. In modern warfare, Israeli theorist, Shimon Naveh, believes operational art is the ability to avoid attritional warfare through maneuver and defeat an enemy’s force by shock.¹³ The art of the operation is to achieve this idea.

Establishing a framework to examine the characteristic of operational art requires the grouping of scale and reach of armies to the implied definition. Combining the two elements requires the use of maneuver in time, space, and purpose. Maneuver facilitates the ability to conduct tactical actions. Jacob W. Kipp points out that, in 1922, Svechin defined operational art

¹¹Jacob Kipp, “Mass, Mobility, and the Red Army’s Road to Operational Art, 1918-1936” (monograph, Command and General Staff College, 1987), 17.

¹²Davis M. Glantz, *Soviet Military Operational Art: In Pursuit of the Deep Battle* (London: Frank Cass, 1991), 23.

¹³Shimon Naveh, *In Pursuit of Military Excellence: The Evolution of Operational Theory* (London: Frank Cass, 1997), 7-23.

as a critical conceptual linkage between tactics and strategy. In this manner, senior commanders transformed tactical successes into operational ‘bounds’ to achieve strategic objectives.¹⁴

Operational art governs maneuver creativity and links together tactical actions into a campaign to achieve the strategic goal. But tactical planning is an art in itself, operational level planning is required by a higher command staff to link the tactical actions together to achieve the strategic objective. Jan G. Bloch (1863-1901), an industrial warfare theorist, wrote *The Future of War* (1899) pointing out that success in future wars depended upon the economic depth to conduct protracted military operations. He was able to see the operational level of war and the importance of sustaining armies in depth by economics. To succeed, it requires proper campaign planning to determine if the strategic objective is obtainable through available economic resources.¹⁵ Chances of success to win a war can be influenced by the nation’s ability to change its economy to support it.

This monograph will argue that operational scale and operational reach are essential to operational art. Operational scale incorporates the use of mass and mobility. Jacob Kipp describes these as roots of success wherein mass is the ability to put substantial forces on the battlefield and concentrate force and firepower at the required time and place, and mobility is the capacity of the force to move before and during battle.¹⁶ Scale is, therefore, the ability to place

¹⁴Jacob W. Kipp, “The Evolution of Operational Art: From Napoleon to the Present 1853-1991,” in *Evolution of Operational Art: From Napoleon to the Present*, ed. John A. Olsen and Martin van Creveld (New York: Oxford University Press, 2011), 64-95.

¹⁵Clayton R. Newwell and Michael D. Krause, *On Operational Art* (Washington, D.C.: U.S. Government Printing Office, 1994), 25-6. Jan Bloch was a Polish banker and railway financier who devoted considerable time to the study of modern industrial warfare. Intrigued by the devastating victory of Prussia over France in 1870, this led to his study of new arms technology, industrial societies and economic attrition. He wrote *The Future of War* (New York: Doubleday & McClure Co., 1899) discussing economic depth and protracted military operations. He presented operational level warfare and the need to conduct campaign planning. His works were translated into Russian in 1910 and used at the General Staff Academy.

¹⁶Jacob Kipp, “Mass, Mobility, and the Red Army’s Road to Operational Art, 1918-

and control a large number of soldiers on the battlefield. Operational reach is an army's ability to maneuver from each successive tactical action, incorporating logistics and timely command and control. James Schneider explores this in his thesis "Vulcan's Anvil," with the use of operational reach during the American Civil War. The rise of maneuver as a form of operational reach is seen as a force moves from one battlefield to quickly build a favorable combat ratio at the next. Schneider's understanding of operational reach includes the use of logistics to sustain the forces in battle and the ability to quickly give commands through rapid command and control systems.¹⁷

During the Russo-Japanese War there was an element of operational art through the use of both operational scale and operational reach. The evolution described by Russian theorists also incorporated Schneider's concepts of operational reach. But as Kipp presented, that operational scale in an ever expansive and complex campaign incorporated both mass and the mobility of forces. Both authors stress the importance of troop movements over space and time. Thus the operational art utilized by both the Russian and Japanese forces in the complex Far East theater required the incorporation of both operational scale and reach to achieve their strategic aims. This was increasingly important as the necessity to move, maneuver, and communicate with massive troop numbers over limited lines of communication put a constraint in both time and space.

Operational Scale (Mass + Mobility)

Clausewitz gave a clear understanding of the three levels of war when he wrote about time and space.¹⁸ He noted, "The concepts characteristic of time – war, campaign, and battle –

1936" (monograph, Command and General Staff College, 1987), 2.

¹⁷James J. Schneider, "Vulcan's Anvil: The American Civil War and the Foundation of the Operational Art" (Theoretical Paper No. 4., U.S. Army Command and General Staff College, 2004), 17.

¹⁸Carl von Clausewitz, *On War*, trans. and ed. Michael Howard and Peter Paret (New

are parallel to those of space – country, theater of operations, and position – and so bear the same relation to our subject.”¹⁹ The sheer magnitude of distances in the Russo-Japanese War would present the problem of dealing with large scale armies. Compared to the limited size of the European theater, both the Japanese and Russians faced the complex problem of conducting battles over vast distances when waging war in the Far East. More than ever, forces would have to connect various tactical actions along a logical sequence with consideration of time and space to complete their strategic goal. Therefore, achieving a strategic objective had become further removed from the tactical actions needed to achieve it.

Jacob W. Kipp, a Soviet Army studies expert, examines the development of the Russian operational art through the development of mass and mobility during the turn of the 20th century. Works from Tukhachevsky, a Soviet military theorist, provide clues learned from the experiences of the Russo-Japanese War, which focused on the mechanization of the massed army as a way to conduct decisive operations.²⁰ The Russo-Japanese War lacked an operational level proficiency by Russia, but lessons learned catalyzed the emergence of Russian operational art. Russia was successful in fielding large scale armies and maintaining them. In many of the wars that Russia participated in decades before and after the Russo-Japanese War, Russia demonstrated its innate ability to field massive armies and smash opponents through sheer quantity. But there was a lack of understanding of the importance in maneuvering of forces, and there was a distinction from the operational understanding of Moltke and Napoleon. It required an understanding of getting forces at the right place and time to conduct a series of battles to achieve the strategic aim. Russian theorists came to realize what Russia lacked in the war against Japan was mobility. This

York: Everyman’s Library 1993), 379.

¹⁹Ibid., 281.

²⁰Jacob Kipp, “Mass, Mobility, and the Red Army’s Road to Operational Art, 1918-1936” (monograph, Command and General Staff College, 1987), 24.

understanding stimulated the mechanization of the force, allowing the massive Russian forces to reach deep into the enemy's rear battle areas. The mobility from mechanization and the ability to integrate arms "to act in close operational-tactical cooperation" brought forth Tukhachevsky's twin themes of combined arms and mechanized forces.²¹ But what about the Far-East Russian forces building up against Japanese forces? Did Russia have an advantage of mass and mobility available for the operational level of war?

In 1904, Russia had the physical capability to succeed. Within the Far East, both naval and ground forces had parity with their Japanese counterparts. Russia's potential dominance, however, came from fresh Western Russian troops and two additional naval fleets (the Baltic and Black Sea Fleets, respectively). It was obvious that there was a limitation to the Russian strategic goals against the Japanese and the conduct of their campaign. Kipp presents the general staff as the artists in the conduct of operational level of war highlighting the Russian military theorists Tukhachevsky and Svechin as influencers upon the later General Staff academy in modern warfare. He does not go into detail of the general staff's capacity on influencing operational thinking in the evolution of operational art. Kipp expresses the development of operational art in the terms of mass and mobility. The operational scale in war is found to be the ability to deploy large armies and move them over a vast area. Kipp states, "In Manchuria the battle field had assumed a breadth and depth, which was unthinkable only a half a century before" expressing what Russian theorists felt was the mobilization, movement and control of massive armies to achieve the operational goal.²² It becomes apparent that Russia lacked the operational level general staff that could arrange a series of tactical actions to achieve an operational success in the Far East theater. Incompetence, a lack of understanding or a combination of the two reduced

²¹Jacob Kipp, "Mass, Mobility, and the Red Army's Road to Operational Art, 1918-1936" (monograph, Command and General Staff College, 1987), 24.

²²Ibid., 4.

Russia's ability to conduct complex maneuvers to neutralize or destroy its enemy. One segment was devoted by Kipp to point out this observation when the Russians were conducting their Civil War in 1928.²³ He points out that the mass and effective mobility of armies is important, but the ability to practice art and create a synergistic effect comes from planning at the operational level general staff.

Kipp further states, "Veterans of the Russo-Japanese War undertook reform measures to make the army ready for what they called 'modern war' and began to study the conduct of operations, debate military doctrine, and create the command and control to conduct the operations by fronts controlling multiple armies."²⁴ Russia took away many lessons and Japan enjoyed the benefits of developing its ability to generate a large military and project its power across the Far East. In the lead up to the Russo-Japanese War, Russian general H. A. Leer taught strategy at the Nikolaevskaia Academy of the General Staff, which did not help the cause. He looked to past leaders like Moltke and Napoleon, extracting their principles and laws of war rather than evolutionary concepts.²⁵ Industrialization impacted the technological dimension of warfare and created a complex environment that was no longer manageable by a single commander. As John Nagl expresses regarding military innovations, the Russians were faced

²³Jacob Kipp, "Mass, Mobility, and the Red Army's Road to Operational Art, 1918-1936" (monograph, Command and General Staff College, 1987), 12. Kipp translates an observation by Tukhachevsky "*Pokhod za Vislu*" discussing the lack of the Red Army staff assets during the 1928 Civil War which required an adaptation to operational level war by formation of 'ram' forces which goes directly into the enemy forces in hopes of disorganizing and demoralizing them. Since the Red Army lacked an operational level planning staff, the Russians could not carry out complex maneuvers which could encircle and destroy enemy forces.

²⁴Jacob W. Kipp, "The Evolution of Operational Art: From Napoleon to the Present 1853-1991," in *Evolution of Operational Art: From Napoleon to the Present*, ed. John A. Olsen and Martin van Creveld (New York: Oxford University Press, 2011), 64-95.

²⁵Jacob Kipp, "Mass, Mobility, and the Red Army's Road to Operational Art, 1918-1936" (monograph, Command and General Staff College, 1987), 4.

with both low- and high-end innovations.²⁶ At the low-end the Japanese planned for a limited war utilizing an operational approach. The high-end saw the industrial and technological innovations in mechanization, railways, warships, and increased lethality of weaponry, forcing both sides to consider their use in order to project their power and impose their will upon each other. As Nagl would argue, the military is good at adapting at the high-end, but the Japanese general staff coordination of the campaign was a rare exception of an army exceling at the low-end.

