

Logistics and Strategy

A Monograph

by

MAJ Jereon Hall
United States Army



School of Advanced Military Studies
United States Army Command and General Staff College
Fort Leavenworth, Kansas

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Monograph Approval Page

Name of Candidate: MAJ Jereon Hall

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Approved by:

_____, Monograph Director
Dan C. Fullerton, PhD

_____, Seminar Leader
James W. MacGregor, COL

_____, Director, School of Advanced Military Studies
Henry A. Arnold III, COL

Accepted this 4th day of December 2014 by:

_____, Director, Graduate Degree Programs
Robert F. Baumann, PhD

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Abstract

Logistics and Strategy, by MAJ Jereon Hall, 46 pages.

Logistics is the lifeblood of strategy. Without effective logistical planning, military efforts perish after the first wave of actions. World War II is no exception. Support units provided adequate supplies, services, and modes of transportation to maneuver units to extend operational reach and provide greater freedom of action. Superior logistical capabilities led to victory for the United States. However, this was not always the case. US forces did not start with an advantage in logistics and this had severe repercussions. The study of the Guadalcanal Campaign and Operation Cartwheel in the Pacific Theater of Operations during World War II illustrates the criticality of logistics in determining the strategy military organizations adopt to accomplish their mission. Limited materiel, production capacity, services to construct transportation assets, fuel, and delivery schedules played a major factor in when and where Allied forces conducted operations. By studying how logistics dictated strategy in the Pacific Theater, contemporary planners will draw lessons on identifying and overcoming shortfalls in training and organization in complex, resource-restricted environments.

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Introduction

The first, the supreme, the most far-reaching act of judgment that the statesman and commander have to make is to establish by that test the kind of war on which they are embarking.¹

- Carl von Clausewitz, *On War*

War is a conflict between two systems and the goal of war is to put the opposing system into operational shock.²

-Shimon Naveh, *In Pursuit of Military Excellence: The Evolution of Operational Theory*

For centuries, war theorists have developed varying views on the context of war. Carl von Clausewitz, the nineteenth century Prussian war theorist and author of *On War*, viewed war as an instrument of policy. He argued that war requires a strategy to address its nature due to motive and situations.³ While historians praised Clausewitz for his theory on the purpose of war and insightful influences on military planners, he does not address in detail the subject of warfare.⁴ More recently Shimon Naveh, a former Israeli Brigadier General and author of *In Pursuit of Military Excellence: The Evolution of Operational Theory*, indicated the goal of war is to shock the opposing force's system, weakening that system to create an opportunity for exploitation. To accomplish this, planners develop different options to address the goals set by national policy.

In creating options, planners usually place great emphasis on where to defeat decisively the adversary, but do not detail how to arrive at the decisive point. In *On War*, Clausewitz placed

¹ Carl von Clausewitz, *On War*, Edited and translated by Michael Howard and Peter Paret (Princeton, NJ: Princeton University Press, 1984), 88.

² Naveh Shimon, *In Pursuit of Military Excellence: The Evolution of Operational Theory* (Cummings Center Series; Frank Cass Publishers, 1997).

³ Clausewitz defined military strategy as “the employment of battles to gain the end of war.” Additionally Clausewitz stated strategy attempts to shed light on the components of war and their interrelationships. See Clausewitz, *On War*, 177.

⁴ Merriam-Webster dictionary defines warfare as “military operations between enemies.” Accessed September 29, 2014 <http://www.merriam-webster.com/dictionary/warfare>.

emphasis on the importance of superior troop numbers at the decisive point, but he provided no details on how to move or support those soldiers. Nevertheless, Clausewitz illustrated the point with the example of Napoleon Bonaparte's unsuccessful invasion of Russia in 1812.⁵ Napoleon planned for a swift, decisive engagement against the Russians. His logistical plans, however, failed to supply adequately his estimated seven-hundred thousand-man Grand Armee along long lines of communications to reach Moscow.⁶ This caused Napoleon to lose an estimated four hundred thousand men and led ultimately to his defeat.⁷

To conduct war as an instrument of policy and to shock an opposing force's system, military forces require adequate resources and services, e.g. soldiers, equipment, weapons, transportation assets, etc., at decisive points.⁸ After the failed invasion of Russia in 1812 by Napoleon, French theorists realized the importance of detailed support planning to strategy. The French created a term in the late nineteenth century called *logistique* to describe the lodgment of soldiers, equipment, and supplies.⁹ Over time, the concept of logistics evolved from the simple task of providing housing into multifunctional capabilities utilized across the world. Logistics provides options, which enable strategy, from the provision of humanitarian aid to support

⁵ Sun Tzu, Carl Von Clausewitz, Niccolo Machiavelli, and Baron De Jomini, *The Art of War: The Complete Art of War* (Start Publishing LLC, 2012), 227-233.

⁶ Richard K. Riehn, *1812 Napoleon's Russian Campaign* (New York: Wiley, 1991), 50.

⁷ Operational variables describe political, military, economic, social, information, infrastructure, physical environment, and time (PMESII-PT). See Army Doctrine Reference Publication (ADRP) 3-0, *Unified Land Operations* (Washington, DC: Government Printing Office, 2012), 1-1, 1-2.

⁸ A decisive point is a geographic place, specific key event, critical factor, or function that, when acted upon, allows commanders to gain a marked advantage over an adversary or contribute materially to achieving success. See Joint Publication (JP) 3-0, *Doctrine for Joint Operations*. (Washington, DC: Government Printing Office, 2011), GL-8.

⁹ J.Tepic, I.Tanackov, S.Gordan, *Ancient Logistics – Historical Timeline and Etymology* (Technical Gazette 18, 2011), 379.

operations such as that in Haiti, to the air movement of troops across a vast desert in Saudi Arabia during Operation Desert Storm.¹⁰ History has shown some theorists who support the concept of logistics as the key to achieving strategy.

Antoine-Henri Jomini, a nineteenth century French theorist and author of *The Art of War*, defined logistics as “the art of moving armies.”¹¹ Jomini viewed logistics as the driving force behind conducting strategy. He devoted a significant portion of his book, *The Art of War*, to logistics and listed eighteen principle points covering the aspects of materiel preparation and establishment of lines of communications to the security of movements and basing of soldiers. Jomini linked strategy and logistics by stating, “Logistics comprises the means and arrangements, which work out the plans of strategy and tactics; strategy decides where to act; logistics brings the soldiers to this point.”¹² One cannot co-exist without the other. Without logistics, the military cannot achieve a successful strategy; without strategy, logistics loses its value to war. Most military planners ignore Jomini’s theory due the complexity of strategy and perceived simplicity of logistics. However, this is not accurate. Logistics requires the same, if not more, effort in planning, resource identification, and synchronization as strategy. The result of World War II, in particular the Pacific Theater of Operations, demonstrates strongly Jomini’s theory on logistics dictating strategy.

The study of the Guadalcanal Campaign and Operation Cartwheel in the Pacific Theater of Operations during World War II illustrates the criticality of logistics in determining the

¹⁰ Logistics includes those aspects of military operations that deal with: design and development; acquisition, storage, movement, distribution, maintenance, and disposition of materiel; acquisition or construction, maintenance, operation, and disposition of facilities; and acquisition or furnishing of services. See Army Doctrine Publication (ADP) 4-0, *Sustainment* (Washington, DC: Government Printing Office, 2012), 1.

¹¹ Jomini, et al, *The Art of War, The Complete Art of War*, 442.

¹² Ibid., 486.

strategy military organizations adopt to accomplish their mission. Limited logistic training, materiel, services to construct transportation assets, fuel, and delivery schedules played a major factor in when and where Allied forces conducted operations. By studying how logistics dictated strategy in the Pacific Theater, contemporary planners will draw lessons on identifying and overcoming shortfalls in training and organization in complex, resource-restricted environments.

Today, the United States (US) Department of Defense (DoD) defines strategy as "a prudent idea or set of ideas for employing the instruments of national power in a synchronized and integrated fashion to achieve national or multinational objectives."¹³ The military is one of the nation's instruments of power and supports enduring strategic interests in accordance with the National Security Strategy.¹⁴ Strategic planners create strategies to generate options against problem sets in the world. Problems emerge from dynamic relationships between multiple variables within a complex environment. Neil Harrison, author of *Complexity in World Politics*, described complexity as pattern of beliefs and events in the world that are the essence of reality and required empirical investigating to develop an understand.¹⁵ A complex environment presents issues due to the connections and dependence between variables. If one variable is disturbed, it may affect another in an unintended manner, e.g. economic sanctions against an oil rich country may raise prices in other regions of the world. Strategy mitigates the effects of complexity by prioritizing objectives and resources in order to address worldwide problem sets. However,

¹³ Joint Publication (JP) 1-02, *Department of Defense Dictionary of Military and Associated Terms* (Washington, DC: Government Printing Office 2014), 244.

¹⁴The National Security Strategy (NSS) is a document prepared periodically by the executive branch of the government of the United States for Congress which outlines the major national security concerns of the United States and how the administration plans to deal with them. The NSS consist of four enduring interest: prosperity, values, international order. See *National Security Strategy* (Washington, DC: Whitehouse Press, 2010), 17-40.

¹⁵ Neil E. Harrison, *Complexity in World Politics: Concepts and Methods of a New Paradigm* (State University of New York Press, 2006), 2.

similar to conditions in World War II, today's military does not have an abundance of resources to engage every problem in the world. This requires planners to develop varying options to accomplish strategy.

While resource constraints and limited budgets demand creative thinking, the ultimate goal of the military logistics system must remain to provide effective services, which informs the types of strategy the military conducts.¹⁶ Efficient logistics allows maneuver units to adapt their operations quickly in response to changes in the environment, thus increasing operational reach and tempo.¹⁷ Kenneth E. Boulding, author of *Conflict and Defense: A General Theory*, created the concept of the "Loss of Strength Gradient," which demonstrated that the farther away the target of one's aggression, the less available strength one could focus for operations.¹⁸ The loss of resources, e.g. airpower, basing, subsistence, transportation, munitions, within an operational environment contributed to the concept. However, as resources increase within an operational environment, the Loss of Strength Gradient's relevance deteriorates, thus increasing operational reach and tempo. This theory applies to the US military's ability to exploit increased operational

¹⁶ In 2013, government officials defined sequestration as "a series of automatic, across-the-board cuts to government agencies, totaling \$1.2 trillion over ten years. The cuts split 50-50 between defense and domestic discretionary spending. It's all part of attempts to get a handle on the growth of the U.S. national debt." See Matt Smith, *CNN Explains: Sequestration* accessed July 23, 2014 <http://www.cnn.com/2013/02/06/politics/cnn-explains-sequestration/>

¹⁷ *Operational reach* is the distance and duration across which a unit can successfully employ military capabilities. *Tempo* is the relative speed and rhythm of military operations over time with respect to the enemy. The limit of a unit's operational reach and tempo is its culminating point. Prepositioning stocks facilitate both; capability to project Army forces and sustainment to an operational environment; to open/close theater ports; establish forward bases. See Army Doctrine Reference Publication (ADRP) 3-0 *Unified Land Operations* (Washington, DC: Government Printing Office, 2012), 4-2, Glossary-5 and Martin van Creveld, *Technology and War: From 2000 B.C. to the Present* (New York, NY: Free Press, 1989), 316.

