

Joint Operational Art on a Shoestring Budget and Limited Means: An Analysis of the Papua Campaign and Operation Cartwheel

A Monograph

by

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Abstract

Joint Operational Art on a Shoestring Budget and Limited Means: An Analysis of the Papua Campaign and Operation Cartwheel, by MAJ Joshua A. Hunter, 55 pages.

This monograph is an analysis of the Papua Campaign and Operation Cartwheel, using the lens of the joint concept of operational art. This monograph asserts that these two campaigns highlight enduring challenges of operational art in a high-intensity, multi-domain environment against a peer adversary capable of contesting and dominating multiple domains simultaneously. A detailed examination of these two successful, joint-multinational forcible entry campaigns will provide valuable insight for the US military as the joint force contends with multiple near-peer threats capable of conducting anti-access and area denial operations to contest or dominate the US military across multiple domains. An examination of the Papua Campaign and Operation Cartwheel reveals the critical elements of joint operational art that best enable joint-multinational forces to link tactical actions to the strategic objectives during the early Pacific campaigns in World War II.

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Acronyms

A2/AD	Anti-Access / Area-Denial
AAF	Allied Air Force
ADP	Army Doctrine Publication
ALF	Allied Land Force
ANF	Allied Navy Force
CCS	Combined Chiefs of Staff
COG	Center of Gravity
GHQ	General Headquarters
IGHQ	Imperial General Headquarters
IJA	Imperial Japanese Army
IJN	Imperial Japanese Navy
JCS	Joint Chiefs of Staff
LOO	Lines of Operation
LOE	Lines of Effort
NGF	New Guinea Force
POA	Pacific Ocean Areas
SOPAC	South Pacific Area
SWPA	South West Pacific Area

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Introduction

This study uses the contemporary concept of joint operational art as a framework to analyze General Douglas MacArthur's effort to block Japanese expansion in the South West Pacific Area (SWPA) during the Papua Campaign and Operation Cartwheel from April 1942 until March 1944. This monograph uses the US military elements of joint operational art to evaluate General MacArthur's tactical actions during the Papua Campaign and during Operation Cartwheel. It then evaluates General MacArthur's operational approach based on the prevalence of the thirteen elements from the contemporary concept of operational design. The link between the tactical actions and the strategic objectives is the essence of operational art and provides the context necessary for evaluation. US joint doctrine defines operational art as the commander's ability to "link national strategic aims to operations" through the description of "how (ways) the joint force will employ its capabilities (means) to achieve military objectives (ends)" in a manner that "mitigate(s) the challenges of complexity and uncertainty," known as risk.¹

This monograph asserts that General MacArthur's campaigns, when viewed through the modern joint construct of operational art, highlights the enduring challenges of linking strategic aim to operations in a high-intensity, multi-domain environment when faced with a near-peer enemy capable of contesting and dominating multiple domains simultaneously. The examination of successful, joint-multinational forcible entry campaigns provides valuable insight for the US military as the joint force contends with multiple near-peer threats capable of conducting anti-access and area denial operations to contest or dominate the US military across multiple domains. This monograph contends an examination of General Douglas MacArthur's Papua Campaign and Operation Cartwheel reveals the critical elements from the modern concept of joint operational art that best enabled his joint-multinational force to link tactical actions to the strategic objectives

¹ US Department of Defense, Joint Staff, *Joint Publication (JP) 5-0, Joint Planning* (Washington, DC: Government Printing Office, 2017), IV-1 - IV-4.

set by President Franklin D. Roosevelt and the Joint Chiefs of Staff (JCS) during the early Pacific campaigns in World War II.

Historical Overview

Following the Meiji Restoration, the rulers of Japan sought to become a great power modeled after the European empires of that era. Japan embarked on a series of conflicts to increase their standing in the international community, including the First Sino-Japanese War and the Russo-Japanese War. However, the Treaty of Versailles following the first World War did little to convince the Japanese that the international community respected them as equals. Seeking to continue their expansion, the Japanese annexed all of Manchuria and Inner Mongolia in September 1931 following the Mukden Incident. The Second Sino-Japanese War began in July 1937, following the Marco Polo Bridge incident.² Japan's war in China drew heavily on the capacity of the Japanese state and provoked international condemnation. In July 1941, President Franklin Roosevelt froze all Japanese monetary assets in the United States and curtailed the flow of resources to Japan, essentially strangling an expanding Japanese Empire in the midst of a resource intensive war.³ In the absence of critical resources, the Japanese government turned its attention south to the resource-rich South East Asia to fuel its conquest of China. In order to facilitate this expansion, it was deemed necessary to first destroy the US Pacific Fleet.