Mass

During the nineteenth century the ability of nations to field armies of a scale never seen before combined with the need to mobilize and maneuver these forces. The conduct of warfare changed, and military theorists started to see an art in the ways these armies conducted themselves within a theater to achieve the strategic goal. No longer did conflict encompass one ruler or commander directing the battle. Warfare had evolved beyond the commander coordinately tactical action, logistics, and movement of troops. Napoleon proved to be the catalyst of bringing both scale and reach together, creating a revolution in command. What was to be achieved by the Japanese during the war would coalesce the accomplishments of Napoleon. The organization of the army to have general staffs and the development of the corps transformed the massive scale of manpower into a maneuverable and devastating tool. Van Creveld points out

²⁶Roxanne E. Bras, "John Nagl on the Future of Military Innovation," Small Wars Journal Blog Post, entry posted June 13, 2013, <http://smallwarsjournal.com/print/14173> (accessed 18 August 2013). But Nagl is quick to warn against this interpretation. In talking about military innovations, he distinguishes between two kinds: high- and low-end. High-end innovation is generally technologically based, is associated with Russel Weigley's American "way of war," and results in more effective ways of destroying the enemy. Low-end innovation tends to be associated with the allocation of human capital, institutional knowledge, strategy, and operational approaches. It is often relatively inexpensive, but takes time to acquire and implement. While the military is very good at innovating at the high end, Nagl claims that it really struggles to do so at the low end. MTTs are a rare exception of low end innovation, and it took years, and perhaps some careers, to make it so.

that the most influential single characteristic of the new corps, and what made a critical revolution in the operational art, was the sheer size of the formation.²⁷ A corps was comprised of 20-30,000 soldiers with components forming a combined arms unit that contained its own staff. In effect, it was a small army. No longer in history could such a unit, in theory, be overrun within one day. Its ability to sustain a battle for several days provided sufficient time for other corps to arrive. The staff allowed the corps to function as a small army allowing a coordinated response to a single commander.²⁸

The creation of several corps-sized armies allowed movement and durability of forces over larger areas. Napoleon's genius in efficiently managing these forces was his use of a headquarters staff, a concept started by Major-Général Berthier. A commander's effective control depends on the evolution of a staff concept which provides the eyes, ears, and muscle over the span of an army so massive that can no longer be viewed over a single battlefield. During the 18th century, the use of command and the staff was in a transitional period. "On the one hand, there persisted the tendency to concentrate all intelligence and operational matters in the hands of the commander in chief..."²⁹

In 1806 at Jena-Auerstadt, Napoleon defeated the Prussians with his *Grand Armée*. Napoleon organized his armies for easy control over vast terrain. Napoleon was an exception to leading massive forces, as he was able to rely less on his general staff and more on his own operational planning. He developed a balance of effort that the general staff could efficiently manage during an operation, which was based on four principles. They were the creation of the corps, the operational command and control of passing orders, the creation of the headquarters

²⁷Martin van Creveld, *Supplying War: Logistics from Wallenstein to Patton*, 2nd ed. (New York: Cambridge University Press, 2004), 80.

²⁸Ibid., 60.

²⁹Ibid., 39.

staff, and the use of his aides to observe, obtain information, and issue orders at any time.³⁰

David Chandler claims Napoleon exhibited operational art as he could conceptualize the operation, and plan appropriate resources for an operation. The French army corps was able to operationally maneuver through the massive army's ability to be flexible and capable to timely adjust to changing circumstances.³¹ Napoleon was able to manage massive forces and developed the corps under a Field Marshall that could maneuver and sustain until more French forces could arrive.

With scale and reach innovations creating a modern warfare stage during the Russo-Japanese War the complexity would have been overwhelming even for Napoleon. Japan adopted the Western general staff model used by the French and Prussian armies to ensure effective management of armies at the operational level of war. Both the Russian and Japanese Western general staff models leveraged the advantage of improved communications through telegraph and rapid wire-transmitted information. The development of the staff is not the absolute means to the evolution of the operational level of war, but it is a necessity in coordinating military forces within the complex geography of the Far East. The Russians had adopted Napoleon's methods well before the Japanese, and this contributed to the sense that the Japanese military was an inferior force. In 1885, Prussian General von Meckel arrived in Japan and lectured the Japanese on the organization of a general staff. Japan also sent their most promising officers for training in Prussia. By 1904 the divisions were stocked with highly competent, brave, and dedicated

³⁰Martin van Creveld, *Supplying War: Logistics from Wallenstein to Patton*, 2nd ed. (New York: Cambridge University Press, 2004), 97.

³¹David G. Chandler, "Napoleon, Operational Art, and the Jena Campaign" in *Historical Perspectives of the Operational Art*, ed. Michael D. Krause and R. Cody Phillips (Washington, D.C.: Center of Military History, 2005), 65.

officers.³² The Western Prussian model improved and increased the efficiencies of the Japanese military's mobility, management of scale, and operational level planning.

Though Japan had armies located throughout East Asia, the armies operating in the Korean and Manchurian theaters acted independently of each other. Field Marshall Oyama Iwao, who had been an observer of the Franco-Prussian War, took command of the Japanese armies in Manchuria which consisted of four separate armies operating independently. It took considerable effort to create coordinating efforts between them all.³³ The Japanese general staff planned the theater conflict at an operational level, determining the two centers of gravity as being the Russian Army and Port Arthur.³⁴ The Japanese understood that defeating Russia would require taking Port Arthur which was crucial to control of the Sea Lines of Communication.³⁵ The war would still prove costly to the Japanese at the tactical level. Though strategically and operationally superior to the Russians, they fought with outdated tactics against modern weaponry.

Although both militaries had a general staff, the Russo-Japanese War highlighted the slack bureaucratic Russian system. Russian officers were matched in courage but lacked energy and initiative. Some were trained in academies, others were the incompetent sons of nobility.³⁶ There were some reforms that allowed middle-class men to earn commissions. This allowed technical talent to develop competent engineer and artillery units. But, officers with bureaucratic

³²J.N. Westwood, *Russia against Japan, 1904-5: A New Look at the Russo-Japanese War* (Albany: State University of New York Press, 1986), 28.

³³*Ibid.*, 51.

³⁴Historical Section of the Committee of Imperial Defense, "Official History (Naval and Military) of the Russo-Japanese War, Vol. I" (London: Harrison and Sons, 1910), 412; W.D. Bird, *Lectures on the Strategy of the Russo-Japanese War* (London: Hugh Rees, 1909), 65.

³⁵*Ibid.*

³⁶J.N. Westwood, *Russia against Japan, 1904-5: A New Look at the Russo-Japanese War* (Albany: State University of New York Press, 1986), 29.

temperament reached the highest ranks, and the majority of Russian generals in the war could be described as 'bureaucratic.'³⁷ This fostered a culture among officers to avoid criticism and take minimal risks in order to avoid failure. A loss in a defensive action was easier to justify when compared to a loss in offensive action, which could be linked to deficiency in one's decisions. General Kuropatkin was an example of a bureaucratic leader who was not willing to take risks. General Oyama on the other hand had observed the Prussian army encirclement and defeat by the French at Sedan.³⁸ The idea of attack being the best guarantee of success allowed him to gain the initiative in nearly all the battles during the war.

Mobility

Leading up to the Russo-Japanese War, there were examples of militaries successfully exploiting the use of railroads, e.g. the Franco-Prussian war, the Austro-Prussian War, and the American Civil War. Ironically, the Russo-Japanese War would be fought because of the existence of a railway. Eastward expansion by the Russia became a clear threat to Japan's interest from the construction of the Trans-Siberian Railway which linked Western Russia with the Far East. The railway network provided a dynamic element to the Russo-Japanese War. The Russian forces, however, approached their railways in a passive way, regarding them mainly as a logistical support capability, and purely as a means of transport for their human and material supplies. In contrast, the Japanese saw their railways as a factor to be integrated into their overall strategy, using lines as a support facility, but also integrating them into broader plan of attack.³⁹

³⁷J.N. Westwood, *Russia against Japan, 1904-5: A New Look at the Russo-Japanese War* (Albany: State University of New York Press, 1986), 29.

³⁸Ibid.

³⁹Felix Patrikeeff and Harry Shukman, *Railways and the Russo-Japanese War: Transporting War* (New York: Routledge, 2007), 96.

Initially, Russia had various advantages. The Russian Empire took advantage of China's incapacity to secure Chinese territory by treaty. By the time of the war, Russia had created a new Russian navy and the Trans-Siberian Railway (begun in 1891), which provided a two-armed pincer surrounding the weakly-held territories of China, Manchuria, and Korea. But, the Japanese analyzed the operational environment to develop an approach of utilizing the captured rail systems to support a series of tactical actions through the use of the Korean railway network to put considerable pressure on Russian forces. This allowed Japan to achieve a position of relative advantage. As the campaign continued, the Russian Army supplies dwindled and the Russian military was faced with a multi-faceted threat and few options at their disposal.⁴⁰

The Trans-Siberian line, connecting Europe to the Far East with secondary lines running from Harbin southwards to Mukden and Liaoyang, formed the Russian operational reach. But Kuropatkin's misfortune was that the capacity of the railway was limited, and by the time the railway was built up, important battles had been fought and lost.⁴¹ From the beginning, the Russian war ministry regarded the war as minor and did not possess an urgency to improve its lines of communication or to justify a general mobilization. The Japanese gained command of the sea early in the war, which facilitated the rapid transport of troops to the Asian continent and allowed the Japanese to rapidly increase the strength of their army. The war also demonstrated some significant improvements in military logistics as both sides conducted the campaign for a long period and far from their home bases. Japan efficiently sustained its troops on the continent, but the Russians faced logistical challenges due to its requirement to supply the needs of a large army at a distance of nearly 10,000 kilometers from its capital using only a single railway track.

⁴⁰Felix Patrikeeff and Harry Shukman, *Railways and the Russo-Japanese War: Transporting War* (New York: Routledge, 2007), 97.

⁴¹J.N. Westwood, *Russia against Japan, 1904-5: A New Look at the Russo-Japanese War* (Albany: State University of New York Press, 1986), 122.

Another logistical challenge was the voyage of the Russian Baltic Fleet to the Far East, which involved enormous difficulties of refueling along the 33,000 kilometers covered by this armada from its departure point to the location of its defeat. The logistical challenges faced by both sides served as a catalyst for further improvements and new fields that fully materialized in the two subsequent world wars.⁴²

Operational Reach (Maneuver + Logistics + Command and Control)

Before the American Civil War, the majority of modern battles had been fought in Europe, but North America presented a theater several times larger. Given the large territorial expanse of the South and the Union's initial lack of operational sophistication or coherent strategy, the war had the potential to last many more years if the Confederacy maintained a defensive posture.⁴³ After two years of war, the Union began to develop an operational understanding of the Southern terrain they faced. The advances in technology allowed the Union forces to rapidly traverse long distances by rail and communicate quickly by telegraph, greatly increasing the capability of their armies. Strategically, capitulation of the entire South was needed as quickly as possible. Operationally, Grant understood that the way to achieve victory was to attack the South's political and moral heart.⁴⁴ He realized that the Confederate forces west of the Mississippi were insignificant to achieving the strategic objectives of the war, and this analysis influenced how he conducted his campaign.

The distance over which a campaign is fought has grown dramatically throughout history, creating challenges in moving large armies. This change increased the importance of time when

⁴²Rotem Kowner, *The Impact of the Russo-Japanese War* (New York: Routledge, 2007), 14.

⁴³Robert E. Smith, "The Evolution of the Operational Level of Warfare" (monograph, Naval War College, 1992), 34.

⁴⁴*Ibid.*, 36.

conducting operations. Furthermore, the importance of technological revolutions leading up to the Russo-Japanese War influenced command and control structures through the use of communication by telegraph and the development of general staffs educated in the application of operational art. The rapid growth of armies on the battlefield also contributed to the development of operational art, but size alone would over simplify this discussion of scale. The operational reach of such armies required the resources and manpower to move along the vast theater. Perhaps most critical of all is the function of sustainment. Competent operators must organize and sustain the force as well as employ it. The growth of logistics as a staff function reflects its importance in operational art.⁴⁵ Prior to the railroad, commanders stretched the limits of their logistics line.