¹⁸ Kenneth E. Boulding argued the Loss of Strength Gradient demonstrated that the amount of a nation's military power brought to bear in any part of the world depended on geographic distance. See Kenneth E. Boulding, *Conflict and Defense: A General Theory* (New York: Harper, 1962), 262.

reach and tempo in order to maintain a presence in multiple theaters such Europe, the Middle East, and the Pacific.¹⁹

For example, operations in the Iraq and Afghanistan theaters resembled activities in Europe and the Pacific during World War II in that US forces in the two Middle East theaters competed for resources. The military could not sustain high tempo operations simultaneously in both theaters. The amount of personnel and resources needed to conduct full-scale operations across two theaters of war exceeded the capabilities of the military. The US government decided to spend more effort on Iraq due to the increased threat by Al Qaeda in the area and perceived reduction of violence in Afghanistan. The ability to surge large numbers of troops and resources allowed the United States to conduct a wide spread counterinsurgency strategy to suppress the influence of Al Qaeda in Iraq. Once the level of violence decreased in Iraq, the United States reallocated resources between the theaters. The lessons learned on the application of logistics to strategy from conflicts such as World War II and today's Middle East contributed to changes in doctrine over the years in an attempt to integrate logistics and strategy.

One example of doctrine change is the Army's effort following World War II. Army doctrine barely mentioned logistics in Field Manuals (FM) such as FM 100-5 Field Service Regulation, *Operations*, and FM 100-10 Field Service Regulations, *Administration*. Doctrine writers simply defined logistics "as the art of planning and carrying out military movement, evacuation, and supply."²⁰ Strategic leadership viewed logistics as all noncombat arms functions. They consolidated all support activities, e.g. signal, engineering, etc., under logistics. This implied a robust organization that did not exist leading to an unclear division of labor amongst the services. In addition to structural difficulties, training proponents focused more on tactics than

¹⁹ ADRP 4-0, 11.

²⁰ Lieutenant Colonel Jeffrey C. Brlecic, "Logistics, Combat Service Support, Sustainment: Evolving Definitions of Support" (*Army Sustainment* Vol 41, Issue 5, 2009).

logistic preparation during the interwar period due to peacetime. This resulted in eroded logistical skills across the Army. The combination of broad logistics concepts, disorganization, and inadequate training handicapped many planners, led to initial limitations in developing effective strategies against the Japanese. However, during the Pacific conflict, military professionals began to recognize the critical value of logistics to strategy. This led to improvements in logistics planning, training, and organization, resulting in strategies that were more efficient. Following World War II, Army doctrine writers attempted to expand on the logistical lessons learned in the resource-restricted Pacific, but failed to apply them to strategy. Similar to the interwar period before World War II, leadership de-emphasized logistics due to multiple attempts to reorganize organizations. However, the Army continued through multiple iterations to revise its doctrine in an attempt to integrate logistics and strategy.

Current doctrine attempts to apply the lessons from past conflicts such as the resource-restricted environment of the Pacific by integrating logistics and strategy. The Army's operational doctrine titled *Unified Land Operations* provides a means of conceptualizing campaigns and operations, as well as a detailed understanding of conditions, frictions, and uncertainties that make achieving the concept difficult. Forming strategy involves creating an understanding of the environment and its problems to create options for solutions.²¹ To inform the concept of Unified Land Operations, the Army updated its service and support concept to focus on how the elements of sustainment, in particular logistics, ensure operational success by providing operational reach, freedom of action, and prolonged endurance.²² Lacking adequate logistics concepts, capabilities, and training, Unified Land Operations would be limited in effectiveness and in range options. The lessons learned from World War II informed this inference. The next section of the monograph

²¹ ADP 3-0, 1.

²² The elements of sustainment consist of logistics, health service support, and personnel services. They increase the number and quality of planning options. See ADRP 4-0, 1-1, 1-2, 3-1.

covers the United States struggles to prepare for World War II and the implication of logistics dictating the type of strategy used by Allied forces.

World War II

World War II presents an opportunity to study the influence of logistics on the types of strategy implemented by the United States. An analysis of the strategic conditions in the United States from 1939 to 1941, operations in the Pacific Theater, and the execution of the Guadalcanal Campaign and Operation Cartwheel will illustrate the connection between logistics and strategy. The Center for Military History publication *Logistics in World War II: Final Report of the Army* consolidates the logistics lessons learned across three Theaters of Operation during World War II.²³ The book highlights the acknowledgement of the well-known exploits of strategic and tactical leadership in the Pacific during the war. However, the book's author also alludes to the efforts of the military to adapt to a complex and resource constrained environment. The military struggled through the early failures of logistics planning and strategy units across the air, land, and sea domains, only to develop creative ways to overcome and defeat the Japanese. The book conveys the importance of how logistics informed the type of strategy of Allied forces and the timing of operations.

Strategic Conditions Prior to World War II from 1939 to 1941

At the end of World War I, the US military included an estimated five million service members.²⁴ Immediately after the war, the number of service members and the warfighting capabilities they represented decreased due to budget cuts. With no clear threats to the nation's security, the US government viewed the cuts as necessary during peacetime. The War

²³ Center for Military History, *Logistics in World War II: Final Report of the Army Service Force*. (Washington, DC: Center for Military History, 1993), 244.

²⁴ Spencer C. Tucker and Priscilla Mary Roberts, *Encyclopedia of World War I* (Santa Barbara, 2005)

Department advocated for an update to weapons and equipment through the industrial sector. Congress denied the request. As a result, the military had to conduct daily activities with fewer resources. The Army totaled an estimated two hundred thousand men and operated three divisions with several makeshift brigades scattered across the country in mid-1939.²⁵ The newly established Air Corps included sixty-two tactical squadrons. The Washington Naval Treaty of 1922, an arms control agreement, limited construction of naval vessels.²⁶ There were no specialized service soldiers to provide support. The restricted number of personnel, equipment, transportation assets, and financial funds limited training opportunities. However, in late 1939, the United States needed to reconsider the size of the armed forces, including their support structure, following events in Europe.

In September 1939, the threat to national security caused by the outbreak of war in Europe by the German Nazis required the United States to increase the number of service members, weapons, and equipment. The United States created a defensive strategy to secure the country's shores. The strategy involved naval exclusion zones in the Atlantic Ocean to repel potential threats by the Nazi submarine and naval ship forces. Congress passed the Selective Service Act in 1940 to increase the number of services members.²⁷ The Act allotted services branches such as the Army over one million soldiers consisting of regular, National Guard, and selectees. The increase required a substantial growth in munitions, equipment, and logistical capabilities to support operations in defense of the country.

²⁵ CMH, *Logistics in World War II*, 1.

²⁶ Treaty ended in 1936 when Japan withdrew from participation. See Emily O. Goldman, *Sunken Treaties: Naval Arms Control between the Wars* (Pennsylvania State U. Press, 1994.)

²⁷ George Forty, *US Army Handbook 1939-1945* (United Kingdom, Alan Sutton Publishing, 1995), 1.

Later in 1940, the War Department submitted a munitions program, estimated at six billion dollars, to Congress under the Industrial Mobilization Plan. In the book, *History of Military Mobilization in the United States Army*, the plan laid out a concept to equip an Army of one million soldiers, provide supplies and services for critical assets, and build up an industrial capacity for an Army of four million soldiers.²⁸ Additionally, the program called for the production of eighteen thousand aircraft annually. To support the products of the program, the War Department created five supply programs, totaling twelve billion dollars.²⁹ The supply programs accounted for the incremental increase in authorized strength of personnel and equipment, the requirement to provide initial combat maintenance to offset wartime consumption. With the supply program in place, the military expected to resupply forward-deployed forces continuously. The next step to growing the military involved the research and development of equipment.

Prior to 1940, limited funds restricted the Army's research and development program. This caused the service branches, such as the Quartermaster Corps, to develop clothing, equipage, and military motor vehicles for a one hundred thousand man Army in 1937 with only a two thousand dollar budget.³⁰ Between 1940 and 1941, Congress increased the research and development appropriations from three million dollars to twenty million. The increase led to the acquisition of up-to-date equipment such as the M-1 rifle, .50-caliber machine gun, quarter-ton jeep, four-ton cargo trucks, and M-4 medium tank. The improvements resulted from the United

²⁸ Marvin A. Kreidberg and Merton G. Henry, *History of Military Mobilization In The United States Army 1775-1945* (Department of the Army Pamphlet, 1995), 476-491.

²⁹ In 2014's economy, the five-supply program's budget would be \$196,740,366,936.31. See CMH, *Logistics in World War II*, 3.

³⁰ *Ibid.*, 2.

States government enforcing industrial mobilization to support the equipping and projection of the combat power overseas, the Industrial Mobilization Plan.

The War Department, in conjunction with the Navy, developed the Industrial Mobilization Plan to utilize civilian agencies and industrial facilities to mass-produce material and resources needed to supply the war effort prior to 1940. However, after the German defeat of France, the United States increased efforts to build up its defense capabilities. As a result, the government created several boards and commissions, such as the War Resource Board and the Advisory Commission to the Council of National Defense, with the purpose of directing various phases of the United States defense program.³¹ These boards lasted for short durations due to increased defense requirements and the lack of unity between civilian and military leadership on the ways to operate.

Despite the absence of an enduring entity to coordinate efforts between the military and civilian agencies, both continued to make strides in directing the American economy into production of materiel and support for the war effort. Preference orders for material to produce military equipment, such as machine tools, aluminum, copper, and steel were set. Automobile manufactures cut their production of civilian type vehicles by twenty-six percent to support the production of military vehicles. The government set up the Office of Petroleum Coordinator for War to control oil supplies. The military recognized with the growth in personnel and equipment, its footprint needed to expand. The Quartermaster Corps built cantonment areas, larger maneuver areas, supply depots, manufacturing plants, and many other new facilities to accommodate the growing force.³² The Ordnance Department created forty-two new plants to manufacture items such as munitions, small arms, and armor plates.

³¹ Kreidberg and Henry, *History of Military Mobilization In The United States Army 1775-1945*, 682.

³² Ibid., 665-673.

In spite of the new advancements in equipment and growth of the force, the United States government understood its forces could not operate at a high efficiency across the world. The Army prioritized its construction efforts to maximize basing. While the Quartermaster Corps constructed facilities stateside, the Corps of Engineers constructed new airfields and bases overseas in countries such as Australia and North Africa, which caused delays in improvements to existing overseas structures in Panama and Hawaii. With the growth in personnel, industrial mobilization, and expansion of bases, the increased need for support soldiers became apparent.

Prior to the signing of the Selective Service Act of September 1940, the Army only had sixty-four thousand support soldiers because combat arms received the higher priority for the defense.³³ Following the act, the number grew to five-hundred thousand, a number deemed sufficient to the War Department. However, training for the new support soldiers focused heavily on tactics instead of logistics planning and technical skills, e.g. procurement, acquisition, storage handling, etc. Leadership viewed logistics as a simple tasks requiring minimum effort. This created a visible disconnect in support efforts between the strategic and operational levels during initial operations, particularly in the Pacific. Despite this, everything seemed in place for the military to defend the United States, but another issue arose to upset these orderly mobilization plans.

On December 7, 1941, the Imperial Japanese Navy attacked the United States Pacific Fleet at Pearl Harbor, Hawaii. In the book, *Guadalcanal: The First Offensive*, the Japan believed destroying the Pacific Fleet would allow them time to occupy the Pacific islands and build up combat power before the United States reconstituted its naval power for a counterattack.³⁴ The

³³ Plans developed by the Army to address their direct role in a conflict. The plans focused on the size and composition of an initial defense force. See CMH, *Logistics in World War II*, 8.

³⁴ John Miller Jr., *Guadalcanal: The First Offensive* (Washington, DC: Government Printing Office, 1949), 3.