The Japanese Combined Fleet's attack on Pearl Harbor, and success during the subsequent "First Operational Phase," encouraged the Japanese Imperial General Headquarters (IGHQ) to remain on the offensive in the Pacific in the first half of 1942.⁴ The "First Operational Phase" was the operational plan "for the takeover of Southeast Asia," and aimed at the Malay

² Francis Pike, *Hirohito's War: the Pacific War 1941-1945* (New York: Bloomsbury Publishing, 2015), 7-25, 80.

³ Ibid., 124-125.

⁴ For a graphic representation of the Japanese conquest during the "First Operational Phase" with associated timeline, please reference Figure 1.

Peninsula, the Philippines, Wake, Guam, Borneo, and Java.⁵ Admiral Isoroku Yamamoto, as commander of the Japanese Combined Fleet, identified that implementation of those actions required the elimination of the US Pacific Fleet.⁶ Japanese military successes at Pearl Harbor, the Malay Peninsula, and in the Philippines established a sense of invulnerability in the Japanese military, which encouraged the IGHQ to commit to further actions and became known as the “victory disease.”⁷

The IGHQ provided the Japanese military with the structure necessary to serve as a military dictatorship. The IGHQ reported to the Japanese Emperor, whose authority as commander in chief was symbolic, but who viewed himself as a constitutional monarch and wielded “absolute power” according to the Meiji Constitution.⁸ The Imperial Japanese Army (IJA) and Imperial Japanese Navy (IJN) divided the IGHQ along army and navy lines. Each component assigned and published operations that required joint participation separately, which required the assigned service commanders to cooperate under an agreement with the other service. The IJA held a more prominent position in the hierarchy, and both dominated the other civilian ministers in the Japanese government.⁹

Despite initial protest from the IJA staff, the IGHQ endorsed the IJN staff’s continued “offensive momentum” for the “Second Operational Phase” in the Pacific, aimed at the Coral Sea to cut off Australia from American supplies since it minimized the IJA’s involvement.¹⁰ IGHQ

⁵ John Costello, *The Pacific War* (1981; repr., New York: Quill, 1982), 98.

⁶ Ronald H. Spector, *Eagle Against the Sun: The American War with Japan* (New York: The Free Press, 1985), 79.

⁷ Pike, *Hirohito’s War*, 321-324. The term “Victory Disease” likely entered English-language accounts of the Pacific War after the publication of Mitsuo Fuchida and Masatake Okumiya, *Midway: The Battle that Doomed Japan, The Japanese Navy’s Story* (Annapolis, MD: Naval Institute Press, 1955), 245-248.

⁸ Francis Pike, *Hirohito’s War: the Pacific War 1941-1945* (New York: Bloomsbury Publishing Plc, 2015), 113-114.

⁹ Yale Candee Maxon, *Control of Japanese Foreign Policy: A Study of Civil-Military Rivalry 1930-1945* (1957; repr., Westport: Greenwood Press, 1973), 60-62.

¹⁰ *Ibid.*, 218.

assigned the “seizure of strategic points in the Bismarck Archipelago” to a direct report, joint-force consisting of the IJA’s South Seas Detachment, under the command of Major General Tomitaro Horii, and the IJN’s South Seas Force, under Vice Admiral Shigeyoshi Inouye who also commanded the Japanese 4th Fleet.¹¹ The IGHQ intended for Rabaul to serve as the support base from which to attack the Allied lines of communication with Australia.¹² The 4th Air Group, based in Rabaul, would provide air support to both the Japanese Army and Naval forces throughout the operations.¹³ Operation Mo and Operation FS were the names given to the amphibious action against Port Moresby and against New Caledonia, Fiji, and Samoa, respectively.

Admiral Chester W. Nimitz, as Commander in Chief of the United States Pacific Fleet, enjoyed the benefits of Allied intelligence and knew about the IJN movements in the South Pacific.¹⁴ Allied naval actions at the Battle of the Coral Sea in May 1942 ended the IJN’s overseas attempt to land at Port Moresby as well as in New Caledonia, Fiji Islands, and Samoa. Additionally, the Battle of Midway in June 1942 drastically altered the balance of naval power in the Pacific between Japan and the United States with the loss of four Japanese aircraft carriers.¹⁵ The combination of losses forced the IGHQ to relook their “Second Operational Phase” objectives in the Pacific, and align suitable Army and Navy headquarters to direct a new defensive strategy against the subsequent Allied counter-attacks at Guadalcanal and in Papua and New Guinea.¹⁶

¹¹ Louis Morton, *Strategy and Command: The First Two Years* (Washington, DC: Center of Military History, 1962), 199-200.