Napoleon was successful in raising large armies and logistically maintained the reach and durability needed to wage a campaign throughout Europe. The ability to supply enormous armies is just as vital as the size of the formations. Michael Howard points out, “In the 18th century, it was generally accepted that there was a strict limit to the size of armies that could usefully be deployed in the field—a limit fixed by problems of supply.”⁴⁶ France was able to operationally exceed these bounds and change the restrictions of supplying armies over distances. Napoleon supplemented his regular supply sources by organized or unorganized pillage, but when such lines of communication were over extended this tactic would prove disastrous, as experienced by Napoleon when he led his forces into Russia in 1812. His ruthless improvising had its limits, but

⁴⁵Michael R. Matheny, *Carrying the War to the Enemy: American Operational Art to 1945*, (Norman, Oklahoma: University of Oklahoma Press, 2011), xix.

⁴⁶Michael Howard, *War in European History* (London: Oxford University Press, 1976), 99.

nevertheless Napoleon developed an understanding of the sustainment of massive armies over an ever expanding battlefield.⁴⁷

The huge armies of the past had their advantages and the leadership of the time were preoccupied with the problem of supply that they presented. During the American Civil War, General Sherman recognized that the ultimate size of the army that could be sustained during a campaign required careful analysis. There were details sustaining the force along with allocation of forces assigned to security of lines of supply. It required prior planning of tactical actions needed to support the campaign. This provided the operational reach required for the application of operational art. Sherman stated, “The great question of the campaign was one of supplies.”⁴⁸ He recognized the need for centralized control of his logistics.⁴⁹ The Japanese, despite lacking Sherman’s genius in battle, did recognize the importance of logistics in keeping the military in motion. What is significant here is that success no longer hinged upon having a brilliant military leader so long as the ‘machine’ was in place to support and further the fortunes of massed armies.⁵⁰ The army’s sustainment staff provided the planning necessary to absorb unforeseen changes and obstacles and overcome chance in war.⁵¹

⁴⁷Michael Howard, *War in European History* (London: Oxford University Press, 1976), 99.

⁴⁸William T. Sherman, *Memoirs* (New York: De Capo, 1984), 8.

⁴⁹*Ibid.*, 9.

⁵⁰Felix Patrikeeff and Harry Shukman, *Railways and the Russo-Japanese War: Transporting War* (New York: Routledge, 2007), 103.

⁵¹Carl von Clausewitz, *On War*, trans. and ed. Michael Howard and Peter Paret, (New York: Everyman’s Library 1993), 97. Discusses the central element of the remarkable trinity concerning that ‘there is an interplay of possibilities, probabilities, good luck and bad that weaves its way throughout the length and breadth of the tapestry.’ Commanders who overlook chance as an internal element of the nature of war may culminate their forces. Proper planning in sustainment of forces within the campaign allows the forces to absorb the blows of unforeseen actions upon their forces.

In the Far East, both Russia and Japan faced limitations to organic support for their forces. “The Japanese supply system was better organized than the Russian’s and enjoyed the additional benefit of a short line of communication.”⁵² The Japanese had a shorter line of communication separated by the sea, the supply system still had considerable difficulties supplying the tactical military. The official British observation reports cited numerous instances of ammunition shortages limiting battle.⁵³ Neither was Russia prepared for war. Russia lacked the ability to sustain its large scale army and failed to compensate for the distance of its Far East forces. “Official corruption was responsible for much of this unreadiness, government contracts being regarded as sources of private gain.”⁵⁴

The peril of operational scale in conjunction with operational reach was the inability to properly plan for the tactical actions required to support the strategic ends. Surprisingly, Russia had waged successful campaigns during the Caucasian and Crimean Wars prior to their clash with Japan. A competent Russian general staff’s involvement in logistics which provided the necessary reach and durability required by its forces. Clausewitz points out the operational and logistical dimension in warfare in his writings in *On War*.⁵⁵ Prussia made the most of new technologies, particularly railroads and the telegraph, but it was the development of “the first deep-future oriented war planning system” that gave Prussia the critical advantage.⁵⁶ The

⁵²R.M. Connaughton, *The War of the Rising Sun and Tumbling Bear: A Military History of the Russo-Japanese War 1904-5* (London: Routledge, 1988),15.

⁵³Historical Section of the Committee of Imperial Defense, “Official History (Naval and Military) of the Russo-Japanese War, Vol. I.” (London: Harrison and Sons, 1910), 450.

⁵⁴Richard von Doenhoff, *The McCully Report: The Russo-Japanese War 1904-05* (Annapolis: Naval Institute Press, 1977), 243.

⁵⁵Carl von Clausewitz, *On War*, 1832. Trans. and Ed. Michael Howard and Peter Paret. (Reprint, New York: Everyman’s Library, 1993), 129.

⁵⁶Arden Bucholz, *Moltke, Schlieffen, and Prussian War Planning* (Oxford: Berg Publishers, 1991), 9.

Prussian general staff under Moltke's supervision became an extremely capable organization for the efficient planning and execution of the mobilization and deployment of mass armies. Japan's adoption of the Prussian staff model allowed it to sustain and move large scale armies within a theater. Just as important as technological advances were the organizational advances necessary for managing the growing complexity of modern armies. As Michael Howard notes "the greatest military innovation of the nineteenth century was not technological, but rather the organizational institution of the general staff."⁵⁷

Campaign planning is the primary means through which the commander exercises operational art. The theater commander, frequently responsible for several armies, no longer managed a single decisive battle but directed operations that might involve several battles all linked to a common strategic purpose.⁵⁸ Thus, we find a crucial part of the operational art of the Russo-Japanese War. Where both militaries had comparable abilities in both scale and reach of their armies, Japan was able to effectively use operational planning, whereas Russia tended to focus on the tactical battles.

Maneuver

In James Schneider's theoretical study of operational art during the American Civil War, *Vulcan's Anvil*, he proposes that both the railroad and the telegraph provided the technological leap forward into modern warfare. In 1863, America saw the rise of operational maneuver through the four corps of Union General Joseph Hooker's Army of the Potomac. With the use of the telegraph and railway network, Hooker was able to maneuver from one battlefield to the next

⁵⁷Michael Howard, *War in European History* (London: Oxford University Press, 1976), 100.

⁵⁸Michael R. Matheny, *Carrying the War to the Enemy: American Operational Art to 1945* (Norman, Oklahoma: University of Oklahoma Press, 2011), 64.

characterizing an operational level of warfare.⁵⁹ Maneuver is an element of operational art, and Schneider boils the various elements down to one particular aspect, “operational art is characterized by the employment of forces in deep distributed operations.”⁶⁰ This statement bears a similarity to 1920’s Russian theorists’ discussions of operational planning, execution, and maneuver to the next successive tactical objective.

The notion of operational art developing from maneuver and communication through the application of railways and telegraph seems plausible. The art is performed through the ability to plan actions to achieve the strategic aims while utilizing these revolutions in military affairs. Maneuver to conduct deep operations only is not sufficient against a thinking enemy who could interrupt maneuver or worse, cut lines of communication and isolate the army. Having a general staff that understands the operational level of war is paramount to a successful campaign. They provide the ability to synchronize military actions in time and space to achieve strategic objectives. Schneider later highlights the importance of general staff planning at the operational level. There is a need to connect a series of deep actions throughout the battlefield and operational reach achieved by the railway network and telegraph. Under the structure of operational art Schneider highlights eight elements.⁶¹ His closest element to operational planning is covered in ‘operational vision’ where the “operational artists have had characteristically a unified and holistic approach in the design, execution, and sustainment of their campaigns.”⁶²

⁵⁹James J. Schneider, “Vulcan’s Anvil: The American Civil War and the Foundation of the Operational Art” (Theoretical Paper No. 4., U.S. Army Command and General Staff College, 2004), 14.

⁶⁰Ibid., 28.

⁶¹Ibid., 35-58. The structure of operational art consists of eight key attributes. The fullest expression is manifested through 1) the distributed operation, 2) the distributed campaign, 3) continuous logistics, 4) instantaneous command and control, 5) the operationally durable formation, 6) operational vision, 7) the distributed enemy, and 8) distributed deployment.

⁶²Ibid., 53.

The commander along with his staff must process information rapidly and make timely decisions, but there is no further discussion on the processes of operational planning.

The Russian ability to challenge Japanese operational reach was dismal. Despite the Cossacks' excellent reputation at home and abroad, the performance of the Russian cavalry was disappointing and they achieved little. They lacked the capability to adequately conduct reconnaissance and attack enemy supply lines. The Japanese cavalry, although technically inferior, threatened to cut railway lines north of Mukden and was able to exploit weaknesses in the Russian deep areas.⁶³ Russia lacked the ability to conduct any organized offensive operations. Westwood stated the possibility that the Russians' study of Leo Tolstoy's 1869 novel *War and Peace* was the origin of their addiction to defensive tactics and strategy.⁶⁴ Kuropatkin's general strategy of withdrawal in response to the Japanese surprise attacks, stretching their lines of communication while his own forces built up, was a sound one. The same philosophy also found its way into many individual battles. The Russian idea was to stand on the defensive and counterattack.⁶⁵ In the major battles of the war, the Russians never found it possible to move from defensive to offensive, invariably cancelling planned attacks or merely carry out desultory attacks.

Peter Paret's book, *Makers of Modern Strategy*, expands on the proof of the military value of railways during the American Civil War. Armies were able to utilize this technology to make smaller armies appear larger than they were by quickly mobilizing them. Friedrich List, an international political economist of that period, predicted that the impact of railways in modern strategy would bring a shift in power. He saw the use of the railway system in Germany and its

⁶³J.N. Westwood, *Russia against Japan, 1904-5: A New Look at the Russo-Japanese War* (Albany: State University of New York Press, 1986), 129.

⁶⁴*Ibid.*, 129.

⁶⁵*Ibid.*, 130.

ability to rapidly transport troops to increase defensive or offensive capability, believing it could provide a multiplicative factor of ten-fold during an offensive war.⁶⁶ Friedrich List was wrong in thinking that rail would lead to reduced size of armies, on the contrary, railway simplified logistical problems and permitted the movement of larger armies with their supplies and munitions.⁶⁷ Railways were a key component in the ability of armies to provide depth and reach for the massive armies that arose since Napoleon provided a multiplicative factor in battlefield strength.

Logistics

The continuing improvement to logistics in warfare needs to be considered in the use of operational artistry within the Russo-Japanese War. Advances in technology with shipping and transport extended the operational reach of the military. In “Vulcan’s Anvil,” Schneider argues that the rise of operational maneuver forever changed the nature of warfare. He goes on to claim that the art of war that was characterized by Soviet military theorist G.S. Isserson’s strategy of a single point is no longer true.⁶⁸ During the American Civil War, armies no longer marched over long distances to converge upon a single point. A new technique in war emerged from the creative use of distributed operations, which was characterized by “a coherent system of spatially and temporally extended relational movements and distributed battles...that seek to seize, retain, or deny freedom of action.”⁶⁹ Use of the telegraph and railroad during warfare added this new paradigm to the operational level of war.