Japanese killed over two-thousand service members, sunk or grounded numerous naval vessels, and destroyed one hundred eighty-eight aircraft. One day after the Pearl Harbor attack, the Japanese invaded the Philippines. The act resulted in the capture of the Philippines, death of twenty-five thousand men and capture of an additional one-hundred thousand by the Japanese. By this time, the Army had an estimated two million soldiers, twenty-nine partly equipped infantry divisions, five new armored divisions, two cavalry divisions, and four numbered Air Forces with over three thousand personnel. Dr. Alan Gropman, author of *The Big 'L'—American Logistics in World War II*, described World War II as a war of logistics, defined by vast distances, advance bases, driven by strategy and constrained by logistics.³⁵ Prior to the attack on Pearl Harbor, only two-hundred thousand out of two million soldiers deployed overseas to defend the Pacific. Only seven out twenty-nine divisions were combat ready. Even if the all twenty-nine divisions were combat ready, however, there were not enough lift assets available to move the force. The few forces deployed in areas such as the Philippines operated with ineffective World War I weaponry.³⁶ Sufficient stocks of clothing and sundry items were available, but military equipment such as small arms and ammunition were not enough to equip even a million-man army. The lack of critical resources and inconsistent resupply limited the military's ability to conduct an offensive strategy against the Japanese. This brought forth the realization that the industrial base had shortages in materiel. Despite the preparations over the preceding two years, the inability to respond quickly to the attack on Pearl Harbor and fall of the Philippines illustrated the dire need to improve logistical capabilities to enable strategy.

³⁵ Alan Gropman, *The Big 'L'—American Logistics in World War II* (Washington, DC: National Defense University Press, 1997), 293. Dr. Alan Gropman is a Senior Principal Analyst and Program Manager for the SYSCON Corporation in Washington DC and retired USAF Lieutenant Colonel.

³⁶ CMH, *Logistics in World War II*, 10

The War Department decided to reexamine its organization to improve efficiency and synchronization of efforts. Initially the department's structure routed all agencies directly to the Chief of Staff, bypassing War Department staff sections. This arrangement caused confusion, especially in logistics. At the time, logistics activities were uncoordinated. For example, Supply and Service agencies reported directly to the Chief of Staff on military matters and to the Under Secretary of War on procurement.³⁷ There were no coordination efforts between logistic activities. This method of operating caused reduced efficiency in the production, procurement, and delivery of materiel to the military. The Office of the Under Secretary of War and the War Department had two separate staffs responsible for requirements and procurement, which never coordinated with each other to reduce redundancy. The issue of structure and coordination would not be resolved until March 9, 1942 when the President signed an Executive Order, reorganizing the War Department into a General Staff, three major commands (air, ground, and service), Defense Commands, and overseas forces. The reorganization created the Army Service Forces, an organization whose responsibilities included: supply, equipping, and movement of soldiers at home and overseas; food, clothing, equipment, ammunition, and medical services; road, rail, and sea transportation, for personnel records; and the mail service.³⁸ The Army Service Forces' theater of war responsibility included seven technical services, eight administrative services, nine corps areas, six ports of embarkation, and nine general depots.³⁹ The structural change and increased number of soldiers, however, did not account for the technical training problems that only experience could bring. The United States supplemented the lack of operational experience

³⁷ Ibid., 22.

³⁸ Forty, *US Army Handbook 1939-1945*, 21-24.

³⁹ Over the course of the war, the Army Service Forces refined their operations, added a tremendous advantage to the United States Army by providing seamless logistical operations, and recorded no major shortfalls. See Forty, *US Army Handbook 1939-1945*, 23-24.

on modern warfare with historical information from World War I. This act alleviated basic logistic issues, but not those unique to the Pacific such as continuous sea transportation of resources in Japan-contested waters and support to rapid amphibious operations. The most important part of the reorganization was the consolidation of logistical operations in the Army under a single command, removing daily oversight of these functions from the already busy Army Chief of Staff's portfolio. This resolved the issues with production of materiel and coordination of logistical activities at the national strategic level, and as a result, theaters received adequate support around the world in the areas of supply, transportation, and services.

The attack on Pearl Harbor caused the United States to enter World War II and expand their strategy of defense to a full deployment overseas to defeat the enemy. The military fought alongside Allied forces against Axis forces in three principal theaters of operation: European, Pacific, and Mediterranean. In the article *Joint Operational Warfare: Theory and Practice*, Dr. Milan Vego defined theater of operations as "a land or sea area, and airspace above it, established to employ one's forces to neutralize a strategic threat to national or alliance/coalition interest in regional or general conflict."⁴⁰ Working with multiple nations over long lines of communication required a synchronization of operations and logistics. In order to deploy to three different theaters of operations, the United States and its allies had to develop options to mitigate logistical shortfalls.

The primary issue concerned the prioritization of national resources to meet strategic plans of the Combined Joint Chiefs of Staff (United States and United Kingdom). Limited personnel, materiel, production capacity, and delivery schedules to apply across three theaters played a factor in when and where Allied forces conducted operations. They conducted site

⁴⁰ Milan N. Vego, *Joint Operational Warfare: Theory and Practice* (Newport, RI: United States Naval War College, 2007). Dr. Milan Vego is a Professor of Operations in the Joint Military Operations Department at the Naval War College.

surveys to determine where available logistics would best support operations to mitigate the loss of men and materiel.⁴¹ Each study identified a decisive point that limited the possibility of completing an operation. Logistics planners identified shortfalls and provided strategic planners options to mitigate issues associated with resources, time, and space. This way of planning allowed the military to conduct most campaigns and smaller operations without significant issues,

In the broader context, the combined resources of the United States and United Kingdom did not allow for the concentration of forces in three Theaters of Operations simultaneously.⁴² After much deliberation between the two countries, the solution presented was the prioritization of resources to one theater at a time. By designating a theater the priority, that theater received adequate resources to conduct offensive operations while the others conducted defenses until resources shifted to them or until production capacity increased. This played a key role in how the Allies logistics drove strategy and operations in the Pacific, in particular the case studies on Guadalcanal and Operation Cartwheel.

In the book *The GI Offensive in Europe: The Triumph of American Infantry Divisions, 1941-1945*, Allied leadership identified Europe as the main priority due to the immediate threat to European partners.⁴³ Defeating Adolf Hitler and his German Reich would bolster American allies, deliver a critical blow to the efforts of the Axis, create an opportunity to secure Germany,

⁴¹ Strategic plans must pass the major logistical factors: Were the necessary men, equipment, and supplies assembled? Was the timing of operations and logistics synched? Was there enough support for extended operations? At what rate could the enemy counterattack? See CMH, *Logistics in World War II*, 33.

⁴² Ibid., 33.

⁴³ Allied forces consisted mainly of United States of America, United Kingdom, Soviet Union, France, and China. The Allies opposed the Axis in response. Axis forces during World War II included Germany, Japan, Italy, and a few other smaller nations. Peter R. Mansoor, *The GI Offensive in Europe: The Triumph of American Infantry Divisions, 1941-1945* (University of Kansas Press, 1999).

and divert additional combat power to the Pacific to address the Japanese threat to Allied forces.⁴⁴ Additionally, Europe presented shorter lines of communication to support the fight against the Germans. The United States understood an offensive in Europe was easier to sustain than a Pacific operation requiring support over long lines of communications.

With the European theater as the priority and the Mediterranean, closer in proximity to Europe, Allied leadership diverted a significant amount of personnel and resources away from the Pacific Theater.⁴⁵ This resulted in the development of plans to maintain a strategic defense to contain the Japanese in the Pacific Theater until more resources and materiel became available or a significant opportunity presented itself for offensive operations with the few resources on hand. The next section of the monograph will focus on the effects of logistical constraints on strategy in the Pacific Theater, the Guadalcanal Campaign, and Operation Cartwheel.

⁴⁴ The United Kingdom originally argued for the Mediterranean to be the priority of effort. The United States saw this as a conflict of interest due to the need of Soviet support. A Mediterranean first strategy would leave the Soviet's eastern side vulnerable to Japanese attack, drawing their attention away from the conflict in western Europe. The United States advocated for a "Europe First" strategy while containing the Japanese in the Pacific to maintain the support of the Soviets for follow-on operations. See Mark A. Stoler, *Allies and Adversaries: The Joint Chiefs of Staff, The Grand Alliance, and U.S. Strategy in World War II* (Chapel Hill: University of North Carolina Press, 2000), 130.

⁴⁵ James D. Hornfischer, *Neptune's Inferno: The US Navy at Guadalcanal* (New York: Bantam Books, 2011), 151-153.

Case Study: Pacific Theater of Operations



Figure 1: Pacific Theater of Operations

Source: Clayton R. Newell, *The Pacific and Adjacent Theaters 1942* from *The US Army Campaigns of World War II* (Washington, DC: Center for Military History, 2003), 12-13.

Pacific Theater Strategic Context

The Pacific Theater of Operations (PTO) consisted of islands and waterways spreading five-thousand miles east to west from the Midway Islands to the coast of Burma and three-thousand miles north to south Japan to New Guinea; these distances forced the Allies to rely on long lines of communication. Insufficient Allied transportation assets to move large numbers of soldiers across the lines of communication heavily affected the Allied strategy to contain Japanese forces. In Figure 1, the Japanese occupied the majority of islands from 1941 to 1944 in the Philippines, Thailand, Malaya, Singapore, Burma, the Dutch East Indies, Wake Island, Gilbert Islands, New Britain and Guam; these provided depth in their defense to prevent US intervention. This section of the monograph will focus on the effects of logistics on strategy for three significant periods. The first was the initial strategic context of the Pacific. Events during early operations in the Pacific set the conditions for the next two significant periods. The second was the Guadalcanal Campaign, designed to secure the southern lines of communication in the Pacific. The final event was Operation Cartwheel, whose goal was to secure the Pacific Area and seize Rabaul from Japanese control. The strategies for each event required prioritization of limited resources for offensive operations and the establishment of numerous bases for aircraft and supply facilities.

Japan's seizure of several islands in the Pacific increased their operational reach. This action allowed Japan to defend its territory and attack other nations within the theater. During its attack on islands inside the Pacific Theater, Japan also attacked neighboring nations to include Australia and colonies belonging to both the United Kingdom and the Netherlands in the Southern Pacific and Indian Oceans. Occupation of the islands and attacks on neighboring nations set the stage for further Japanese expansion in the Pacific.

Japan's strategy led to the control of natural resources within the Pacific area and strategic lines of communication from East Asia through the South Pacific. The threat established

the potential for Japanese forces to continue attacks against the Australia and New Zealand-held islands, severing established lines of communications to United States air bases, supply bases, and ports for naval operations. This threatened the United States' ability to transport soldiers and ship supplies from its depots thousands of miles away in Hawaii, San Francisco, and Los Angeles. Additionally, the supplies from the three depots augmented support to Allied partners throughout the Pacific. The ability to protect lines of communication promoted survivability of United States and Allied forces, movement of soldiers and supplies, and extended operational reach and endurance in operations conducted in the Pacific.⁴⁶ The Allied forces relied heavily on these three factors to seize the initiative from the Japanese and secure islands in later campaigns.

Japan's expansion plan required the construction of massive airfields and ports in areas such as Rabaul, Japan's major air and naval base, in the East New Britain province of Papua New Guinea and at Lunga Point on nearby Guadalcanal in the southern Solomon Islands. The construction of the airfields and ports allowed the Japanese to build up soldiers, fighters, bombers, and resources. The increase in Japanese forces threatened the lines of communication to the east with rapidly deployable forces. The threat garnered the attention of the Allied forces and triggered a response to deny Japanese forces the use of the islands.⁴⁷

The United States and its allies began the process to develop strategies to neutralize the Japanese forces in the Pacific and secure the strategic lines of communication. This required Allied forces in the Pacific to conduct operations with fewer resources in logistics and personnel, thus leaving defense as the only suitable option to contain Japanese forces in the Pacific until an opportunity presented itself for a counterattack to force the Japanese back into their homeland and surrender. The United States, United Kingdom, and other Allied members decided to discuss

⁴⁶ ADP 4-0, 3-3.