¹² John Miller, Jr., *Cartwheel: The Reduction of Rabaul* (Washington, DC: Center of Military History, 1959), 32.

¹³ Morton, *Strategy and Command*, 215.

¹⁴ Ronald Lewin, *The American Magic: Codes, Ciphers and the Defeat of Japan* (New York: Farrar, Straus, Giroux, 1982), 91-94.

¹⁵ Pike, *Hirohito’s War*, 386-398.

¹⁶ Costello, *The Pacific War*, 315-316.

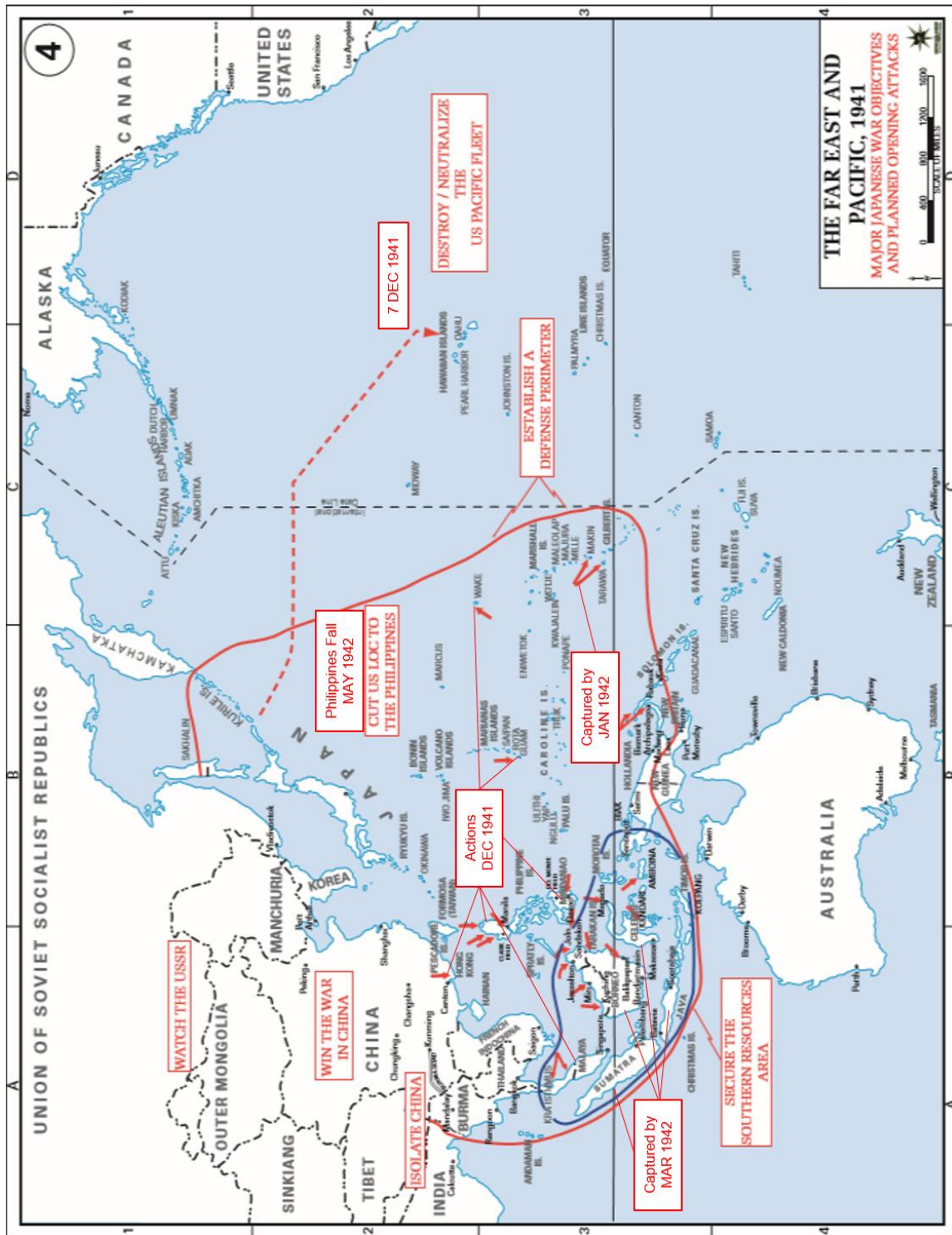


Figure 1. Japanese Pacific Expansion and Objectives. Adapted from USMA Department of History Online Atlas Collection, accessed March 19, 2019, https://westpoint.edu/sites/default/files/inline-images/academics/academic_departments/history/WWII%20Asia/WWIIAsia04.pdf.