⁶⁶Peter Paret, *Makers of Modern Strategy from Machiavelli to the Nuclear Age* (Princeton, NJ: Princeton University Press, 1986), 254.

⁶⁷*Ibid.*, 257.

⁶⁸James J. Schneider, “Vulcan’s Anvil: The American Civil War and the Foundation of the Operational Art” (Theoretical Paper No. 4., U.S. Army Command and General Staff College, 2004), 1.

⁶⁹*Ibid.*, 58.

The Union Army's use of railroads in 1865 enabled efficient maneuver from one battlefield to the next. This ability to rapidly project power and the need to move large armies to achieve strategic aims would characterize modern warfare. Schneider presents an argument that the framework of operational art is characterized by distributed operations. This offers freedom of action through movements over vast distances and the organization's durability is provided by its logistics.⁷⁰ The advent of the telegraph and railroad opened the realm between multiple tactical actions to the strategic aims. With the understanding of operational art is in its infancy, this monograph looks at characteristics presented by military theorists that delineate the tactical from the strategic. Theorists looked at various aspects of operational art of the period. Chandler points to Napoleon's *Grand Armée*, Schneider to distributed logistics during the American Civil War, and Kipp looks at Russian theorists in mass and mobility. A common theme between the three is the application of operational scale and operational reach as a defining moment of operational art.

A level of war linking tactical to strategic would seem to be on the horizon. The increase of the scale of armies and operational reach was evident in Europe's development. Construction of new roads and canals facilitated travel over vast distances.⁷¹ The multiplicity of the road network allowed parallel avenues of approaches and making for greater mobility of large scale armies. The guise of Napoleon's understanding of war at the operational level can be attributed to his use of advances in technology and improvements to Europe's infrastructure, but he was still bound to the same constraints of horsepower and handwritten orders, as were his opponents.⁷²

⁷⁰James J. Schneider, "Vulcan's Anvil: The American Civil War and the Foundation of the Operational Art" (Theoretical Paper No. 4., U.S. Army Command and General Staff College, 2004), 58..

⁷¹Martin van Creveld, *Supplying War: Logistics from Wallenstein to Patton*, 2nd ed. (New York: Cambridge University Press, 2004), 60.

⁷²Robert E. Smith, "The Evolution of the Operational Level of Warfare" (monograph,

Modern industrial warfare changed dramatically by the introduction of the railroad⁷³ and the use of coal burning ships. Over the expansive Far East landscape, the utility of the railway systems would provide an open gap between the tactical and strategic for the military that was able to properly plan and sequence its battles in time and space. No longer was the mobility of a force bound by the endurance of the horse or the marching speed of infantry. Howard reinforces Schneider by stating, “Speed of movement was indeed only one of the military advantages conferred by the railway. No less important was the staying power it gave to armies in the field.”⁷⁴ Though rail transport for mobility and logistics was available in the eighteenth century the importance for operational war was not readily recognized. Rail improved as a commercial interest rather than for military application. Only later was rail adapted to provide operational maneuverability by the military. Influenced by Helmuth von Moltke, “...Moltke’s staff had a railroad section that synchronized troop movements and maintained the German railways in wartime, the French entered the war of 1870 with a skein of public and private rail companies, all of which burdened the others with mountains of paperwork every time a load of men or material was transferred from one line to another.”⁷⁵ Von Moltke’s study of the use of railroad networks encouraged the development of a common doctrine on its military application within the German Confederation.⁷⁶ As a result, “it was the first time – in Europe, at any rate – that the full potentialities of the railways as an instrument of war were realized, the beginning process, in

Naval War College, 1992).

⁷³James J. Schneider, “Vulcan’s Anvil: The American Civil War and the Foundation of the Operational Art” (Theoretical Paper No. 4., U.S. Army Command and General Staff College, 2004), 57.

⁷⁴Michael Howard, *War in European History* (London: Oxford University Press, 1976), 98.

⁷⁵Geoffrey Wawro, *The Franco-Prussian War: The German Conquest of France in 1870-1871* (New York: Cambridge University Press, 2003), 49.

⁷⁶Dennis E. Showalter, *Railroads and Rifles* (Hamden, Connecticut: Shoe String Press, 1976), 44.

other words, which gradually took away ‘the secret of strategy’ from the soldiers’ legs and transferred it to the wheels instead.”⁷⁷

The technological advances in transportation across countries have strategic importance. During the American Civil War, the Federal Government enacted on 31 January 1862 two legislative acts. First, it “...set up machinery for an agency to control the operations of captured Southern railroads...” Second, it gave the Government the authority to order the nation’s railroads to transport troops and the necessities of war to the exclusion of all other business.⁷⁸ To support the operational level of war, railroad engineer Daniel C. McCallum was appointed the “military director and superintendent of railroads...with authority to take possession of railroads, rolling stock, and equipment and to operate such lines required for the transport of troops, arms, ammunition, and military supplies.”⁷⁹ This was a significant development in operational art as it provided a central means of controlling the logistics to support a campaign, or series of tactical actions. No longer were railways a fragmented system in warfare with various military formations competing for control of the rail lines, it was now a coordinated method of sequencing troops and logistics in support of the war.

Up to the time of the Russo-Japanese War, wars in the West best demonstrated the impact of railroads at the operational level in its expansion of the boundaries of time and space. During the American Civil War, the Union’s advantage of population and industry was mitigated by the South’s expansive geography. The North America theater of war was considerably larger than any European theater to date. The Union would hold a significant advantage since the majority of

⁷⁷Martin van Creveld, *Supplying War: Logistics from Wallenstein to Patton*, 2nd ed. (New York: Cambridge University Press, 2004), 103.

⁷⁸George B. Abdill, *Civil War Railroads* (Seattle, Wahsington: Superior Publishing, 1961), 9.

⁷⁹Ibid.

the nation's railways lay in the North.⁸⁰ "Without railways and steamships, the North could not have brought its economic potential to bear and probably would have lost the war."⁸¹ Another less discussed contributor of the North's success was the steamboat.⁸² The Japanese and Russians were rapidly developing their naval reach and expending considerable resources in building new warships. Japan's use of Asia's railways would be moot if it remained isolated from the continent. The Russians felt a false security of this buffer of water between them and their potential enemy. Although Russia's three fleets located in the Baltic, and two in the Pacific, were numerically superior, this false sense of security would prove to be a shortsighted downfall in the proper planning to defeat Japan. It is important to note the use of naval vessels in expanding operational reach. In addition to railways, General Grant had to use steamships to expand his reach through his river campaigns along the Mississippi.

General Sherman further expanded the tactical role of rail to the operational. He had found merit in complaints claiming that various district commands that had access to supplies first took the lion's share. Therefore, Sherman took supreme control of the railroad. When Sherman drove to Atlanta, he knew the importance of logistics in a campaign stating, "...that single stem of railroad, 473 miles long, supplied an army of 100,000 men 35,000 animals for the period of 196 days."⁸³ As the American Civil War was winding down, Prussia was fighting in the Danish War of 1864. This experience refined the operational art of railway use in war. The Prussian General Staff fighting in Denmark noted they needed to use maneuverability to overcome the firepower of breechloading rifles and rifled cannons. Due to the range of modern

⁸⁰Geoffrey Parker, *The Cambridge History of Warfare* (New York, New York: Cambridge University Press, 2005), 223.

⁸¹*Ibid.*, 224.

⁸²Robert Cowley, *Experience of War* (New York: W.W. Norton, 1992), 180.

⁸³William T. Sherman, *Memoirs* (New York: De Capo, 1984), 399.

weapons and the size of armies, no longer could one conduct flanking movements at the tactical level, but the solution was to be found at the operational level of war.⁸⁴ The railroad would be the way to that solution.

Command and Control

In the years before the war, Russia and Japan were determining how to deal with each other in regards to their Far East policy. There were for some years driving forces at work that were destined to result sooner or later in war. Russian Admiral Alexiev's had stated, "A war with Japan is inevitable...It may be postponed, but it cannot be prevented."⁸⁵ Russian's approach in dealing with Japan was half-hearted as War Minister A. N. Kuropatkin in 1903 remarked, "the coming war with Japan will not be a war, but a march."⁸⁶ Many Russian observers shared a common view of Japanese inferiority to Russian troops and training. The intelligence gathering on the Japanese was limited to the Russian dignitaries and attachés. Often they would be dependent upon the translations by interpreters which proved to be a vulnerability in intelligence gathering. Overall the Russian military and naval attachés in Japan did an impressive job collecting intelligence but the conflicting jurisdiction, analytical deficiencies, and often myopic perceptions within the tsarist government and military organization limited their contributions. Saint Petersburg was unable to make timely decisions on the intentions or actions of the Japanese. The net consequence was that Russia would enter a Far Eastern conflict at a substantial disadvantage⁸⁷

⁸⁴Dennis E. Showalter, *Railroads and Rifles* (Hamden, Connecticut: Shoe String Press, 1976), 52.

⁸⁵Henry Rowan-Robinson, *The Campaign of Liao-Yang*, ed. C.E. Callwell (London: Constable and Company, LTD, 1914), 2.

⁸⁶Wada Haruki, *Study Your Enemy*, vol. 2 of *The Russo-Japanese War in Global Perspective: World War Zero* (Netherlands: Leiden, 2007), 14.

⁸⁷Bruce W. Menning, *Miscalculating One's Enemies*, vol 2 of *The Russo-Japanese War in*

With the limited intelligence gathered on the Japanese, Russia underestimated the strength of its opponent. The Russian leaders did have knowledge of a pending mobilization of Japanese forces as “the sheer visibility of Japanese naval assets, the majority of which were concentrated in a handful of naval bases that might be kept under direct observation.”⁸⁸ But the lack of urgency and preparation for a Japanese attack can be faulted by the belief of the superiority of the Russian military and the unwillingness of the Japanese to engage in conflict against them. The observer bias continued until the outbreak of war. Because the Japanese Army could not be directly observed like Japan’s naval ships in the yards, the Russian underestimated the Army’s capabilities. With increased Japanese secrecy, there was no way to confirm Japanese troop strength. In the 1903-version of the Russian Army’s threat book, Japan’s wartime mobilized strength was estimated at 358,809 officers and men. The French gave Japan a higher estimate of 634,000 because of their observation of increased financial allocation and reorganizations. In reality, Japan had successfully mobilized 1,185,000 troops by the end of April 1904.⁸⁹ This disparity shows Russia’s lack of understanding of their enemy and led to inadequate planning for dealing with Japan since the plans incorporated estimates of enemy forces at less than one-third the true mobilization strength. When war did break out, the speed and scale of Japan’s mobilization surprised Russia, and this allowed Japan to not only match Russia on the battlefield, but also provided a psychological advantage to maintain initiative and tempo.

Admiral Togo Heihachiro, Commander of the Combined Fleet that attacked Port Arthur and led Japan to victory after the decisive Battle of Tsushima, faced opposition to his plans. Comparison of total national force or power of Japan and Russia showed that Russia’s forces

Global Perspective: World War Zero (Netherlands: Leiden, 2007), 87.

⁸⁸Bruce W. Menning, *Miscalculating One’s Enemies*, vol 2 of *The Russo-Japanese War in Global Perspective: World War Zero* (Netherlands: Leiden, 2007), 148.