⁴⁷ Miller, *Guadalcanal: The First Offensive*, 3-8.

options for setting up forces and a command structure in the Pacific to facilitate the defensive strategy.

In the book, *The War in the Pacific—Strategy and Command: The First Two Years. United States Army In World War II*, President Franklin Roosevelt and the Prime Minister Winston Churchill discussed the matter of command arrangements around the world in in early March 1942 in Washington, DC. Roosevelt proposed to divide the world into British and American areas of responsibility, with the United States having responsibility for the Pacific, where there would be an American supreme commander responsible to the Joint Chiefs of Staff. Churchill responded favorably to the proposal, and consulted the governments of Australia and New Zealand. They endorsed the idea of an American supreme commander, but wanted to have some input into matters of strategy.⁴⁸

On March 24, 1942, the newly formed British and United States Combined Chiefs of Staff issued a directive officially designating American strategic control of the Pacific Theater, whereupon the United States Joint Chiefs of Staff decided to divide the Pacific Theater into two supreme commands. The Joint Chiefs assigned the first supreme command to Admiral Chester W. Nimitz, Commander in Chief of the Pacific Ocean Areas, with operational control over all units the majority of the Pacific Ocean east of the Philippines and New Guinea. Nimitz's area included Guam, the Fiji Islands, Caroline Islands, eastern part of the Solomon Islands, Midway Islands, and Japan. The vast majority of Allied forces in the theater were from the United States Navy, Army, and Marine Corps.⁴⁹ All land forces in Alaska and Canada remained under the

⁴⁸ Louis Morton, *The War in the Pacific—Strategy and Command: The First Two Years. United States Army In World War II* (Washington, DC: Center for Military History, 2000), 240-255.

⁴⁹ Ibid., 250-255.

control of the United States Army's Western Defense Command.⁵⁰ U.S. Army Air Forces operated in the Pacific Operation Area under the Seventh, Thirteenth, and Twentieth Air Forces at various times. Allied air forces included units of the Royal New Zealand Air Force. Units from the United Kingdom, Australian, New Zealand, and other countries formed the remainder of the Allied forces in the Pacific Ocean Areas. Admiral Nimitz's book, *Gray Book' — War Plans and Files of the Commander-in-Chief, Pacific Fleet*, the Joint Chiefs of Staff divided the Pacific Ocean Areas into three areas: the North, Central, and South Pacific Areas, with Nimitz designating subordinate commanders for the North and South Pacific Areas, but retaining the Central Pacific Area, including the Hawaiian Department, under his direct command.⁵¹

Adjacent to the Pacific Ocean Area was the second supreme command, Southwest Pacific Area. The Joint Chiefs of Staff appointed General Douglas MacArthur as the Supreme Commander, Southwest Pacific Area, on April 18, 1942. He created five subordinate commands: Allied Land Forces, Allied Air Forces, Allied Naval Forces, United States Army Forces in Australia, and the United States Army Forces in the Philippines.⁵² The Southwest Pacific Area included the Philippines, Borneo, the Dutch East Indies (excluding Sumatra), East Timor, Australia, the Territories of Papua and New Guinea, and the western part of the Solomon Islands. The significance of the area was the larger landmasses compared to Nimitz's area, vicinity to

⁵⁰ The Aleutians Campaign was the Allied forces attempt to drive the Japanese from the bases on the Aleutian Islands in 1943. The Western Defense Command planned and executed the campaign. Logistical support for the campaign was limited due to the priority of resources. CMH, *Logistics in World War II*, 48-49.

⁵¹ Admiral Chester W. Nimitz and Captain James M. Steele, '*Gray Book' — War Plans and Files of the Commander-in-Chief, Pacific Fleet; Running Estimate and Summary maintained by Captain James M. Steele, USN, CINCPAC staff at Pearl Harbor, Hawaii, covering the period 7 December 1941–31 August 1942.. 1 of 8 volumes*. Operational Archives, Naval History and Heritage Command (Washington, DC: Washington Navy Yard, 2013).

⁵² Hugh J. Casey, *Organization, Soldiers, and Training. Engineers of the Southwest Pacific* (Washington, DC: Government Printing Office, 1953).

each other, and potential for basing Allied forces to shorten lines of communication. The Southwest Pacific Area primarily consisted of American and Australian forces, although Dutch, British and other Allied forces were included.⁵³

The two separate supreme commands caused significant issues. One of the main issues with the command structure, set by the Combined Chiefs of Staff, was the lack of an overall commander in the entire Pacific Theater. Admiral Nimitz and General MacArthur reported directly to their service components, Navy and Army respectively, and the Joint Chiefs of Staff. As a result, there were complications, including the dissemination of orders, joint operations between service components, and acquisition of resources and materiel through logistics. Despite the command structure issues, both services worked with Allied partners to establish a functional logistical structure in the Pacific.

The United States worked with the Australian government to establish a supply base in Australia following the attack on Pearl Harbor and fall of the Philippines. The base served as the rear logistical area for combat operations in the Pacific. The Army Service Forces and Naval Supply Units established six supply sections at the base in Australia and an advance section in New Guinea.⁵⁴ The bases consisted of support from the seven technical services: Engineers, Signals, Chemical Warfare, Quartermaster, Ordnance, Medical, and Transportation.⁵⁵ The location of the support bases were a considerable distance from combat units due to the limited number of Allied controlled islands forward of New Zealand. This caused resupply over long

⁵³ Morton, *The War in the Pacific—Strategy and Command*, 21.

⁵⁴ CMH, *Logistics in World War II*, 33.

⁵⁵ Forty, *US Army Handbook 1939-1945*, 48.

lines of communication, requiring forward forces to maintain limited amounts of resources and plan for repeated pauses in combat operations.⁵⁶

Another problem was the coordination of logistical support between Allied forces. The Army, Navy, and Allied members wanted complete autonomy in requisitioning supplies and movement of soldiers. The decentralized nature of the logistical structures caused redundancy in supply orders, which in turn delayed supply and personnel shipments. Despite the efforts of Admiral Nimitz, Lieutenant General Delos Emmons, and other leaders to create Joint Logistical Plans to synchronize logistical activities, this problem continued to plague Allied forces for the duration of operations.⁵⁷ Uncoordinated efforts led to slower distribution of personnel and resources, which contributed later to strategy changes concerning timing and space for both the Guadalcanal Campaign and Operation Cartwheel.

The complexity of the command and logistical structure in the Pacific Theater, plus the low priority of resource support by Allied strategic leadership, contributed to the decision for the theater-wide defensive strategy.⁵⁸ The Allied leadership believed defensive strategy allowed time for the effort in Europe to defeat the Axis, rebuild the naval fleet in the Pacific, buildup available supplies and equipment stocks, and train personnel for a counterattack.⁵⁹ To accomplish the defensive strategy required maintaining the security of Allied-occupied islands and waterways.

In Reports of General MacArthur The Campaigns Of Macarthur In The Pacific, Volume

⁵⁶ Morton, *The War in the Pacific—Strategy and Command*, 204-212.

⁵⁷ Lieutenant General Delos Emmons, United States Army Air Corps, was the commander of the Hawaii Department during World War II. Hawaii was one of three supply depots responsible for supporting the Pacific Theater of Operations. See Richard M. Leighton and Robert W. Coakley, *Global Logistics and Strategy 1940-1943* (Washington, DC: Center for Military History, 1995), 187-192.

⁵⁸ *Ibid.*, 388-391.

⁵⁹ CMH, *Logistics in World War II*, 48.

One, MacArthur noted that Allied forces in the Pacific conducted several operations such as the Battle of the Philippines and Battle of the Coral Sea to defend Allied-occupied territory from the Japanese, usually with negative results.⁶⁰ Early on, the Japanese maintained the initiative by overwhelming Allied defensive positions with superior naval and air power. In addition, they disrupted the Allied naval movements along the lines of communication. This resulted in restricted movement of personnel and resources throughout the Pacific, limiting logistical support. The Allies suffered major losses to the Imperial Japanese Navy in sea battles such as the Battle of the Java Sea and the Battle of Sunda Strait in late February 1942. Both battles allowed the Japanese to occupy the entire Dutch East Indies.⁶¹ The Japanese continued to defeat severely the Allies until the Battle of Midway, June 4 thru 7, 1942.

Considered by some military professionals as the most important naval battle in the Pacific, the Battle of Midway provided an opportunity for Allied forces to seize the initiative over the Japanese. Allied forces handed the Japanese a severe defeat by sinking or damaging four carriers and a heavy cruiser and destroying over two hundred aircraft.⁶² The victory in the Battle of Midway inspired the Joint Chiefs of Staff to formulate a strategy to regain control of key

⁶⁰ The Philippines Campaign (December 8, 1941-May 8, 1942) was the invasion of the Philippines by the Japanese. The campaign resulted in Japanese victory and capture of the Philippines. The Battle of the Coral Sea (May 4-8, 1942) was a battle between the Imperial Japanese Navy and combined navy of the United States and Australia. The battle was a tactical victory for the Japanese as they invaded and occupied the Island of Tulagi in the Solomon Islands. See Center for Military History, *Reports of General MacArthur The Campaigns Of Macarthur In The Pacific. Vol I* (Washington, DC: Center for Military History, 1994).

⁶¹ The Battles of Java Sea and Sunda Strait resulted in Japanese obtaining control of the most significant food producing areas in the region. In addition, they secured the fourth largest oil producing area in the world during the 1940s. See David A. Thomas, *The Battle of the Java Sea* (New York: Stein & Day, 1968).

⁶² Johnathan Parshall and Anthony Tully, *Shattered Sword: The Untold Story of the Battle of Midway* (Dulles, VA: Potomac Books, 2005), 524.

islands along the threatened lines of communication between Australia and the United States. General MacArthur and Admiral Nimitz began separate preparations for the upcoming offensive. Both men had deep interest in the Pacific. Admiral Nimitz believed the Navy could conduct the operation without the Army. A successful campaign added to the credibility of the Navy and relevance in the Pacific. General MacArthur, who opposed Nimitz's plan, wanted control of the operation to set conditions to reclaim the Philippines from the Japanese. The plan required a significant amount of resources and logistical support for combat forces to secure the surrounding islands to neutralize the Japanese and reach the Island of Rabaul.⁶³ Allied strategic planners viewed Rabaul as the key to severing the Japanese dominance in the Pacific. Seizing Rabaul and other islands allowed the Allies to extend their operational reach by establishing bases on Japanese occupied islands, to build up forces and resources to conduct training in preparation for follow-on operations. In order to do so, several events needed to take place prior to seizing Rabaul. The following section covers the competition for resources to execute offensive operations against the Japanese and maintain the initiative.

Elkton III and Operation Watchtower

Strategic planners identified Rabaul, located on New Britain in the Territory of New Guinea, as the key to retaining the initiative from the Japanese. The base was a major forward position in the South Pacific for the Japanese and the main obstacle in the Allied forces advance through the Pacific Theater.⁶⁴ In the book, *The Army Air Forces in World War II, Volume 4: The Pacific: Guadalcanal to Saipan, August 1942-July 1944*, the island acted as a naval and air base with four major and one minor airfields, supported an estimated three hundred aircraft and heavy

⁶³CMH, *Reports of General MacArthur*, 58.