Papua Campaign

General Douglas MacArthur assumed the role of “Supreme Commander” of all Allied forces in the Southwest Pacific Area (SWPA) on April 18, 1942 as approved by the Combined Chiefs of Staff (CCS).¹⁷ The CCS, as established during the December 1941 – January 1942 Arcadia Conference, exercised broad authority to recommend “policy governing the distribution of the weapons of war” to political superiors, but also exercised responsibility to prioritize overseas military movements.¹⁸ As for a strategy to defeat Japan, the CCS held authority over the US Joint Chiefs of Staff (JCS), but relied on the JCS to create and direct plans for the SWPA and the Pacific Ocean Areas, provided those plans did not interfere with the agreed upon Europe first policy.¹⁹ As commander of the Allied forces in the SWPA, the JCS assigned General MacArthur four primary objectives: 1) hold Australia “as a base for future operations,” 2) “check the Japanese conquest of the Southwest Pacific Area,” 3) secure the sea lines of communication with Australia by destroying the Japanese in “Eastern Malaysia and the New Guinea-Bismark-Solomon Islands region,” and 4) “prepare to take the offensive.”²⁰ Even before his appointment, MacArthur wasted no time making close friends with Australian Prime Minister John Curtin, and even less time after the appointment arranging the SWPA General Headquarters (GHQ). He established three subordinate commanders, one each for the Allied Naval Forces (ANF), the Allied Air Forces (AAF), and the Allied Land Forces (ALF).²¹ Throughout both campaigns, command arrangements proved easier to create and alter as necessary rather than securing the means which General MacArthur and his command deemed necessary to accomplish this assigned missions.

¹⁷ The SWPA was one of two Pacific Theaters of Operation. The Pacific Ocean Area was the second and subdivided into a North, Central, and South.

¹⁸ Morton, *Strategy and Command*, 164-166.

¹⁹ *Ibid.*, 240-263.

²⁰ Peter J. Dean, *MacArthur's Coalition*, (Lawrence: University Press of Kansas, 2018), 54.

²¹ *Ibid.*, 55.