⁸⁹ *Ibid.*, 59-61.

were clearly greater. However, a comparison limited to naval forces deployed in the Far East in 1903 showed both naval forces being quite evenly matched. Japanese naval planners understood that as time progressed Russia would gain the advantage as Nicholas II kept building ships.⁹⁰ On April 29th, Navy Minister Yamamoto Gonbe ordered the Standing Fleet to “ensure that there would be nothing left unprepared should the order to action come one morning.”⁹¹ Later on December 30th, the General Staff and Naval Staff agreed upon the naval action first and to prepare for the “Plan of Operations against Russia.”⁹² Ultimately the February 8th surprise attack on Port Arthur did not eliminate the Pacific Fleet, but Russia’s failure to anticipate an attack and its subsequent awareness of the Japanese fleet waiting offshore to finish off remaining ships of the Pacific Fleet provided Japan with the initial momentum it was seeking.

In the end, the Japanese understood the importance of being stewards of their limited resources. They planned and executed operations with as many logistical preparations as were possible. The Russians squandered multiple opportunities to leverage their superiority in both reach and scale of their military. Kuropatkin’s memoir pointed out many of the planning shortcomings within the Russian politico-military system that sealed their fate.⁹³ He noted problems with adventurous diplomacy based on underestimating Japan, poor preparation of logistics, over reliance on the Trans-Siberian railway, quarrelsome relations within the Russian high command, incompetent leadership dealing with large scale armies, and inadequate preparation of troops.⁹⁴ On the other hand, the Japanese had a trained General Staff through

⁹⁰Aizawa Kiyoshi, *Differences Regarding Togo’s Surprise Attack*, vol 2 of *The Russo-Japanese War in Global Perspective: World War Zero* (Netherlands: Leiden, 2007), 83.

⁹¹*Ibid.*, 85.

⁹²*Ibid.*, 86.

⁹³Alexi Kuropatkin, *The Russian Army and the Japanese War*, vol 1, ed E. Swinton and trans. A. Lindsay (New York: E.P. Dutton, 1909).

⁹⁴Yokote Shinji, *Between Two Japano-Russian Wars*, vol 2 of *The Russo-Japanese War*

historical studies and had published an eight-volume official history of the 1894-95 Sino-Japanese War.⁹⁵ Familiar with joint operations, logistical challenges, and the geography of the Far East, the Japanese were able to create a synergistic effect in operational planning when leveraging their militaries scale and reach.

I do not suggest that Schneider is correct in his proposal of the Civil War being the first conflict to express operational art as we understand it today. Napoleon was able to achieve many successes without the benefit of the telegraph or railway system. He was able to master the ability to utilize his resources and available technology to augment his strategic genius. With the scale of the large French armies, he was able to use operational reach more efficiently than his opponents. Napoleon used a form of long distance communication to direct command and control by the masterful use of economic and technological backwardness of the time.⁹⁶ The use of the royal mail system to communicate over distance “twice as fast as it had in Caesar’s day”⁹⁷ and the refined usage of cartography for terrain analysis to extend his army’s operational reach allowed for deeper attacks and more operational level understanding and control in war. The operational artistry comes from the ability to weave the reach of logistics, troops, and communications, which Schneider argues in his thesis.

Methodology

in Global Perspective: World War Zero (Netherlands: Leiden, 2007), 111.

⁹⁵Ibid., 113.

⁹⁶Martin van Creveld, *Command in War* (Cambridge, MA: Harvard University Press, 1985), 59. Discusses the revolution in strategy and the limits in warfare to provide long-distance communication and intelligence concerning the enemy’s operational and tactical moves. “Under such circumstances no very elaborate ‘general’ staff system was required...”

⁹⁷Ibid., 60.

The question still remains: how was Japan able to beat Russia? During the review of the literature, we learn that the evolution of operational art comes from both operational scale and reach. Kipp claims that mass and mobility⁹⁸ of the Russian army was the evolutionary element of the development of operational level of war. The scale of the operational level of war in terms of both size of maneuvering forces and the size of the theater was answered by mechanization. Through lessons learned during the Russo-Japanese War, and subsequent trial and error process, the “Soviet commanders achieved the skill necessary to handle the massive, mechanized forces that Marshall Tukhachevsky championed.”⁹⁹ Thus, the mastery of the scale in battle both in maneuver of forces and the conduct of multiple operations over a campaign theater provides one of the pillars to the evolution of operational art.

In the view of Schneider, the application of operational art in the West was achieved during the Civil War. Operational maneuver provided the new dimension needed to conduct the reach in a vast open theater of war. With the industrial revolution providing the railway and telegraph and its use during war, it psychologically shrank the theater of operations.

“...a furloughed soldier from Wisconsin fighting with the Army of the Potomac could expect to reach home in no more than three days time. The swift rail movement of mail also tended to cement the soldier at the front with the home he had left behind. The rapid movement of information, provided for by the electric telegraph and the emergence of news wire services, brought a new kind of immediacy about the war to those on the home front. The psychological unification of front and rear also began to erode the distinction between soldier and civilian.”¹⁰⁰

⁹⁸Jacob Kipp, “Mass, Mobility, and the Red Army’s Road to Operational Art, 1918-1936” (monograph, Command and General Staff College, 1987), 4. Explains how the Red Army adjusted its force structure to develop the combined-arms military utilizing mechanized forces to conduct maneuver over vast distances in deep into the enemy rear-areas.

⁹⁹*Ibid.*, 25.

¹⁰⁰James J. Schneider, “Vulcan’s Anvil: The American Civil War and the Foundation of the Operational Art” (Theoretical Paper No. 4., U.S. Army Command and General Staff College, 2004), 34.

The unification of the base of operations to the war front allowed for continuous mobilization. As Kipp points out, the speed of movement of troops within the theater to the front to support operational maneuver is the detail needed in conducting operational level of war, but these two elements combined do not produce operational level of warfare. As discussed earlier, the ability to plan these elements in both space and time is the factor needed to create the art below strategic and above the tactical realm.

The study looks at the campaign of both sides, the Russians and Japanese, in the ability to adapt and employ operational art (or lack thereof) to achieve their strategic objectives. The research will be conducted as a qualitative approach to inquiry via two case studies. According to Stephen Van Evera in his book, *Guide to Methods for Students of Political Science*, “A large literature on the case-study method has appeared in recent years, but that literature remains spotty. No complete catalog of research designs for case studies has emerged.”¹⁰¹ The advantage of conducting a case study in this research is the ability to conduct data collection of multiple sources of information which include but not limited to observations, interviews, documents, and reports. In John W. Creswell’s book, *Qualitative Inquiry & Research Design* identifies the characteristics of case studies. In this monograph, the case study identifies specific cases. Second, the intent of the case study is to determine if the use of operational scale and operational reach equals operational art. Third, the case study presents an in-depth understanding of the case. Fourth, it develops a method of data analysis. Fifth, it identifies themes or issues or specific situations to study in the case study. And last, its use of organized chronology to analyze across cases for similarities and differences between the cases.¹⁰²

¹⁰¹Stephen van Evera, *Guide to Methods for Students of Political Science* (Ithaca, NY: Cornell University Press, 1997), 49.

¹⁰²John W. Creswell, *Qualitative Inquiry & Research Design: Choosing Among Five Approaches*, 3rd ed. (Thousand Oaks, CA: Sage Publications, 2013), 98-99.

The first of the cases examined will be the Battle of Port Arthur, the starting point of the war. Second is the Battle of Tsushima, a decisive naval battle for the Japanese that is considered the turning point of the war. Evaluation of doctrine, planning, political situation, and the potential of war will be reviewed. There will be an analysis of the themes of scale and reach to determine if there was an operational level of warfare and how the two themes contributed to either the victory or defeat of the armies. The qualitative case study development attempts to recognize the problem each side faced and the methodology of utilizing the three themes to achieve the tactical advantage in the operational scheme of the war. The focus of looking at each case study is to determine the application of operational art in the Japanese and Russian campaign.

During analysis, an evaluation of operational reach in the context of mass and mobility will be conducted on a scale from outstanding, excellent, good, fair, and poor. This method of qualitative scoring will be conducted for operational reach of maneuver, logistics, and command and control.

TWO CASES

Admiral Alexiev, the Russian Emperor's viceroy in the Far East stated, "A war with Japan is inevitable...It may be postponed, but it cannot be prevented. It is the logical outcome of the incompatibility of the great historic mission of Russia on the coasts of the Pacific with Japanese ambition."¹⁰³

The Russians were looking to expand eastward and acquire an ice-free port which eluded her. Vladivostock was the Russian naval headquarters and closed by ice for three months of the year and dependent upon the attitude of the Japanese which impeded use of the seaways north of

¹⁰³Henry Rowan-Robinson, *The Campaign of Liao-Yang*, ed. C.E. Callwell (London: Constable and Company, LTD, 1914), 2.

Hokkaido.¹⁰⁴ Determining war would be inevitable against Japan, Russia began building the Trans-Siberian Railway in 1891. Russia developed contracts with China to operate from Port Arthur in 1897 and stage a massive land army in the Far East. Japan started to begin decisive steps in ousting Russia's foothold in the east. On 30 January 1902, understanding the importance of alliances to develop an acute perception of power, Japan signed an agreement with Great Britain. As Russia attempted to establish treaties with China, she met stiff diplomatic resistance from Great Britain, the United States, and Japan.¹⁰⁵ By 1903, Russian activity in Korea was becoming more pronounced, which presented a dangerous situation to the interests and security of Japan. Failure to secure any agreement, the Japanese patience came to an end.¹⁰⁶

Japan established an alliance with Britain in 1902 to provide a diplomatic cover for a showdown with Russia. Negotiations between Russia and Japan failed to settle the security and interests of Manchuria and Korea and in January 1904, Japan broke off negotiations. The Japanese started to develop a well-conceived plan and aggressive campaign to conduct simultaneous attacks on the Russian Pacific Fleet and Japanese landings in Korea and southern Manchuria. This would allow the establishment of a foothold to permit reinforcements to expel the Russians from Manchuria altogether.¹⁰⁷

¹⁰⁴R.M. Connaughton, *The War of the Rising Sun and Tumbling Bear: A Military History of the Russo-Japanese War 1904-5* (London: Routledge, 1988),1.

¹⁰⁵*Ibid.*, 6.

¹⁰⁶*Ibid.*, 11. The Russian Ambassador to Tokyo, Baron Rosen, had consistently warned St. Petersburg that if Japan was maneuvered into a corner she would fight. Thomas Cowen, a war correspondent with the *Daily Chronicle*, reported: 'In the evening the die was cast, the waiting ended and the tension relaxed. And Japan was glad – not glad to be at war, but glad to end the terrible strain, glad to know the worst at last.' In fact war was not to be declared until 10 February. Japan had a number of plans to execute before the formal declaration of war.

¹⁰⁷David R. Stone, *A Military History Of Russia: From Ivan The Terrible To The War In Chechnya* (Westport, Connecticut: Praeger Security International, 1968), 138.

Battle of Port Arthur

Historical Setting

The Emperor of Japan was unable to reconcile differences with Russia diplomatically. Russia was an economic juggernaut that was expanding into the Far East, threatening Japanese interests. An imperial conference was summoned on 4 February to hear the opinions of the Emperor's advisors. The chief of staff, Oyama, believed there was only a 50/50 chance of winning a war against Russia and the Imperial Japanese Navy would maintain control of the seas at a great cost. Given Japan's limited population and resources, as time passed it would be impossible to dislodge Russia from the Far East.¹⁰⁸ All advisors agreed that the war would have to be short as a protracted war favored Russia. Plans were set into motion to cultivate relations with the US President to negotiate peace and the military planned to use Japan's limited resources in tactical battles to position Japan for favorable negotiations.