⁶⁴ Miller, *Guadalcanal: The First Offensive*, 4.

antiaircraft defenses, and sheltered over one hundred thousand Japanese soldiers.⁶⁵ Additional aircraft and naval vessels from the surrounding the islands of Bougainville, Treasury, and Shortland fortified the Rabaul's defense. In order to seize Rabaul, the Allied forces needed to secure and occupy the surrounding islands to neutralize Japanese support. The United States Joint Chiefs of Staff ultimately implemented three tasks. The first task was the capture the southern Solomon Islands (Tulagi, Guadalcanal, Santa Cruz) to secure southern lines of communication. The second task required the military to seize the northeast coast of New Guinea and the central Solomon Islands to secure the northern lines of communication. The final task required the reduction of Rabaul to expel the Japanese.⁶⁶ The completion of the first two tasks allowed for a less contested advance to Rabaul. Accomplishing all three tasks met the overall intent of containing the Japanese inside the Pacific.

For both plans, logistical planners identified swift shore-to-shore amphibious operations and creation of logistical task forces provided the best option for support.⁶⁷ The logistic plan called for landing craft, operated by an Engineer Amphibian Brigade, to bypass pockets of Japanese forces and clearing beaches of obstacles. Achieving this allowed the United States to extend its operational reach by providing more basing and expanding its logistical footprint for the rapid buildup of personnel, equipment, and supplies for future operations. General MacArthur and Admiral Nimitz developed separate, but similar plans to deal with the problem posed by Rabaul.

General MacArthur created a strategic plan, known originally as the Elkton III Plan, to capture Rabaul by conducting simultaneous amphibious and airborne attacks on Japanese

⁶⁵ Wesley F. Craven and James L. Cate, eds., *The Army Air Forces in World War II, Volume 4: The Pacific: Guadalcanal to Saipan, August 1942-July 1944* (Chicago: University of Chicago Press, 1958), 312-313.

⁶⁶ Miller, *Guadalcanal: The First Offensive*, 20.

⁶⁷ CMH, *Logistics in World War II*, 50.

positions surrounding the islands. Admiral Nimitz proposed a plan, code named Operation Watchtower and later known as the Guadalcanal Campaign, with similar elements, but focused on the capture of the southern Solomon Islands and under Navy command. Both operations required seamless and agile logistics to maintain momentum in simultaneous operations.

Army Chief of Staff General George Marshall, whose main goal was for the United States to concentrate its efforts against Nazi Germany in Europe and not against the Japanese in the Pacific, proposed a compromise plan to divide the objective into three stages. The limitations in resources and logistical support dictated a phased approach to conserve supplies for follow-on operations. Each transition in stage dedicated command to different commanders. The first stage belonged to the Navy command of Admiral Nimitz and the second two under MacArthur's direction and the control of the Army.⁶⁸ Admiral Nimitz delegated authority for Operation Watchtower to Admiral Robert Ghormley, commander of the South Pacific Area.⁶⁹ Although General Marshall suggested splitting responsibilities between the Army and Navy, General MacArthur and Admiral Ghormley viewed the resource and control situation differently.

General MacArthur and Admiral Ghormley recognized the two service components were competing for resources and control of the operation. Allied forces in Europe utilized the majority of shipping vessels in the Atlantic due to being the priority of effort. The Allied leadership sent the remaining resources to the Pacific Area for the buildup of forces. This took a significant amount of time due to the limited number of ships to transport supplies and personnel from the Hawaii and San Francisco depots. Planners reduced the days of supply each unit could carry to mitigate the shortfall. The limited number of soldiers in theater, available lift assets, and days to

⁶⁸ Richard B. Frank, *Guadalcanal: The Definitive Account of the Landmark Battle* (New York: Random House, 1990), 32-36.

⁶⁹ Miller, *Guadalcanal: The First Offensive*, 37.

conduct the offensive to Rabaul added to other ongoing issues between the two services.

The Army and Navy continuously ordered an abundance of the same types of supplies, e.g. food, ammunition, barrier materiel, etc., causing redundancy. The lack of coordination between the two services resulted in delayed shipping of personnel and supplies to the Pacific.⁷⁰ General MacArthur's plan required a significant number of additional divisions and logistical support to cover a large amount of area in the New Guinea and Northern Solomon Islands. Admiral Ghormley's plan required fewer forces and resources to seize the smaller area of southern Solomon Islands. Both commanders needed a further analysis of the Japanese situation, impact of resource shortfalls, and mitigation plans to decide the best course of action to present to the Joint Chiefs of Staff.

To analyze and discuss the feasibility of the two operations, General MacArthur and Admiral Ghormley held a meeting in Melbourne, Australia on July 8, 1943. The two commanders emphasized to the Joint Chiefs of Staffs the change in the enemy situation, their own shortage of planes, and a lack of shipping to move men and material. Additionally they voiced the importance of their shortage in airfields and port facilities.⁷¹ Both commanders argued that operating without these items would limit their operational reach and tempo against the Japanese. The available number of soldiers (approximately sixty-thousand), aircraft, and shipping vessels would allow for Task One to be completed, but not Tasks Two and Three.⁷² MacArthur's plan required additional resources to complete the last two tasks. Additionally, MacArthur and Ghormley pointed out the measures the Japanese undertook to prepare for upcoming Allied offensives.

While these debates were ongoing, the Japanese built additional airfields and developed

⁷⁰ CMH, *Logistics in World War II*, 50.

⁷¹ Frank, *Guadalcanal: The Definitive Account of the Landmark Battle*, 32-36

⁷² Miller, *Guadalcanal: The First Offensive*, 20-21.

their bases at Kavieng, Rabaul, Lae, Salamaua, Buka, and Guadalcanal. As a result, both MacArthur and Ghormley doubted that the Allies would be able to gain and maintain air supremacy in the objective area with a lack of airfields and aviation logistical support.⁷³ Finally, the limited logistical support and inadequate resources to maintain momentum for simultaneous execution of both operations led to a dialogue on priority of effort.

The message from the two Pacific commanders created an unfavorable impression in Washington. Admiral King expressed the views of many when he pointed out that General MacArthur, who proposed a decisive and swift advance for Rabaul, had realized the limitations and shortfalls in his plan. General MacArthur's plan impeded securing the southern Solomon Islands (Task One). Admiral King also claimed Admiral Ghormley's operation would be a much more limited and feasible operation against the southern Solomon Islands. Admiral Ghormley required the priority of air power and shipping for a smaller area of operations, an estimated three-thousand square miles for the southern Solomon compared to two-hundred thousand square miles for New Guinea and New Georgia.⁷⁴ In Admiral King's view, seizing the southern Solomon Islands would be a swifter operation due to the smaller amount of land. In addition, Admiral Nimitz's plan maximized the amount of resources on hand versus the build of large numbers in MacArthur's plan.

On top of these issues, the two commanders identified a problem with phasing and transition during the campaign.⁷⁵ Admiral Ghormley and General MacArthur disliked the idea of breaking up the operation against Rabaul into separate parts and joined in opposing it before the Joint Chiefs. The two men argued for swift, decisive attack and continuous operations until the

⁷³ Morton, *The War in the Pacific—Strategy and Command*, 306-307.

⁷⁴ *Ibid.*, 306

⁷⁵ Phasing is a way to view and conduct joint operation in manageable parts. See Joint Publication 5-0, *Joint Operation Planning* (Washington, DC: Government Printing Office, 2011)

end, despite the lack of resources and logistical capabilities to support effectively both of their plans for a longer duration simultaneously. Failure to do so would expose the assault forces to counterattack from Rabaul.

To offset the identified issues and shortfalls, General MacArthur and Admiral Ghormley argued for the postponement of both operations until they received the means required to execute all three tasks. Admiral Nimitz, on the other hand, argued against postponement due to the extraordinary opportunity to seize the initiative from the Japanese and turn the war effort around in favor of the Allies.⁷⁶ With the advice from the naval planners, Admiral Nimitz proposed a different alternative to utilize available resources in executing one of the three tasks. To the naval planners, the consolidation of Japanese positions in the Solomon Islands indicated a call for rapid offensive operations, not delay. Rather than execute all three tasks in one continuous movement, naval planners thought that Task One was more urgent than ever. The development of defensive positions by the Japanese in the Solomon Islands threatened the Allies' opportunity seize the initiative. Admiral Nimitz echoed the sentiment that the dislocation of the Japanese from the southern Solomon Islands was essential to the security of the lines of communication and movement to Rabaul.⁷⁷ Additionally, the act of seizing the islands allowed Allied forces to construct additional bases and ports for aircraft, naval vessels, personnel, and supplies to extend operational reach and support future operations in the Pacific; General MacArthur's southern boundary would be secure to conduct the Elkton III Plan.

The combination of the shipping delays, the limited time to execute operations, available logistical support, and limited resources resulted in delaying General MacArthur's plan and moving forward with Operation Watchtower to accomplish Task One. The Guadalcanal offensive

⁷⁶ Morton, *The War in the Pacific—Strategy and Command*, 307.

⁷⁷ Frank, *Guadalcanal: The Definitive Account of the Landmark Battle*, 36-38.

was more feasible due to the short distance between islands and the reliance on fewer resources for support. General Marshall accepted the Navy view without argument and agreed that General MacArthur needed more resources and personnel before initiating the full extent of his operations. The lack of resources significantly affected the timing and execution of General MacArthur's plan.

The execution of Operation Watchtower required a short operational timeline and reorganization of forces to account for limited resources and the urgent need to secure the southern Solomon Islands. To facilitate the new timeline, planners reduced the amount of supplies from ninety days to only sixty days to move soldiers quickly into the battle. Additionally General Vandergrift organized his division into two regimental combat groups with over four thousand men each. Both groups had a headquarters, support group and three combat battalions. Each combat group logistical support included one company of engineers, amphibian tractors, a medical battalion, and transport platoons.⁷⁸ Reorganizing the division allowed the Marines to maintain continuous logistical support while conducting rapid amphibious operations.

To mitigate the risk to time in loading equipment, the 1st Marine Division established three eight-hour shifts to load ships in New Zealand. The Marines, with the help of a few skilled operators and limited lift equipment, loaded the ships rapidly to meet the suspense. In spite of these limitations, the division was loaded with sixty days' supplies and ready to sail on July 22. Once the Marines completed loading, twelve transport ships with escort left Wellington to rendezvous with the remainder of the amphibious force coming from San Diego, Pearl Harbor, and Noumea.⁷⁹

The Allied forces engaged in one rehearsal landing prior to leaving on July 31. With final

⁷⁸ Miller, *Guadalcanal: The First Offensive*, 47.

⁷⁹ *Ibid.*, 23-27.

preparations completed, they conducted movement towards the southern Solomon Islands to conduct the execution of Operation Watchtower. Despite being second in priority for military resources and training, Allied forces in the Pacific acquired enough combat power to conduct a limited offensive to achieve Task One. They established or reinforced bases in Fiji, Samoa, New Hebrides, New Caledonia, Espiritu Santo, and New Hebrides to provide headquarters and nearby basing to accommodate the military personnel and resources necessary to conduct operations. Additionally, the Marines and Navy used cargo ships as depots for supplies near the shores of the southern Solomon Islands. The setup in the nearby islands and use of ships for floating supply depots allowed Allied forces to extend its operational reach from the main supply bases in New Zealand into the southern Solomon Islands. The extension of operational reach allowed the Marine landing forces to conduct rapid amphibious operations through continuous resupply. This ultimately contributed to their success in securing the southern Solomon Islands.⁸⁰

The victory at Guadalcanal allowed Allied forces to control the islands of Tulagi, Florida, and Guadalcanal in a short six-month period. By occupying and controlling the three islands, the Allies met the purpose of securing the lines of communication off the northeastern coast of Australia. The islands provided additional islands to increase the number of bases for Allied aircraft and naval vessels in the Pacific. Though the Allies had limited engineer equipment, they had other means to construct the bases.