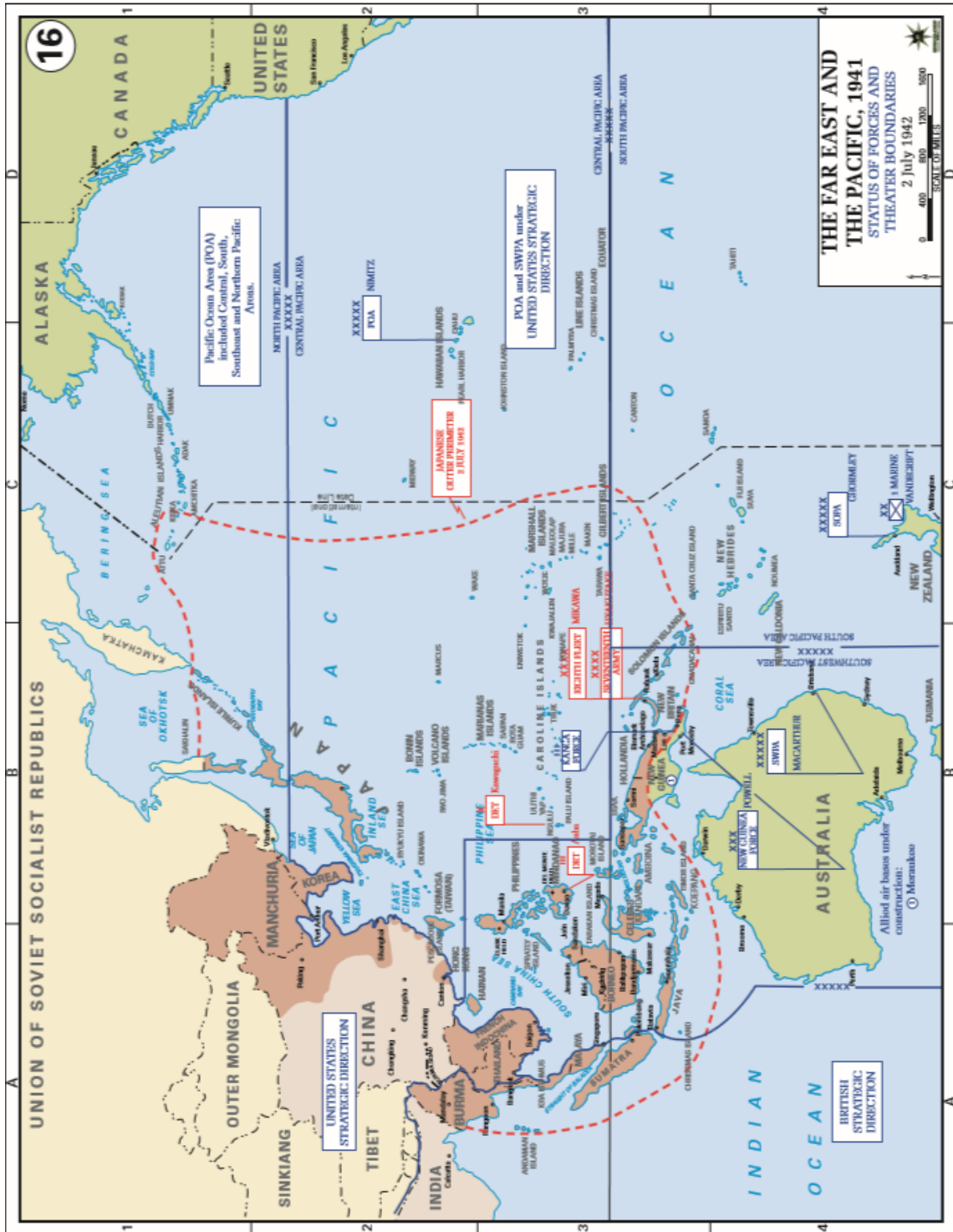


Figure 2: The Pacific Theater, 1941. Map retrieved from USMA Department of History Online Atlas Collection, accessed March 19, 2019, https://westpoint.edu/sites/default/files/inline-images/academics/academic_departments/history/WWII%20Asia/WWIIAsia16.pdf.

From August 1942 until the end of the war, the Allied Air Forces were commanded by Major General George C. Kenney.²² He entered the theater with a very hands-on approach at an early stage in the Papua Campaign which set the conditions for the remainder of the war.²³ General MacArthur described him as the air commander with the most “aggressive vision, mastery of air tactics and strategy, and the ability to exact the maximum in fighting qualities from both men and equipment.”²⁴ Admiral Arthur S. Carpender replaced Admiral Herbert F. Leary in September, 1942 and served as the commander for the Allied Naval Forces until November 1943.²⁵ Admiral Thomas C. Kinkaid took command from Admiral Carpender, and served as the commander for the Allied naval forces in the SWPA, but also reported to Admiral King in Washington, D.C. as the commander of Seventh Fleet.²⁶ Under Admiral Kinkaid, Rear Admiral Daniel Barbey served as the Seventh Fleet Amphibious Force Commander, known as Task Force 76, and served as the direct coordinator with the General Kenney and the land forces commanders for planning amphibious operations.²⁷

General George C. Marshall encouraged General MacArthur to appoint General Sir Thomas Blamey as the commander of Allied Land Forces, as General MacArthur was prohibited from taking direct command of any national forces.²⁸ General Blamey also served as the commander-in-chief of Australian Military Forces and remained until the end of the war. As the

²² George C. Kenney, *General Kenney Reports: A Personal history of the Pacific War* (1949; repr., Washington, DC: Office of Air Force History, 1987), 25-32.

²³ For an in-depth overview on the US Army Air Force in the Pacific, see Wesley Frank Craven and James Lea Cate, eds., *The Army Air Forces in World War II: The Pacific*, vol. 4, *Guadalcanal to Saipan, August 1942 to July 1944* (Chicago: University of Chicago Press, 1950).

²⁴ Douglas MacArthur, *Reminiscences* (New York: De Capo Press, 1964), 157.

²⁵ Samuel Eliot Morison, *History of United States Naval Operations in World War II*, vol. 6, *Breaking the Bismarcks Barrier, 22 July 1942 - 1 May 1944* (Boston: Little, Brown and Company, 1950), 32.

²⁶ Gerald E. Wheeler, *Kincaid of the Seventh Fleet* (Washington, DC: Naval Historical Center, 1995), 343.