The war began on 8 February 1904, when the Japanese fleet conducted a surprise attack and siege on the Russian forces at Port Arthur despite repeated warnings from diplomatic and military representatives abroad.¹⁰⁹ Admiral Togo Heihachiro was able to heavily damage Russia Pacific Fleet's heaviest battleships. Several tactical battles followed with little success for the Japanese due to the shore batteries protecting the Russian fleet in the harbor. In March the Japanese was able to land an army in Korea, quickly over running the peninsula. The sea operations were successful due to the Russian Pacific Fleet's reluctance to leave the harbor and challenge the Japanese sea lines of communication. Two months later another Japanese army

¹⁰⁸J.N. Westwood, *Russia Against Japan, 1904-5: A New Look at the Russo-Japanese War* (Albany: State University of New York Press, 1986), 23.

¹⁰⁹Walter T. Wilfong, "Rebuilding the Russian Army, 1905-14: The Question of a Comprehensive Plan for National Defense" (PhD dissertation, Indiana University, 1977), 19.

landed on Liaotung Peninsula, and by the 26th of May had cut off the lines of communication for the garrison at Port Arthur.

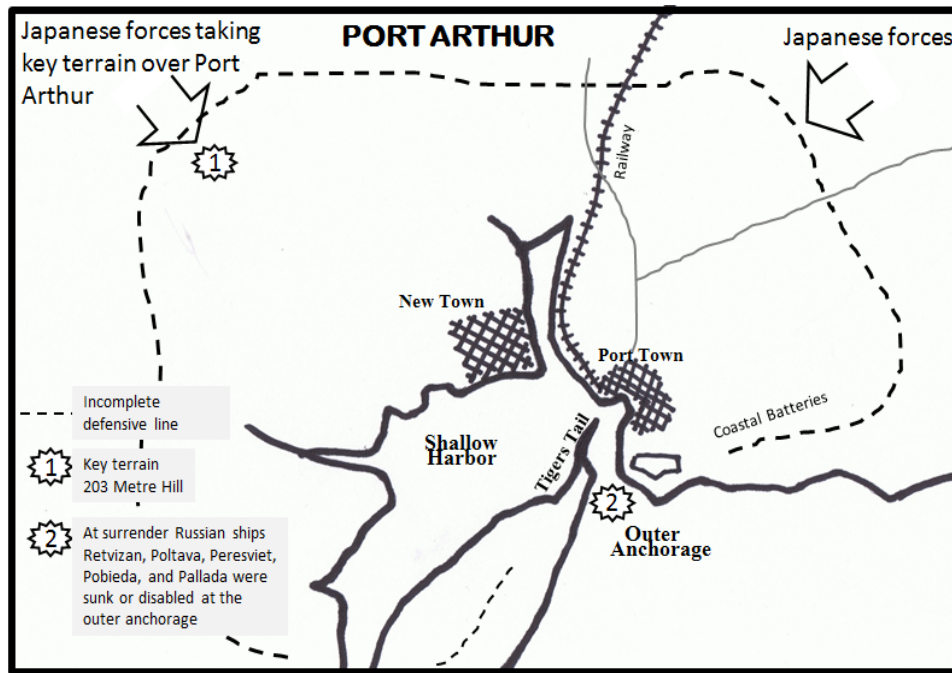


Figure 2. Map of Port Arthur

Source: Created by author.

The siege of Port Arthur was costly for the Japanese due to its assaults being met by machine guns. As observed in Figure 3, the Russians were isolated by land and sea. The failure of the Russians to maintain a defense against the Japanese assault on key terrain at 203 Metre Hill gave the Japanese a significant tactical advantage over Port Arthur. Despite the Japanese losses the commanders had Russia in a precarious situation. The Russian officers at the garrison proved to be divided, however, General Stoessel sent a letter to the Tsar notifying him that the fall of the fortress was imminent. On 2 January 1905, the Russian commander surrendered without consulting his officers leading to confusion with some calling for a withdrawal from the port. Later Stoessel would be found guilty of prematurely surrendering the fortress and sentenced to

prison.¹¹⁰

Analysis of Participants

Many of the Japanese admirals were trained in Britain and midgrade officers spent time supervising the construction of Japanese warships. But the greatest celebrity of the war was Japan's Admiral Togo. The British press described him as the 'Nelson of the East' who as a naval cadet lived with an English family and spent two years on British training ships. By comparison, Russian naval officers were products of a bureaucratic society that valued blame avoidance over technical competence or creative thought. They were less proficient in handling their ships as the fleet spent their winters iced up with crews ashore. After Japan broke off diplomatic relations with St. Petersburg, Admiral Togo had his staff prepare for two immediate operations to support the Japanese campaign against Russia. The main part of the navy was to attack Port Arthur, and a cruiser squadron was to escort troops to Chemulpo (now Inchon).

Port Arthur provided the lines of communication needed for the Japanese to dislodge the Russians from the Korean peninsula. On 15 May 1904, Admiral Nashiba's fleet was ensnared in a Russian minefield destroying two Japanese battleships. Despite this, Russian Admiral Witgeft did not attempt to capitalize on Japan's losses, nor did he consider the possibility of the Japanese landing troops near Port Arthur to attempt a siege by land. Russian decisions and planning solely rested upon the local Russian commanders with little attempt by the general staff to develop an operational plan to defeat the Japanese as "Witgeft, like other Russian admirals and generals, was motivated above all by fear of defeat. He would not initiate a decisive battle unless the circumstances were such that a victory was inevitable."¹¹¹ The Tsar wanted a breakthrough and

¹¹⁰ J.N. Westwood, *Russia against Japan, 1904-5: A New Look at the Russo-Japanese War* (Albany: State University of New York Press, 1986), 115.

¹¹¹ J.N. Westwood, *Russia against Japan, 1904-5: A New Look at the Russo-Japanese*

unjustly questioned the courage of the Port Arthur officers though they were able to justify their argument through Mahan's *The Influence of Sea Power Upon History*. Translated by the Tsar's uncle, Mahan's concept of the 'fleet in being,' albeit inert in Port Arthur, was a far greater strategic value than a bold squadron under the sea.

The Russian's strategic position was dismal. The Trans-Siberian Railway linking Russia's heartland to the Far East was broken at lake Baikal. In the interest of economy, the railway had not been extended around the lake meaning troops and supplies had to be ferried in the summer or transported over the thick ice in the winter. Supply halted during the spring and fall. The Russian knew of the importance of the mastery of the railways from their observers of the Japanese campaign during the Sino-Japanese War. Observer General Vogak noted that the Japanese was effectively able to use rail and sea for mobilization and transport as very well, noting that any European power might envy them. Vogak stated, "the Japanese General Staff can be proud of the results achieved."¹¹²

Strategically, Russia looked towards Korea and Manchuria as the only areas where expansion was possible without precipitating a war. But Russia expansionist policy would bring the Russian government into conflict with Japan, England, and the United States. Though there were attempts by the Japanese to come to an understanding with Russia, the Russians saw no reason to compromise. Russia assumed if it would come to war with Japan, it would be able to quickly dispatch its military and put down the Japanese.

Geographically the Far East was a major problem for Russia and this was a significant factor in its defeat. The theater was more than 5500 miles from St. Petersburg and Moscow, and even further from the main concentration of Russia's best troops, which were located in the

War (Albany: State University of New York Press, 1986), 23.

¹¹²Wada Haruki, *Study Your Enemy*, vol. 2 of *The Russo-Japanese War in Global Perspective: World War Zero* (Netherlands: Leiden, 2007), 18.

western provinces along the borders of Germany and Austria-Hungary.¹¹³ On the other hand, Japan had a shorter lines of communication by both land and sea. The success of the surprise attack at Port Arthur was critical to their war's success.¹¹⁴

Analysis of the Battle

Table 2. Analysis of Operational Scale at Port Arthur

Operational Scale	Summary	Evaluation
Mass	The Russians had a larger number of forces in Korea and Manchuria, they were incapable of logistically supporting this massive army. The Japanese were relentless with ongoing battles, which proved challenging for Russia.	Japan: Fair Russia: Fair
Mobility	Russia was incapable of using a combined arms effect to maneuver, and ultimately mass, forces upon their enemy. The Japanese were able to use captured rail and nearly free support from the sea to support its tactical actions upon the enemy	Japan: Good Russia: Poor

Source: Created by author.

Table 3. Analysis of operational reach at Port Arthur

Operational Reach	Summary	Evaluation
Maneuver	Japan: Admiral Togo's navy maintained a position of relative advantage by corraling the Russian fleet in Port Arthur. Attempts to break out were thwarted and Togo positioned himself to prevent escape to Vladivostok. Russia: Had fortified the port prior to the siege but Kuropatkin had stopped the development of defenses making a line of defense of varying strength. No ability for either the navy or army to maneuver,	Japan: Outstanding use of joint effort. Russia: Fair, little maneuver room but lack coordination to expand it

¹¹³Walter T. Wilfong, "Rebuilding the Russian Army, 1905-14: The Question of a Comprehensive Plan for National Defense" (PhD dissertation, Indiana University, 1977), 22.

¹¹⁴Ibid., 23. Within 24 hours Japan could send troops across the Sea of Japan to the Korean peninsula. Command of the seas was required to move their 283,000 standing man army and later their 400,000 mobilized trained reserves. So at the beginning of the Russo-Japanese War even though Russia had a standing army of over 1,250,000 men, the advantage was all Japan's.

	relying on defensive value of fortifications.	
Logistics	Japan: Controlled sea lines of communication, but distances restricted immediate support and maintenance. General Oyama considered Liao-yang as the main effort, thus the siege was secondary in supply of the army. Russia: Isolated without capability to conduct resupply and maintenance.	Japan: Excellent Russia: Poor
Command and Control	Japan: An honor based organization that had a rigid command structure. Limits ingenuity and adaptation in battle. Russia: Unclear chain of command at the Port Arthur. Admiral Makaroff died in battle on 10 August. Confusion of command during battle.	Japan: Excellent Russia: Poor

Source: Created by author

The siege and fall of Port Arthur was a joint effort of General Nogi's Third Army and Admiral Togo's naval fleet. The 1st and 11th Japanese Divisions remain in the Kuan-tung to form the nucleus of the 3rd Army under General Nogi to besiege Port Arthur.¹¹⁵ While waiting on naval clearing operations, the 3rd Army established positions 12-15 miles from Port Arthur. During this time, the Russians were able to observe the Japanese, while General Fock utilized this time to strengthen the fortifications, which were incomplete. The Japanese used a combined arms effort to oust the Russians from the Port. Though a lengthy low intensity battle, the ability of the navy and army forces to isolate the garrison forces and prevent reinforcement made it a matter of time. When looking at force ratios and provisions, the Russians were still capable. Looking at leadership, the Russian officers were equipped with technical knowledge but lacked initiative or

¹¹⁵Henry Rowan-Robinson, *The Campaign of Liao-Yang*, ed. C.E. Callwell (London: Constable and Company, LTD, 1914), 159.

an ability to solve problems with common sense. It is unknown why Admiral Vitgeft or his staff did not see that Port Arthur was no place for the fleet. Also on land there are many accounts that the council of Admirals – Lojinski who was shore defense, Grigorovitch who was commandant of the naval yard, and Viren in the battleship division – could not agree on a plan of action.¹¹⁶

A lack of understanding of the problem the Russians were facing denied the general officers a more coordinated effort in conducting a break out or to at least coordinate a joint effort to attack Japanese forces. In 1904, LTG Stessel commanded the 3rd Siberian Corps and all defenses of the fortified region of Kwan Tung. General Kouropatkin was the Commander in Chief of all forces in Far East. LTG Smirnof was Commandant of the fortress at Port Arthur. There was a lack of joint efforts to coordinate between the three.¹¹⁷ The command structure was not well defined. The French attaché asked General Smirnof's staff who was now in command of all the forces, and was informed that it was General Smirnof. If General Stessel's staff was asked, they said General Stessel.¹¹⁸

Port Arthur was in a location that was nearly impossible for Russian logistics to support. Japan had its challenges, too, in assuring naval superiority while supporting land operations in Korea and Manchuria. While forced to pursue tactical victories against the Russians, its resources of men were growing thin and the forces needed to take Port Arthur, one of the primary objectives, proved challenging. The growing scale of warfare in time, space, and manpower presented challenges the Japanese mastered only marginally better than the Russians.¹¹⁹

¹¹⁶Newton A. McCully, *The McCully Report: The Russo-Japanese War, 1904-05*, ed. Richard von Doenhoff (Annapolis, Maryland: Naval Institute Press, 1977), 254.