The 1st Marine Division, with support from the 6th Naval Construction Battalion, used a mixture of organic and captured enemy engineer equipment and supplies to build or reinforce approximately ten airfields, e.g. Henderson and Carney Airfields on Guadalcanal. Each airfield contributed basing to the expansion of logistical storage capabilities and accommodations for personnel for follow-on operations to defeat the Japanese. Expansion of the logistical storage

⁸⁰ Ibid., 104, 126-130, 322.

allowed supplies from New Zealand to move farther forward to use in future operations. The improvements involved the construction of three additional bases to accommodate aviation repair, operation, supply storage, and maintenance facilities for one-hundred five planes and an estimated three-thousand men.⁸¹ The results of Operation Watchtower allowed the Allies to transition to Operation Cartwheel.⁸²

Operation Cartwheel

Following the battle for Guadalcanal, the Joint Chiefs of Staff decided to revisit General MacArthur's plan, Elkton III.⁸³ The British initially objected to the plan due to the requirement for seven more divisions than were already in the theater. The Joint Chiefs responded with a directive to approve the plan using forces already in the theater or enroute to it. In addition, the Joint Chiefs delayed the execution by sixty days to increase supply stocks and organize personnel. This delay illustrated the constant theme of how logistics shaped strategy in the Pacific.

Although still constrained by limited resources and personnel, General MacArthur revised the plan to accommodate and exploit existing conditions. General MacArthur adjusted his plan from a simultaneous assault across the New Georgia and New Guinea islands to seizing

⁸¹ Vice Admiral (Retired) Dyerr, George Carroll, *The Amphibians Came To Conquer The Story Admiral Richmond Kelly Turner* (Washington, DC: Government Printing Office, 1972), 422.

⁸² Morton, *The War in the Pacific—Strategy and Command*, 71-75.

⁸³ The Battle of the Bismarck Sea (2–4 March 1943) took place in the Southwest Pacific Area during World War II when Allied aircraft attacked a Japanese convoy carrying soldiers to Lae, New Guinea. The Japanese a significant number of troops. See Douglas Gillison, *Royal Australian Air Force 1939–1942. Australia in the War of 1939–1945: Series 3 – Air – Volume Vol 1*. (Canberra: Australian War Memorial, 1962).

groups of islands in phases, known as island hopping.⁸⁴ This strategy allowed General MacArthur to bypass heavily fortified positions and concentrate his available forces and limited resources on less fortified islands. MacArthur's strategy allowed time to receive new units and replenish stocks for the next set of islands.⁸⁵ While the phases transitioned, engineers units from the Navy Seabees and Army Engineer Amphibious Brigades constructed air bases, supply bases, and ports for follow-on personnel. This approach worked to extend gradually the Allies' operational reach, setting conditions for future attempts to reclaim the Philippines and invade the Japanese homeland for a final assault to defeat the Japanese. The adjustment to the plan caused General MacArthur to change the name from *Elkton III* to *Operation Cartwheel*.

General MacArthur, the overall commander for Operation Cartwheel, advanced forces along the northeast coast of New Guinea and occupied nearby islands to include New Caledonia, Milne Bay, and Finschafen. Allied forces from the Pacific Ocean Areas, under the command of Admiral Nimitz, advanced north through the Solomon Islands toward Bougainville. Securing each of these areas lessened the Japanese resistance on Rabaul by neutralizing Japanese naval, air, and supply support.

MacArthur viewed securing the surrounding islands key to allowing Allied forces freedom of movement in the theater.⁸⁶ He chose the selected islands based on his units' relative advantage in combat power over the defense, and strategic importance of extending the Allies' operational reach. The Combined Chiefs of Staff assigned responsibility to the New Guinea

⁸⁴ Island-hopping was a military strategy employed by the Allies during World War II. In 1921, United States Marine Corps Lieutenant Colonel Earl Hancock Ellis created the strategy as part of War Plan Orange against the Japanese. See Sadao Asada, *From Mahan to Pearl Harbor: The Imperial Japanese Navy and the United States* (Annapolis, MD: Naval Institute Press, 2006).

⁸⁵ John Miller Jr., *The War in the Pacific, Cartwheel: The Reduction of Rabaul* (Washington, DC: Center for Military History, 1968), 25-30.

⁸⁶ Miller, *The War in the Pacific, Cartwheel*, 39-49.

Force, under General Thomas Blamey, for the eastward thrusts on mainland New Guinea. The US 6th Army, under General Walter Krueger, took Kiriwina, Woodlark and Cape Gloucester. Allied air units under Lieutenant General George Kenney and naval units under Vice Admiral Arthur S. Carpenter would support the land forces.⁸⁷

General MacArthur divided the logistical support between the United States and Australian supply services. Logistical planners pushed support as far forward possible to prepositioned supply bases to sustain the amphibious and airborne landing forces. The United States delivered supplies to ground forces by sea from Australia to intermediate supply bases in Port Moresby and Milne Bay. Australian supply units moved supplies to Cape York Peninsula. Both services covered an estimated four thousand miles to the intermediate bases. Similar to the Guadalcanal Campaign, the Allied Naval forces transported the supplies from Port Moresby, Milne Bay, and Cape York Peninsula to forward combat units for amphibious assaults. The short distance from the intermediate supply bases to the area of operations gave combat forces immediate access to supplies and allowed for continuous operations.⁸⁸ The planners considered the selected islands as decisive and low level threats to seizing Rabaul. With the logistical plan for Operation Cartwheel set, General MacArthur's forces executed operations.

The first operation, codenamed Toenails, took place in the New Georgia area of islands near the central Solomon Islands to from June 20 to August 25 1943. The first Allied landings were by the United States 4th Marine Raider Battalion at Segi Point.⁸⁹ On June 30, the 4th Raiders captured Viru Harbor, Rendova Island, and Munda point, the Japanese airbase on New Georgia Island, the main objective of the assault on the island. The Marines reported minimum

⁸⁷ Ibid., 41-45.

⁸⁸ Ibid., 29.

⁸⁹ John Rentz, *Marines in the Central Solomon* (Historical Branch, Headquarters, US Marine Corps, 1952), 67-69.

resistance in seizing the island. American forces secured the Japanese facilities at Bairoko Harbor on August 23. Engineers built an additional airbase for planes to operate from Segi Point and New Georgia Island airfields, providing close air support and aerial resupply to nearby islands.

The Allies executed the second operation, Chronicle, the invasion of Woodlark and Kiriwina Islands, on June 30, 1943. The Woodlark Force consisted of twenty-six thousand soldiers from the 11th Cavalry Regiment and other units. The Kiriwina Force had over two-thousand soldier from the 148th Field Artillery Battalion and 158th Infantry Regiment.⁹⁰ The two forces arrived in Landing Ship, Tanks (LSTs), Landing Craft Infantry (LCI), and Land Craft Mechanized (LCM). Among the additional units were quartermasters, engineers, ordinance, and naval basing units.⁹¹ The seizure of Woodlark and Kiriwinia allowed the support units to construct an air and supply base to expand the Allies logistical footprint in the area and support the next operation on the island of Vella Lavella. The success of the first two operations caused the Joint Chiefs of Staff to reassess the goals of operation.

In mid-August, the Joint Chiefs met with President Franklin Delano Roosevelt and British Prime Minister Winston Churchill at the Quadrant Conference in Quebec. The group made the decision at the conference to bypass and isolate Rabaul and attack Kavieng instead, leaving over one hundred thousand Japanese soldiers isolated. The two political leaders based the decision on an analysis by the Joint Strategic Survey Committee, which concluded General MacArthur's plan did not require two additional Marine Divisions to seize Rabaul. Instead, bypassing and isolating Rabaul through seizure of surrounding islands would achieve the same effects.⁹² General MacArthur initially objected to the decision. However, after thoroughly

⁹⁰ Gordon L. Rottman, *World War II Pacific Island Guide: a Geo-military Study* (Westport: Greenwood Press, 2002), 172

⁹¹ *Ibid.*, 171.

⁹² Miller, *The War in the Pacific, Cartwheel: The Reduction of Rabaul*, 224.

thinking the decision through, he approved. Bypassing Rabaul allowed the Allies to cut off all support to the base. MacArthur still achieved the intent of his plan, to avoid major concentrations of enemy forces and sever the Japanese lines of communication to reduce their operational effectiveness.

The next operation targeted Vella Lavella, an island in the Solomon Island area. From August 15 to October 9, in 1943, seven hundred Japanese forces and ten thousand Allied forces from New Zealand and United States fought for possession of the island.⁹³ The Allies captured the island and continued expansion of the lines of communication with the Barakoma airfield, which accommodated United States Navy and Marine Corps aviation units and maintained an aviation gasoline tank farm capable of holding six-thousand barrels of gas. This allowed aviators to extend operational reach for future long-term operations.

Operation Postern, October 27 thru November 12, 1943, was a two-pronged attack to seize the islands of Lae and Nadzab for existing airfields. The operation involved an amphibious assault east of Lae and an airborne landing near Nadzab, thirty miles to the west.⁹⁴ The 2/28th Infantry Battalion secured the Lae bridgehead on September 9, 1943. The United States Army's 503rd Parachute Infantry Regiment and elements of the Australian Army's 2/4th Field Regiment, secured Nadzab on September 11 following a Japanese withdrawal. The seizure of Lae and Nadzab gave Allied forces another port and airbase to expand its footprint in the Pacific.⁹⁵

Operation Goodtime took place between October 27 and November 12, 1943 on the

⁹³ Oliver A. Gillespie and Howard Karl Kippenberger (editor), *The Pacific (PDF). The Official History of New Zealand in the Second World War 1939–1945* (Historical Publications Branch, 1952), 128-139.

⁹⁴ David Dexter, *Official Histories – Second World War, Volume VI, "The New Guinea Offensives"* (1st edition) 1961, Chapters 2-13 inclusive. Accessed September 11, 2014, http://www.awm.gov.au/histories/second_world_war/AWMOHWW2/Army/Vol6/.

⁹⁵ *Ibid.*, 236-246.

Treasury Islands group, part of the Solomon Islands. The New Zealand 8th Infantry Brigade Group, assigned to the United States' I Marine Amphibious Corps, launched the invasion of the Treasury Islands with an estimated four thousand men.⁹⁶ The Allies secured the Mono and Stirling Islands for the installation of a radar station and staging area for an assault on Bougainville. The attack on the Treasury Islands gave the Allies the ability to extend its early warning systems and build combat power for isolating Bougainville and Rabaul.

The Marines executed Operation Cherry Blossom from October 28 to November 3, 1943, when United States Marines from the 2nd Parachute Battalion, led by Lt Col. Victor Krulak, landed on Japanese occupied the twenty-five mile wide Choiseul Islands in the northern Solomon Islands and carried out raids on Japanese army and navy forces. The Allies gained control over Japanese-constructed naval aircraft bases in the north, east, and south of the island near Buin on the southern coastal plain of Bougainville. Securing this area reduced the defenses for Rabaul and allowed for the additional buildup of personnel and resources for the Allies, which proved beneficial for the isolation of the island at the end of Operation Cartwheel.