²⁷ Morison, *Breaking the Bismarcks Barrier*, 130-133.

²⁸ Dean, *MacArthur's Coalition*, 74-75.

US Army forces increased in the SWPA, General MacArthur established I Corps headquarters, under Major General Robert L. Eichelberger in September, 1942.²⁹ In January 1943, the War Department approved the creation of the 6th US Army under the command of Lieutenant General Walter Krueger, which General MacArthur immediately designated as the Alamo Force and assigned as a direct report to his headquarters.³⁰ General Blamey remained in command of Allied Land Forces, renamed New Guinea Force after 6th US Army's arrival. This structure ensured that future US land forces would remain under American commands, which MacArthur used to direct their efforts for the remainder of the New Guinea campaign.³¹

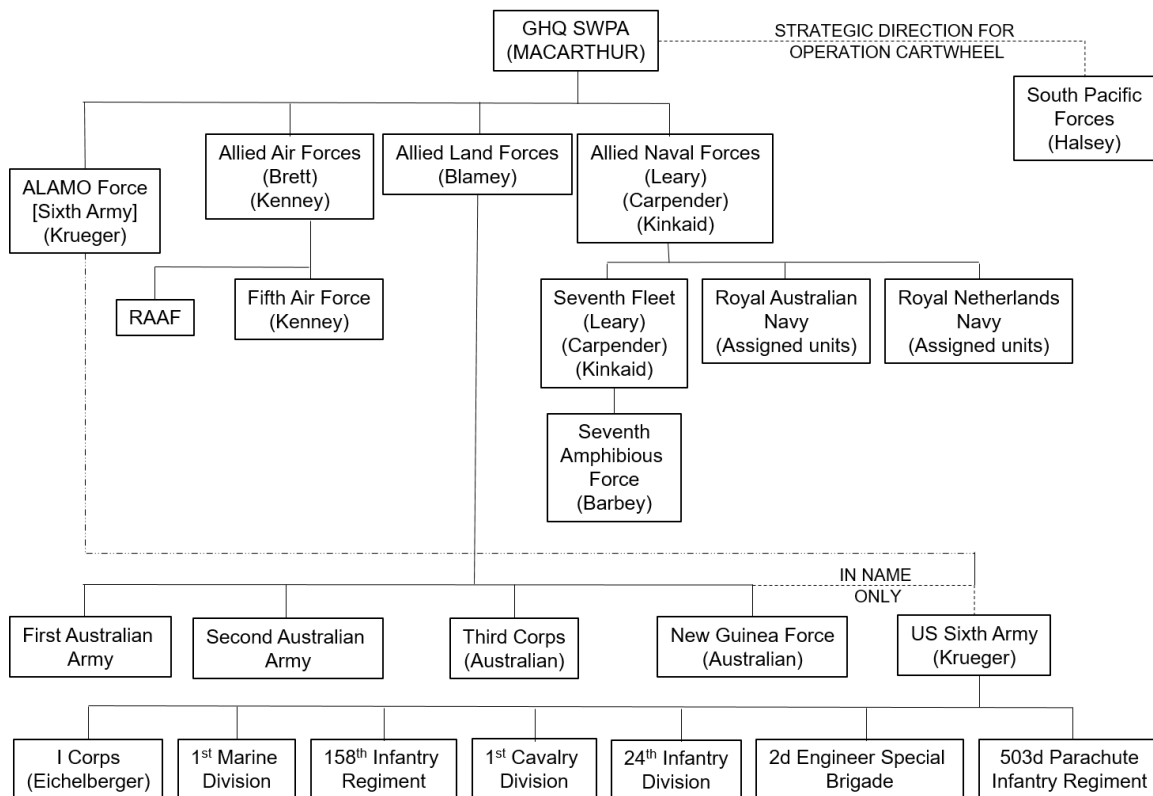


Figure 3. SWPA Organization Line and Block Chart, July 1943. Adapted from Louis Morton, *Strategy and Command: The First Two Years* (Washington, DC: Center of Military History, 1962), Chart 10.

²⁹ Robert L. Eichelberger, *Our Jungle Road to Tokyo* (New York: Viking Press, 1950), 3-10.

³⁰ Kevin C. Holzimmer, *General Walter Krueger: Unsung Hero of the Pacific War* (Lawrence, KS: University of Kansas Press, 2007), 101-104.

³¹ Dean, *MacArthur's Coalition*, 212-216.