¹¹⁷*Ibid.*, 88.

¹¹⁸Newton A. McCully, *The McCully Report: The Russo-Japanese War, 1904-05* (Annapolis, Maryland: Naval Institute Press, 1977), 134.

¹¹⁹David R. Stone, *A Military History Of Russia: From Ivan The Terrible To The War In Chechnya* (Westport, Connecticut: Praeger Security International, 1968), 137.

The Russians had a formidable force that could face the Japanese, but they were unable to mass them effectively in a concerted effort like the Japanese. Jacob Kipp precisely points out that massing of forces and means refers to one of the principles of military art relating to the concentration of such forces and firepower upon the decisive point. Thus massing enables a decisive superiority over the enemy in an operational battle. Mobility is traditionally determined in a force's ability to move rapidly before combat and during battle.¹²⁰ The Russians' inability to mass forces was evident through their inability to coordinate infantry support to protect their artillery, which also demonstrates a lack of doctrinal combined arms maneuver. Ironically, the Russians had learned these hard lessons through serious errors earlier in Manchuria but failed to correct this deficiency. This was a critical flaw, which was capitalized on by the Japanese when Russian artillery was placed on crests of hills surrounding Port Arthur. The Japanese paid a high price to get the hill tops as there were heavy losses initially when their infantry crossed barbed wire and trenches to get to them.¹²¹ On 20 August, messengers were sent into Port Arthur to request support to hold the surrounding hills. Conflict between staff officers on a decision due to their inexperience or unwillingness to release the reserve started a cascading effect of a disorderly retreat and a situation where it was too late to commit the reserves to the hill crests.¹²² The Japanese gained a significant advantage by destroying Russian artillery and gaining the hill crests surrounding Port Arthur.

¹²⁰Jacob Kipp, "Mass, Mobility, and the Red Army's Road to Operational Art, 1918-1936" (monograph, Command and General Staff College, 1987), 2.

¹²¹J.F.C. Fuller noted that General Nogi was limited on time and had to ensure a timely assault upon Port Arthur before the arrival of the Russian Baltic fleet. General J.F.C Fuller states, "Though such a decision is understandable, for this was the first attempt in history to storm a fortress held with magazine rifles, machine guns, and quick-firing artillery, there was little justification for General Nogi to suppose that it was likely to succeed against so determined an enemy as the Russians had proved themselves to be."

¹²²J.M. Connaughton, *The War of the Rising Sun and Tumbling Bear: A Military History of the Russo-Japanese War 1904-5* (London: Routledge, 1988), 180.

With the hills held by the Japanese, it was a matter of time until the fall of Port Arthur. Concerted efforts by the army and navy ensured that the garrison was pinned, and Japanese artillery was free to bombard the port. After the controversial surrender, when the Japanese checked the stores inventory of the Russians, they were surprised by the amounts that remained. There was not only ample ammunition and food, but the supplies of champagne and vodka also appeared to be inexhaustible.¹²³ After the surrender of Port Arthur, Stoessel returned to Russia to be court martialed along with his Chief of Staff, Fock and Smirnoff. Though Smirnoff was a competent leader, his followership of his superior Stoessel brought forth charges that were later dropped. Stoessel was found guilty and sentenced to be shot, but lived his life out in prison.¹²⁴

Observed in Table 2, the analysis of the mass of the armies between the Japanese and Russians were comparable, the ability to move forces in battle went to the Japanese. The ability to maneuver forces on the battlefield was in the Japanese favor, too. Their navy remained in a position of advantage that afforded freedom of sea lines of communication. This proved important in defeating the Russian's assumption that the Japanese could not bring into Asia a force large enough to oppose them. The Japanese fared slightly better than Russia in operational scale. But in operational reach, the Japanese were able to distance themselves through operational planning to meet their objectives. The ability to maneuver on both land and sea supported their ability to mass troops in time and space with purpose. Logistically challenging due to the vast expanses and geographical challenges posed on both, Japan had foresight to plan appropriately whereas the Russians were not able to adapt and succumbed to false assumptions on their own and their enemy's capabilities.

¹²³Ibid., 207

¹²⁴Ibid.

Historical Setting

During the summer of 1904 the Russian Baltic Fleet was refitted with newer warships to swing balance of naval power in Russia's favor.¹²⁵ But these new ships were a long way from Port Arthur. Russian Admiral Z.P. Rozhdestvensky has set sail on 15 October 1904 from the Baltic port of Liepaja to relieve the Pacific Fleet at Port Arthur (See figure 2.). Circling the globe in a comedy of maritime errors, it nearly managed to start a war with Britain with the shelling of fishing boats mistaken for Japanese torpedo boats north of Europe.¹²⁶ While refitting in Madagascar, it had learned that Port Arthur had fallen and the fleet's sole remaining haven was the port at Vladivostok. The Japanese, on the other hand, used its cruisers to maintain a constant patrolling of the seas. Admiral Togo kept tabs on the progress of the Russian navy as there was potential for the Russians to contest the Japanese for control of the seas. The Japanese victory at Port Arthur tipped favor to the Japanese. Admiral Togo and his Great General Staff under Yamamoto, and the Japanese Cabinet, could have no grounds for complacency. There were rumors that the Russians Baltic Fleet comprised of their most modern battleships, very similar in armament and speed to the Fuji class, to redress the balance in the Far East.¹²⁷

¹²⁵J.N. Westwood, *Russia against Japan, 1904-5: A New Look at the Russo-Japanese War* (Albany: State University of New York Press, 1986), 137.

¹²⁶David R. Stone, *A Military History Of Russia: From Ivan The Terrible To The War In Chechnya* (Westport, Connecticut: Praeger Security International, 1968), 147.

¹²⁷David Walder, *The Short Victorious War: The Russo-Japanese Conflict 1904-5* (New York, New York: Harper & Row Publishers, 1973), 75.

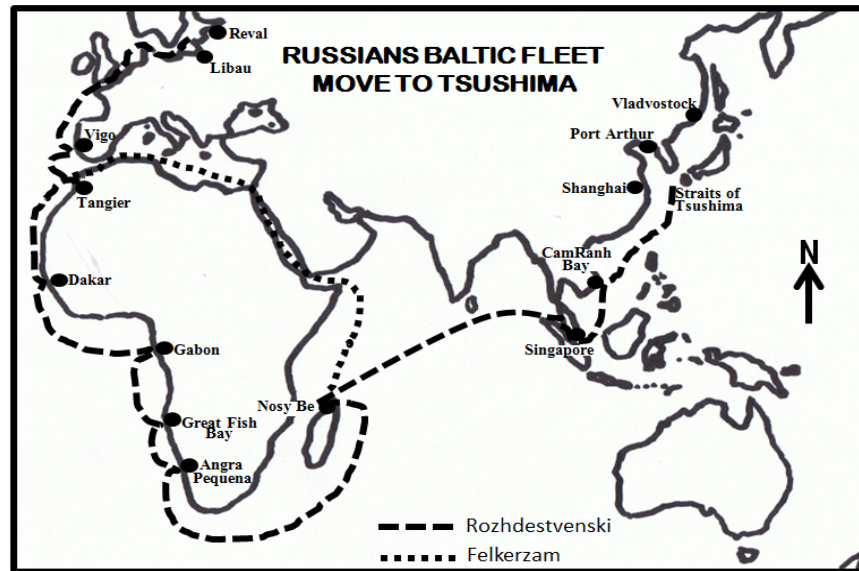


Figure 3. Russians Baltic fleet movement to the Battle at Tsushima

Source: Created by author.

The Japanese naval victory at Port Arthur would give the Japanese the upper hand in the conflict. But the Japanese needed to maintain supremacy of the seas. The land campaign depended on the command of the seas to conduct the complex troop maneuvers. From 27 through 29 May 1905, Admiral Togo Heihachiro's Japanese Combined Fleet intercepted and destroyed the Russian Baltic Fleet in the Straits of Tsushima. Spotting the Russian fleet early, the quick and agile Japanese ships caught the disorganized Russian formations and were able to focus concentrated and accurate gunfire on its lead elements before a textbook "crossing of the T."¹²⁸ As the Japanese steamed across the head of the Russian formation, they poured fire on the stoic but ineffectual Russian ships. Admiral Rozhestvenskii was seriously wounded and failure to effectively transfer command further caused confusion in the fleet floundering without a leader. The Japanese sank six Russian battleships and captured two. Five thousand Russian sailors were

¹²⁸David R. Stone, *A Military History Of Russia: From Ivan The Terrible To The War In Chechnya* (Westport, Connecticut: Praeger Security International, 1968), 147.

killed, and another 6000 captured. Only one cruiser and two torpedo boats made it to Vladivostick.¹²⁹

Japan was nearing exhaustion, financially and in manpower, but the decisive battle at Tsushima, along with increasing political unrest throughout Russia where the war was not popular, brought Russia to the peace table. Due to political unrest, Tsar Nicholas was left with no alternative to stop any pursuit of Russian expansion in the Far East. Although the completed Trans-Siberian Railway was now operational and sending supplies east against a Japanese force running low on manpower, both sides were eager for peace.¹³⁰

Analysis of Participants

Admiral Rozhdestvensky's attitude was uncertain about sending the 2nd Squadron on a risky expedition. With Mahan's theory that "as long as this squadron existed, even in the Baltic, it was a bargaining counter, and argument that one day may help to persuade the Japanese to accept a tolerable peace settlement."¹³¹ Once the decision by the Tsar to move the fleet was made, any strategic implications of the Russian warships immediately turned into a lone tactical act to relieve Port Arthur. Questionable proficiency in the opening days of setting sail, the Russian Second Pacific fleet mistook British fishing trawlers in the North Sea thousands of miles away from Japan as a Japanese navy force. In the chaos, Russian warships fired upon each other scoring hits, killing a sailor and chaplain.¹³² Known as the Dogger Bank incident, it was a sign of questionable leadership and capability of this fleet to assist at Port Arthur.