Operation Dexterity consisted of three phases: 1) amphibious landings at Arawe and Cape Gloucester in mid-December 1943 in the northwest of New Britain; 2) the capture of the Imperial Japanese held Tuluvu aerodrome on December 30; and 3) the amphibious landing at Saidor on January 2, 1944. The objectives for the three phases were the establishment of a patrol boat base, transition of Japanese airbases into Allied bases, and the prevention of Japanese soldiers retreating in the direction of the Australian Army from Finschhafen.⁹⁷ This gave the Allies control over the majority of the islands surrounding Rabaul. With the completion of the

⁹⁶ Gillespie and Kippenberger, *The Official History of New Zealand in the Second World War 1939–1945*, 128-139.

⁹⁷ Major Henry Shaw, Jr. and Douglas T. Kane, *History of U.S. Marine Corps Operations in World War II Volume II: Isolation of Rabaul* (Historical Branch, G-3 Division, Headquarters, US Marine Corps, 1963), 297-318.

first seven operations achieved the effect for isolation, General MacArthur shifted focus to direct actions on Rabaul.

Finally, the Joint Chiefs of Staff gave General MacArthur the authority to attack Rabaul by air. The first phase strike took place on December 23, 1943 following the capture of Kavieng by the 1st Marine Amphibious Corps in November. Different from previous strikes, Army Air Forces bombers went in first to degrade the target's defenses. The Allies destroyed thirty of forty Japanese fighters.⁹⁸ This action shifted the initiative to the Allies going into January 1944. At this time, Japanese forces had limited combat power and logistical support causing a shift to a defensive strategy to maintain control of Rabaul.⁹⁹ The Japanese lost an estimated three hundred fighters to the actions of the US fighters and bombers. In February, the Japanese command decided to pull all remaining Japanese aviators and their crews from Rabaul. Between seventy and one hundred Japanese aircraft flew from Rabaul to Truk, marking the end of Japanese air resistance to Allied planes over Rabaul.

Following the end of major actions on Rabaul, General MacArthur conducted the last two operations in Operation Cartwheel, Operation Brewer, February 29, 1944, and the landing on Emirau, March 20, 1944, resulting in success for Allied forces. These two victories allowed them to construct three bases to support two hundred fighters and two bomber groups, the 5th and 307th Bombardment Groups, consisting of two thousand men.¹⁰⁰ The additional air and naval bases, along with those from the previous nine operations, gave the Allies the capability to extend its operational reach and secure the Pacific lines of communications from Australia to the Asian east

⁹⁸ Miller, *The War in the Pacific, Cartwheel*, 269-271.

⁹⁹ *Ibid.*, 379-382.

¹⁰⁰ United States Navy Department. *Building the Navy's Bases in World War II, Volume II. History of the Bureau of Yards and Docks and the Civil Engineer Corps 1940-1946* (Washington, DC: Government Printing Office) 1947, 296-299, 301-302.

coast. With the isolation of Rabaul completed, General MacArthur turned his attention westward and commenced an advance towards the Philippines to recapture the land from the Japanese.¹⁰¹

Operation Cartwheel demonstrated how logistics dictated the type of strategy the General MacArthur conducted. The logistical limitations in personnel and resources led MacArthur to develop a strategy to capture rapidly Japanese-occupied islands while conserving his resources for future operations. This strategy contradicted his previous goal of conducting simultaneous offensive operations with an abundance of personnel and resources. His change in approach due to logistical constraints led to the successful capture of the Rabaul, Philippines, and eventually the surrender of the Japanese. The conclusion of the monograph will cover the lessons learned from Cartwheel and Guadalcanal, influences on operations for today's military, and implications for contemporary planners

¹⁰¹ The Japanese Army overran all of the Philippines during the first half of 1942. The liberation of the Philippines commenced with amphibious landings on the eastern Philippine islands on October 20, 1944, and hostilities ended in August 1945. See Breuer, William B. *Retaking The Philippines: America's Return to Corregidor & Bataan, 1944–1945* (St Martin's Press, 1986).

Conclusion

The study of the Guadalcanal Campaign and Operation Cartwheel in the Pacific Theater of Operations during World War II illustrates the criticality of logistics in determining the strategy military organizations adopt to accomplish their mission. The lessons learned in identifying logistical shortfalls in training and organization from the preparation to the completion of operations proved beneficial for Allied forces. Limited personnel and resources prompted the Allies to reorganize their available logistical capabilities and adjust their strategy. The use of shore-to-shore amphibious operations, engineer assets, and logistical task forces allowed the Allies to provide continuous logistical support to combat units. This allowed them to achieve the assigned tasks set of capturing the Solomon Islands, securing the islands of nearby New Guinea and Georgia, and isolating Rabaul to set conditions for follow-on operations to defeat the Japanese.

Admiral Ghormley's forces embarked on simultaneous amphibious landings in the Solomon Islands due to limited resources and a shortened time line. This required Admiral Ghormley to develop a strategy for a quick and decisive operation to seize the southern Solomon Islands. The ability to concentrate combat power on multiple targets simultaneously provided a significant advantage in the defeat of Japanese forces, thus accomplishing Task One.¹⁰² General MacArthur's forces, however, used the island hopping strategy to mitigate the effects of limited personnel and resources. The island hopping approach allowed MacArthur's forces to focus on a few islands at a time, while allowing additional forces to rotate into theater and supply stocks to build for upcoming offensives. This strategy allowed General MacArthur to reclaim portions of New Guinea and New Georgia while simultaneously isolating the Japanese major base at Rabaul, thus completing Tasks Two and Three. Today, contemporary planners draw lessons on

¹⁰² Frank, *Guadalcanal: The Definitive Account of the Landmark Battle*, 765.

identifying and overcoming shortfalls in training and organization in complex, resource-restricted environments.

Similar to Guadalcanal and Operation Cartwheel, contemporary planners develop creative strategies in resource-restricted environments. This requires an attention to detail on logistical training and organization. The United States military is looking at measures to streamline the force and utilize potential efficiencies due to budget-saving procedures created by sequestration.¹⁰³ This requires a reduction in resources, personnel, equipment, large training opportunities, and funding. Despite these limitations, political leadership continues to expect the military to support United States national interests as stated in the National Security Strategy.¹⁰⁴ This presents a challenge to the military; resource-restricted environments dictate the type of strategy utilized by the unit, e.g. executing brigade-size missions with a battalion element. The strategic planning in the US Pacific Command (USPACOM) Area of Responsibility (AOR) illustrates the lessons learned in identifying and adapting strategy to limited resources from Guadalcanal Campaign and Operation Cartwheel.

In response to the National Security Strategy requirements, USPACOM, along with 8th Theater Sustainment Command (TSC), recently analyzed their operational and logistical structure to identify resources shortfalls to cover the vast Pacific AOR.¹⁰⁵ USPACOM focused on training for previously undervalued logistical capabilities to conduct a strategy for rapid response to emergent crises in the resource-constrained Pacific. This required an extension of operational

¹⁰³ Smith, *CNN Explains: Sequestration*.

¹⁰⁴ National Security Strategy list four interests: Security, Prosperity, Values, International Order. See *National Security Strategy*, 7.

¹⁰⁵ *Ibid.*, 14.

reach.¹⁰⁶ They reviewed capabilities such as the Army's Inland Petroleum Distribution System, Joint Task Force Port Opening (JTF-PO), watercraft, Army Preposition Stock (APS), Joint Logistics Over the Shore (JLOTS), and Theater Opening capabilities to address the need for coverage over vast AOR. Each option, reviewed by USPACOM, emphasized the capability to extend of operational reach to maintain the initiative during operations. National leaders de-emphasized several military-enabled logistical capabilities over the past thirteen years due to constant operations in the Middle East. In the case of Iraq and Afghanistan, both theaters thrived on civilian contract support, did not require further Theater Opening operations following the initial invasions nor JLOTS. These facts, plus constant deployments in other regions of the world, led to an erosion of skills that the military now deems critical to enabling national strategy.¹⁰⁷

To address the issue of diminished technical skills and organization, USPACOM created the Joint Pacific Multinational Readiness Capability (JPMRC) training initiative with Asian partners in order to respond to emergent crisis in the Pacific. Unlike military units in the interwar period prior to World War II, USPACOM recognized the importance of training persistently logistical personnel to maintain proficiency technical skills in fluctuating environment. This requires soldiers to not only know how to operate within their parent unit, but also how to

¹⁰⁶ The Army extends operational reach through Army Prepositioned Stocks, Force Projection, Theater Opening, and Theater Closing capabilities. Strategic partners such as US Transportation Command (USTRANSCOM) and its subordinate units, e.g. 599th Transportation Brigade, a Joint Task Force Port Opening (JTF-PO) unit, enable the Army's ability to project and sustain combat power. JTF-PO, for example, is a capability USPACOM recently invested in to conduct sustainment operations after an effective employment by Southern Command (SOUTHCOM) during a humanitarian mission in Haiti in 2010. JTF-PO is a joint capability designed to rapidly deploy and operate aerial and seaports of debarkation, establish a distribution node, and manage port throughput within a theater of operations. See ADRP 4-0, 3-1 thru 3-12 and Lieutenant Colonel Kenneth Walker, Captain Alethia Reynolds, and Aviana Gutierrez, "Joint Task Force-Port Opening Comes to the Pacific" (*Army Sustainment* Vol 44, Issue 1, 2012).

¹⁰⁷ Combined Arms Support Command (CASCOM), *Army 2020 and Beyond Sustainment White Paper: Global Responsive Sustainment* (Washington, DC: Government Printing Office, 2013), 17.

conduct operations within logistical task forces. The Pacific region varies in environment and needs units capable of changing their organization to meet the requirements of any given mission.

USPACOM rotates logistical units through the Asian-Pacific area in realistic exercises with partner nations to allow soldiers to develop a better understanding of future deployed environments. Logistical units have conducted various training exercises from airdrop missions in mountainous terrain in South Korea to ship-to-shore amphibious resupply in Japan, similar to Guadalcanal and Cartwheel. The emphasis on rediscovering useful logistical capabilities, training, and organization provided USPACOM the ability to respond rapidly to a wide range of contingencies from humanitarian efforts to anti-access/area-denial strategies.¹⁰⁸

One example of USPACOM's efforts to apply lessons learned from World War II's Pacific Theater was the relocation of Army Prepositioned Stocks (APS) following the 2011 Tohoku earthquake and tsunami in Japan. The natural disaster damaged several infrastructures to include port facilities, rail services, and dams. Despite successful relief efforts, the Army identified logistical shortfalls in theater opening, distribution, and engineer capabilities, e.g. watercraft, bridging vehicles, etc. Planners recognized increased capabilities were essential to improve logistical operations for future disaster crises. This observation resembled some of the issues the United States experienced during the Guadalcanal Campaign and Cartwheel. In both operations, planners recognized the importance of pushing equipment as far forward as possible for a quick response to austere situations. Unfortunately, the main obstacle with the procurement of additional equipment revolved around the financial cost of movement. The repetitive preparation and transportation of these unique capabilities from a distant garrison environment to the areas of operation required a significant amount of lift assets and funds to execute. However,

¹⁰⁸ AUSA Torchbearer National Security Report, *The U.S. Army in the Pacific: Assuring Security and Stability*, April 2013. Accessed September 1, 2014. <http://www.ausa.org/publications/ilw/DigitalPublications/Documents/tbusarpac/offline/download.pdf>, 21-22.

USPACOM learned from the Allied forces example of developing forward bases in the Pacific to pre-stage equipment for future operations.