General Horri's South Seas Force, at the time under the command of the Japanese 17th Army, stopped its offensive against Port Moresby and established a defense in the vicinity of the Buna-Gona area to reprioritize operations in support of Guadalcanal. In November 1942, the IGHQ changed the command structure for the region. The IJA created the Eighth Area Army, under General Hitoshi Imamura, and allocated the 17th Army for operations in the Solomons and the 18th Army, under General Hatazo Adachi, for operations in New Guinea, along with the 6th Air Division based in Rabaul to support both Armies. The IJN placed the 11th Air Fleet and the 8th Fleet under Admiral Kusaka's Southeast Area Fleet, which reported directly to Admiral Yamamoto and the Combined Fleet based in Truk. The IGHQ's increased force commitment reflected the military's determination to "maintain and reinforce" their positions in the Southeast Area.³²

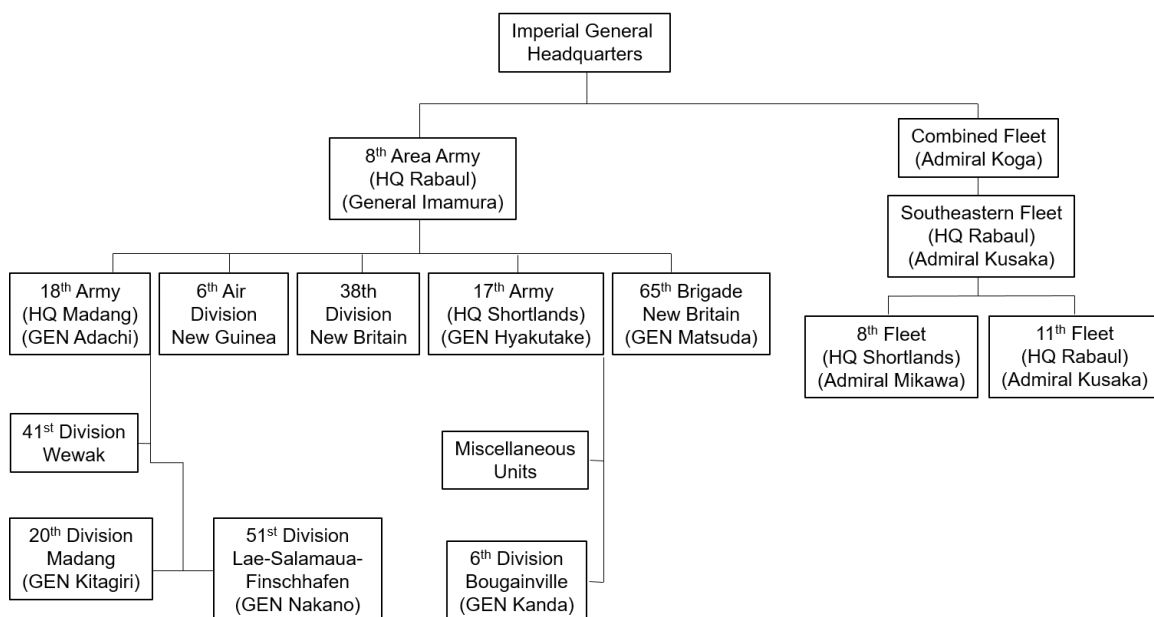


Figure 4. Japanese Southeast Area Line and Block Chart, June 1943. Adapted from John Miller, Jr., *Cartwheel: The Reduction of Rabaul* (Washington, DC: Center of Military History, 1959), Chart 3.

³² Morton, *Strategy and Command*, 337-366.

Following the Battles of Coral Sea and Midway, General MacArthur provided the JCS with a minor revision to his Tulsa operation plan, titled Tulsa II, which added four days to his estimated two-week requirement to recapture Rabaul. It called for two aircraft carriers and three US Infantry Divisions, forces not available to the US in the Pacific at the time.³³ The JCS rejected Tulsa II due to lack of available forces, but they did agree that it was the right time to conduct limited offensive operations in the SOPAC and the SWPA. On July 2, 1942, the JCS published the Joint Directive for Offensive Operations in SWPA, which outlined the three objectives necessary for the capture of Rabaul. Admiral Nimitz received responsibility for the first objective, which were landings at Tulagi and Guadalcanal to establish airfields. MacArthur was responsible for the subsequent two. The second objective included the capture of Salamaua, Lae, Northeast New Guinea, and the Solomon Islands. The third objective was the capture of the Japanese stronghold of Rabaul.³⁴