¹²⁹David R. Stone, *A Military History Of Russia: From Ivan The Terrible To The War In Chechnya* (Westport, Connecticut: Praeger Security International, 1968), 148.

¹³⁰Ibid.

¹³¹J.M. Connaughton, *The War of the Rising Sun and Tumbling Bear: A Military History of the Russo-Japanese War 1904-5* (London: Routledge, 1988), 138.

¹³²Ibid., 247.

Rozhdestvensky's distrust and low opinion of almost all his officers led him to keep his own counsel. Rarely did the fleet know their next port of call or any inkling of the commander's intentions.¹³³ Meanwhile, Admiral Togo tracked the Russian fleet and understood that the Russian fleet would approach Vladivostock through the Straits of Tsushima. He developed a method of finding them. The whole expanse of the Korean Straits and Sea of Japan was divided into numbered squares, representing 10 minutes of latitude and longitude, just like a game of battle ship. Assets were allocated to find the Russians in this web.¹³⁴

After his successful defeat of the Russian squadron at Port Arthur, Admiral Togo was aware that he needed to maintain secure sea supply lines and of his fleet's importance in the grand strategy as the Baltic Fleet approached. Togo's staff analyzed the Russians most likely and most dangerous courses of action. With the Baltic Fleet out of view, even news reports speculated on Rozhestvensky's whereabouts. Choosing the Russian's most likely course of action by taking the shortest route, Togo waited at Mosampo naval base in the Korean Straits. Admiral Togo wrote after the battle the importance of preparation of the forces stating:

“We studied the art of war and trained ourselves in it, but it was put to use for only that short period [at Tsushima]. Though the decisive battle took such a short period of time, it required 10 years of preparation.”¹³⁵

As the Russians stumbled into battle, the Japanese understood their capability and gathered information on the Russian Fleet. The naval battle was a disaster for Rozhestvensky who was injured midway through the battle. The defeat created shock waves in St. Petersburg, and after

¹³³Connaughton, *The War of the Rising Sun and Tumbling Bear: A Military History of the Russo-Japanese War 1904-5* (London: Routledge, 1988), 251.

¹³⁴*Ibid.*, 260.

¹³⁵Jon E. Lewis, *Battles: The Art and Science of Modern Warfare* (New York, New York: Carroll & Graf Publishers, Inc., 1995), 21.

the Russian withdrawal from Mukden this final major battle allowed the Japanese to achieve their strategic aim of creating favorable conditions for a negotiated peace.

Analysis of the Battle

Table 4. Analysis of Operational Scale at Tsushima

Operational Scale	Summary	Evaluation
Mass	The Russian and Japanese faced off with comparable forces. They were able to field a large navy, and to Russia's credit, sail half way around the world.	Japan: Good Russia: Good
Mobility	Though comparably trained, the Japanese ships were slightly faster. Ability to issue commands faster to use mobility to bear massive firepower upon enemy ships.	Japan: Excellent Russia: Poor

Source: Created by author

Table 5. Analysis of operational reach at Tsushima

Operational Reach	Summary	Evaluation
Maneuver	Japan: Admiral Togo navy maintained a position of relative advantage by corraling the Russian fleet in Port Arthur. Attempts to break out were thwarted and Togo would position himself to prevent escape to Vladivostok.	Japan: Outstanding use of joint effort.
	Russia: Had fortified the port prior to the siege but Kuropatkin had stopped the development of defenses making a line of defense of varying strength. No ability for either the navy or army to maneuver, relying on defensive value of fortifications.	Russia: Fair, little maneuver room but lack coordination to expand it
Logistics	Japan: Controlled sea lines of communication, but distances restricted immediate support and maintenance. General Oyama considered Liao-yang as the main effort thus the siege was secondary in supply of the army. Russia: Isolated without capability to conduct resupply and maintenance.	Japan: Excellent Russia: Poor
Command and Control	Japan: An honor based organization that had a rigid command structure. Limits ingenuity and adaptation in battle. Russia: Unclear chain of command at the Port Arthur. Admiral Makaroff died 10 August in battle. Confusion of command during battle.	Japan: Excellent Russia: Poor

Source: Created by author

Operationally and tactically the Japanese held the advantage of maneuver.

Operationally, the Russians had one purpose and did not contribute to the war until it could engage the Japanese in Tsushima. The Japanese, on the other hand, were able to monitor the Russians' progress while using the navy to support operations at Port Arthur and surrounding areas. The Russian Baltic Fleet once at sea showed its incompetence when rumors of Japanese torpedo attacks in the North Sea was taken seriously. For Admiral Rozhdestvenski, he did not attempt to determine the location, disposition, or relative strength of the Japanese fleet to plan against it. He was predisposed with being able to move this fleet into the Pacific without thought of how the battle would ensue or how he would be able to maintain combat with the limited shore to ship supplies for this fleet. Tactically, once the two fleets met at Tsushima, the Japanese shadowing the Russians had a 3 knot speed advantage and started to maneuver its ships. Togo seized and retained the initiative using the speed advantage to good effect.¹³⁶ With Rozhdestvenski's command and control knocked out early in the tactical fight, the Russian fleet succumbed to confusion and Japanese bombardments.

Logistically, the Russians had no sea support in theater once the Russian fleets were subdued and the last fleet located in the Baltic would require months to enter into the war. The Japanese, on the other, had held a significant advantage of having uncontested seaways to support its armies in Korea. Also, the Russians faced the logistical problem of Russian fleet deployment. The move required the supply of coal of 3,000-10,000 tons daily. Unlike Russia's European counterparts, Russia had no colonies to support the journey. Under international law, neutral

¹³⁶R. M. Connaughton, *The War of the Rising Sun and Tumbling Bear: A Military History of the Russo-Japanese War 1904-5* (London: Routledge, 1988), 263.

ports were forbidden to provide support to warships.¹³⁷ Only French colonial coaling facilities agreed to assist.

Conclusion

Commanders operating at the operational scale who wants to fight maneuver warfare should be thoroughly familiar with the history of previous conflicts. The problems that face modern armies have roots in the late nineteenth and early twentieth centuries. Whether Schneider or Kipp are correct in the evolution of operational art at the advent of the railways, telegraph, or mechanization to support maneuver in the deep battles, there is no doubt that commanders faced challenges from the dramatic growth of armies and the increased range and lethality of weapons. Little has been discussed in the evolution of operational art with the management and planning that is conducted by the operational planner. No longer can commanders conduct on a whim maneuvers or mobilizations. Now it takes careful analysis by the operational planning staff to plan for the myriad of problems that come from dealing with large armies and a complicated enemy.

During the Russo-Japanese war, the Japanese learned the way of European warfare and utilized their understanding of operational level war to set an achievable objective and the actions needed to achieve it. There were over a dozen named battles during the war, which could be a case study in itself, but both Port Arthur and Tsushima proved to be major causes of celebration for the Japanese. Both sides faced supply difficulties throughout the war. The Russians did not understand the challenges of a geographically isolated army and navy; though able to sustain them, they could not adequately support them during conflict. Also Russia's command and control was seen as a digression from the glorious periods of victory during the Russo-Turkish

¹³⁷R.M. Connaughton, *The War of the Rising Sun and Tumbling Bear: A Military History of the Russo-Japanese War 1904-5* (London: Routledge, 1988), 242.

war (1877-1878). The Tsar was misinformed by the field commanders, and the sense of economic might in the west could overcome the obstacles they faced, prompted Russia to throw piece-meal war materials towards the east to face Japan. The Japanese on the other hand knew they had challenges as the war continued. They had to achieve victory as quick as possible against the Russian juggernaut, so not only military victories were important, but the psychological effects of making this a costly war for Russia. Immediately after the Battle of Mukden both Oyama and the war ministers stressed the necessity of terminating the war through peace negotiations. But at the time Tsar Nicholas, who was being assured by his generals that victory was near, did not consider negotiations. It was not until the fall of Port Arthur and the shock of losing his navy at Tsushima in May 1905 that he decided negotiations were necessary.¹³⁸

The evolution of operational art was most profound during this era. From the growth of the *Grande Armée* of Napoleon's corps as discussed by theorist Bruce Menning, or through the vast expanse of the modern campaign field, which theorist James Schneider points out as the beginning of operational art; it can be argued that the commander's ability to plan an operation which requires the integration of arms, logistics, and getting troops into the battle, is an art in itself. As Jacob Kipp discusses the Russian evolution of operational art, the reader can see there is a multitude of definitions for operational art. Today in U.S. doctrine there are two definitions of operational art from Joint Publications 3-0 and Army Doctrine Publication 3-0.¹³⁹ So, in 1904-1905, how were the Japanese able to beat a superior adversary in battle? How could the

¹³⁸J.N. Westwood, *Russia Against Japan, 1904-5: A New Look at the Russo-Japanese War* (Albany: State University of New York Press, 1986), 155.

¹³⁹ Department of the US Army, *Joint Publication 3-0, Joint Operations*, August 11, 2011. Doctrine for Joint Operations defines operational art as the use of creative thinking by commanders and staffs to design strategies, campaigns, and major operations and organize and employ military forces. In Army Doctrine Publication 3-0, 2012, 9. Army doctrine defines operational art as the pursuit of strategic objectives, in whole or in part, through the arrangement of tactical actions in time, space and purpose.

Russians, who were an economic power vastly superior to Japan's small global presence, lose in the Far East with a military force equivalent to Japan? The Japanese were able to use many dimensions of operational art as explained by both theorists Schneider and Kipp. This monograph displayed that the understanding of the operational level of war allowed the commanders to apply the art needed to link tactical actions to achieve a desired end state.

Both the scale of an army and the distance an army can operate alone illustrates operational art at the time of the Russo-Japanese war. Operational art is found to be a formula of operational scale multiplied by operational reach. But, the Russians had a massive army and was able to sustain it in the Far East. As discussed earlier, operational scale is the accumulation of mass and mobility. Operational reach is maneuver, plus logistics, and command and control. The Japanese were able to offset advantages held by the Russians through the effective use of mobility, maneuver, and command and control. Though Russia had an equivalent army in the Far East, it was not able to effectively provide for mobility in the campaign; also Russia was hindered by a restrictive bureaucratic command and control system.

The Russo-Japanese War demonstrated that the Japanese learned lessons from the Prussians with land armies and from the British for its navy at the operational level of warfare. However, the evolution was not consistent in all aspects of warfare. Though the Japanese were able to demonstrate skill at movement, maneuver, logistics, command, and the use of tactical actions to achieve their objective, they also fought using tactics 30 years out of date. The Japanese utilization of operational art against Russia was at least as important as the factors of scale and reach. The Japanese military leaders knew any prolonged war would continue to benefit the Russians. Hence, the peace treaty which resulted from Theodore Roosevelt's mediation was unpopular with the Japanese people, who saw their army as invincible through

victories earlier in the war.¹⁴⁰ In the end, the Japanese use of operational art achieved their objective to displace Russia from the Far East. They were able to defeat a larger adversary and stunned world observers.

¹⁴⁰Shumpei Okamoto, *The Japanese Oligarchy and the Russo-Japanese War* (New York and London: Columbia University Press, 1970),142.

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