USPACOM repositioned critical equipment and supplies for disaster relief at forward locations throughout the AOR.¹⁰⁹ The specialized stocks stayed in place until needed. This required a single shipment, which alleviated the hefty cost of repeated equipment deployment. Many of the resources included distinctive items such as sling sets for cargo delivery, amphibious vehicles, excavation equipment, and various other items in order to make an immediate impact in the first hours of disaster relief. These capabilities permitted logistical units to establish a temporary logistical infrastructure capable of efficient natural disaster relief operations. This allowed planners to develop rapid response strategies to natural disasters. The relocation of Army Prepositioned Stocks represented one of many examples of USPACOM's direct attention to the lessons learned on logistics informing strategy in the Pacific Theater of Operations during World War II.

In conclusion, the analysis of the Guadalcanal Campaign and Operation Cartwheel in the Pacific Theater of Operations during World War II illustrated the criticality of logistics in determining the type of strategy military organizations use in operations. The examination of both operations and application to today's USPACOM area of operations reinforces the relationship between logistics to strategy. The lessons learned in identifying shortfalls in logistical training, organization provides key insights for contemporary planners to consider for future operations in a complex, and resource constrained environment.

¹⁰⁹ Ibid., 25.

Bibliography

- Admiral (USN) Nimitz, Chester W.; Captain (USN) Steele, James M., (1942). 'Gray Book' — *War Plans and Files of the Commander-in-Chief, Pacific Fleet; Running Estimate and Summary maintained by Captain James M. Steele, USN, CINCPAC staff at Pearl Harbor, Hawaii, covering the period 7 December 1941–31 August 1942.. 1 of 8 volumes.* Washington, DC: Operational Archives, Naval History and Heritage Command, Washington Navy Yard, 2013.
- Anders, Steven E. *Quartermaster Supply in the Pacific During World War II.* Quarter Master Professional Bulletin, 1999.
- Army 2020 and Beyond Sustainment White Paper: Global Responsive Sustainment. Combined Arms Support Command, 2013.
- Asada, Sadao. *From Mahan to Pearl Harbor: The Imperial Japanese Navy and the United States.* Annapolis, MD, Naval Institute Press, 2006.
- AUSA Torchbearer National Security Report. *The U.S. Army in the Pacific: Assuring Security and Stability.* Institute of Land Warfare Association of the United States Army, 2013.
- Bosman, Manie. *Strategic Leadership Institute.* Accessed April 24, 2014. <http://www.strategicleadershipinstitute.net/news/let-form-follow-function-for-more-effective-change1/>.
- Breuer, William B. *Retaking The Philippines: America's Return to Corregidor & Bataan, 1944–1945.* St. Martin's Press, 1986.
- Casey, Hugh J. *Organization, Soldiers, and Training. Engineers of the Southwest Pacific.* Washington, DC: Government Printing Office, 1953.
- Center for Military History. *Logistics in World War II: Final Report of the Army Service Forces.* Washington, DC: Center for Military History, 1993
- Center for Military History, *Reports of General MacArthur The Campaigns Of Macarthur In The Pacific. Vol I.* Washington, DC: Center for Military History, 1994.
- Clausewitz, Carl von. *On War.* Edited and translated by Michael Howard and Peter Paret. Princeton, NJ: Princeton University Press, 1984.
- Combined Arms Support Command, *Army 2020 and Beyond Sustainment White Paper: Global Responsive Sustainment.* Washington, DC: Government Printing Office, 2013.
- Craven, Wesley F., and Cate, James L. Eds. *The Army Air Forces in World War II, Volume 4: The Pacific: Guadalcanal to Saipan, August 1942-July 1944.* Chicago: University of Chicago Press, 1958.
- Dexter, David. *Official Histories – Second World War, Volume VI, "The New Guinea Offensives"* (1st edition) 1961 Accessed September 11 2014. [http://www.awm.gov.au/histories/second world war/AWMOHWW2/ Army/Vol6/](http://www.awm.gov.au/histories/second%20world%20war/AWMOHWW2/Army/Vol6/).

- Engels, Donald W. *Alexander the Great and the Logistics of the Macedonian Army*. University of California, 1980.
- Forty, George. *US Army Handbook 1939-1945*. United Kingdom, Alan Sutton Publishing, 1995.
- Frank, Richard B. *Guadalcanal: The Definitive Account of the Landmark Battle*. New York: Random House, 1990.
- Gillespie, Oliver A. Kippenberger, Howard Karl (editor). *The Pacific (PDF). The Official History of New Zealand in the Second World War 1939–1945*. Historical Publications Branch, 1952.
- Gillison, Douglas. *Royal Australian Air Force 1939–1942. Australia in the War of 1939–1945: Series 3 – Air – Volume Vol 1*. Canberra: Australian War Memorial, 1962.
- Glines, Carroll V. *Attack on Yamamoto*. New York: Crown 1st edition, 1990.
- Gropman, Alan. *The Big ‘L’—American Logistics in World War II*. Washington, DC: National Defense University Press, 1997.
- Hornfischer, James D. *Neptune's Inferno: The US Navy at Guadalcanal*. New York: Bantam Books, 2011.
- Kreidberg, Marvin A., Henry, Merton G. *History of Military Mobilization In The United States Army 1775-19453*. Department of the Army Pamphlet, 1995.
- Leighton, Richard M. and Coakley, Robert W. *Global Logistics and Strategy 1940-1943*. Washington,,DC: Center for Military History, 1995.
- Lieutenant Brlecic, Jeffrey C. “Logistics, CSS, Sustainment: Evolving Definitions of Support.” *Army Sustainment* Vol 41, Issue 5, 2009.
- Lieutenant Colonel Walker, Kenneth; Captain Alethia Reynoldsk; Aviana Gutierrez. “Joint Task Force–Port Opening Comes to the Pacific.” *Army Sustainment* Vol 44, Issue 1, 2012.
- Mansoor, Peter R. *The GI Offensive in Europe: The Triumph of American Infantry Divisions, 1941-1945*. Lawrence, KS: University of Kansas Press, 1999.
- Masterson, Dr. James R. *U. S. Army Transportation In The Southwest Pacific Area 1941–1947*. Washington, DC: Transportation Unit, Historical Division, Special Staff, US Army, 2013.
- Miller Jr., John. *Guadalcanal: The First Offensive*. Washington, DC: Government Printing Office, 1949.
- Miller Jr., John. *The War in the Pacific, Cartwheel: The Reduction of Rabaul* Washington, DC: Center for Military History, 1968.
- Morton, Louis. *The War in the Pacific—Strategy and Command: The First Two Years. United States Army In World War II*. Washington, DC: Center for Military History, 2000.

- Newell, Clayton R. *"The Pacific and Adjacent Theaters 1942"* from *The US Army Campaigns of World War II*. Washington, DC: Center for Military History, 2003.
- Parker, III, William J. *Basing and Operational Reach*, Monograph. School of Advanced Military Studies, Fort Leavenworth: United States Army Command and General Staff College, 2012.
- Parshall, Jonathan and Tully, Anthony, *Shattered Sword: The Untold Story of the Battle of Midway*. Dulles, VA: Potomac Books, 2005.
- Rentz, John. *Marines in the Central Solomons*. Historical Branch, Headquarters, US Marine Corps, 1952.
- Richard L. Kugler, *Case Study in Army Transformation: Creating Modular Forces*. Washington, DC: National Defense University Press, 2008.
- Rottman, Gordon, L. *World War II Pacific Island Guide: A Geo-military Study*. Westport: Greenwood Press, 2002.
- Ruppenthal, Roland G. *The European Theater of Operations: Logistical Support of the Armies Vol I: May 1941-September 1944*. Washington, DC: Center for Military History, 1995
- Shaw Jr., Henry I., Major Kane, Douglas T. Kane. *History of U.S. Marine Corps Operations in World War II Volume II: Isolation of Rabaul*. Historical Branch, G-3 Division, Headquarters, United States Marine Corps, 1963.
- Smith, Matt. *CNN Explains: Sequestration*. Accessed July 23, 2014. <http://www.cnn.com/2013/02/06/politics/cnn-explains-sequestration/>.
- Stoler, Mark A. *Allies and Adversaries: The Joint Chiefs of Staff, The Grand Alliance, and U.S. Strategy in World War II*. Chapel Hill, NC: University of North Carolina Press, 2000.
- Thomas, David A. *The Battle of the Java Sea*. New York: Stein & Day, 1968.
- Tucker, Spencer C; Roberts, Priscilla Mary. *Encyclopedia of World War I*. Santa Barbara: ABC-Clio, 2005.
- Turabian, Kate L. *A Manual for Writers of Research Papers, Theses, and Dissertations*. 8th ed. Chicago: University of Chicago Press, 2013.
- Tzu, Sun; Carl Von Clausewitz; Niccolo Machiavelli; Baron De Jomini. *The Complete Art of War*. Start Publishing LLC, 2012.
- United States Army, *2004 Army Transformation Roadmap: A Campaign-Quality Army with Joint and Expeditionary Capabilities*. Washington, DC: Government Printing Office, 2004.
- United States Army, Army Doctrine Publication 3-0: *Unified Land Operations*. Washington, DC: Government Printing Office, 2011.
- . Army Doctrine Publication 1-0: *The Army*. Washington, DC: Government Printing Office, 2012.

- . Army Doctrine Publication 4-0: *Sustainment*. Washington, DC: Government Printing Office, 2012.
- . Army Doctrine Publication 5-0: *The Operations Process*. Washington, DC: Government Printing Office, 2012.
- . Army Doctrine Publication 6-0: *Mission Command*. Washington, DC: Government Printing Office, 2012.
- United States Army. Field Manual 100-10: *Combat Service Support*. Washington, DC: Government Printing Office, 1988.
- . Field Manual 3-0: *Operations*. Washington, DC: Government Printing Office, 2010.
- . Field Manual 3-90.6: *The Brigade Combat Team*. Washington, DC: Government Printing Office, 2010.
- . Field Manual 4-0: *Sustainment*. Washington, DC: Government Printing Office, 2009.
- . Field Manual 4-93.2: *The Sustainment Brigade*. Washington, DC: Headquarters, Department of the Army, 2009.
- . Field Manual 4-94: *Theater Sustainment Command*. Washington, DC: Government Printing Office, 2010.
- United States Army: Army Regulation 5-22: *The Army Force Modernization Proponent System*. Washington, DC: Government Printing Office, 2011.
- United States Department of Defense. *2001 Quadrennial Defense Review Report*. Washington, DC: Government Printing Office, 2001.
- . Joint Publication 1-02, *Department of Defense Dictionary of Military and Associated Terms*. Washington, DC: Government Printing Office, 2014.
- . Joint Publication 3-0, *Doctrine for Joint Operations*. Washington, DC: Government Printing Office, 2011.
- . Joint Publication 5-0, *Joint Operation Planning*. Washington, DC: Government Printing Office, 2011.
- United States Navy Department. *Building the Navy's Bases in World War II, Volume II. History of the Bureau of Yards and Docks and the Civil Engineer Corps 1940–1946*. Washington, DC: Government Printing Office, 1947.
- Van Creveld, Martin. *Supplying War: Logistics from Wallenstein to Patton*. Cambridge University Press, 2004.
- Van Creveld, Martin, *Technology, and War: From 2000 B.C. to the Present*. New York, NY: Free Press, 1989.

Vego, Milan N. *Joint Operational Warfare: Theory and Practice*. Newport, RI: United States Naval War College, 2007

Vice Admiral (Retired) Dyerr, George Carroll. *The Amphibians Came To Conquer The Story Admiral Richmond Kelly Turner*. Washington, DC: Government Printing Office, 1972.