MacArthur identified the construction of an airfield vicinity the Buna-Gona as essential to supporting operations against Salamaua and Lae. However, General Tomitaro Horri's South Seas Force (SSF) detachment landed at Buna on July 21, 1942 and launched an overland assault towards Port Moresby, altering MacArthur's plans. Anticipating the Japanese overland attack, MacArthur ordered additional defenses for Port Moresby and the establishment of an airfield at Milne Bay, on the far eastern portion of Papua. The subsequent Japanese Kokoda Track Campaign, coupled with an attempted Japanese landing at Milne Bay in late August 1942 and faulty intelligence estimates of Buna and Gona caused a six-month delay in MacArthur's operations towards Salamaua and Lae.³⁵ Japanese attention rested on events unfolding

³³ Morton, *Strategy and Command*, 111.

³⁴ Ibid., 295-303.

³⁵ Dean, *MacArthur's Coalition*, 112-137.

simultaneously at Guadalcanal, which allowed MacArthur to adjust his plans and build his forces.³⁶

General Blamey, however, seized the initiative during General Horri's withdrawal and initiated a three pronged attack to seize the beaches and airdromes at Buna, Gona, and Sanananda. MacArthur also sought to defeat Japanese forces stranded on Goodenough Island, just off Milne Bay, who were abandoned during the Japanese attack against Milne Bay in August 1942. During these actions, the first US Army land forces conducted operations in the SWPA, which provided opportunity to build combined arms, joint amphibious, logistical and transportation experiences for the SWPA forces. Allied forces captured Gona on December 8, Buna on December 14, 1942 and blockaded Sanananda until January 14, 1943 when the Japanese withdrew from the area.³⁷

General MacArthur announced victory in Papua on January 23, 1943. General Imamura suffered a subsequent defeat at Guadalcanal on February 9, 1943, and recognized the shift in initiative in his area. As early as January 4, 1943, the IGHQ ordered "operational bases such as Lae, Salamaua, Madang, and Wewak will be strengthened at once and strategic points north of the Owen Stanley Range...will be occupied and secured."³⁸ General Imamura reinforced Lae from the Buna-Gona area and received additional forces from outside the theater.³⁹ Control over the Bismarck Sea was crucial to maintain the line of communication between the 8th Area Army and the 18th Army, as Lae served as the strategic entry point for all Japanese supplies and reinforcements into New Guinea. From Lae, the 18th Army Commander General Adachi sent reinforcements to Salamaua and a force to attack and occupy the Allied position at Wau. General Blamey anticipated this overland attack and sent reinforcements to Wau via air starting on

³⁶ For a thorough explanation of the events at Guadalcanal, see Richard B. Frank, *Guadalcanal: The Definitive Account of the Landmark Battle* (New York: Random House, 1990).

³⁷ Dean, *MacArthur's Coalition*, 142-143, 178-191.

³⁸ Morton, *Strategy and Command*, 367.

³⁹ John Toland, *The Rising Sun: The Decline and Fall of the Japanese Empire, 1936-1945* (New York: Random House, 1970), 438.

January 8, 1943. Those forces arrived just prior to the Japanese attack against Wau, which started on January 29, 1943, and defended Wau against the Japanese attack.⁴⁰

Success against the Japanese continued for the SWPA when the US Fifth Air Force capitalized on Ultra signals intelligence deciphers concerning the overseas movement of the Japanese 51st Infantry Division from Rabaul to Lae to support further attacks against Wau.⁴¹ This intelligence enabled detailed aerial search patterns which resulted in positive identification of the transport convoy by a B-24 on March 1, 1943. The convoy was spotted again the next day and on March 3, 1943 an allied air attack sunk the majority of the convoy and rendered the 51st Division combat ineffective. Allied actions at the Battle of the Bismarck Sea capitalized on intelligence which enabled massed allied air to employ tactical innovations with B-25 “skip bombers,” to defeat Japanese reinforcements prior to them even reaching to Lae.⁴²

For the Japanese, the disaster in the Bismarck Sea could not go unanswered. IGHQ was divided over prioritization of the Solomons or New Guinea, but the Japanese Army held sway in the argument which prioritized efforts towards New Guinea. Admiral Yamamoto devised Operation I, also known as I-Go, in response as an effort to transition to a defensive war of attrition. Japanese Army Air and Naval Air attacked Guadalcanal on April 1 and again on April 7, 1943 and then attacked Oro Bay, Port Moresby, and Milne Bay on April 11, 12, and 14, respectively.⁴³ While the massed air attacks demonstrated Japanese strength in the area, they had no lasting impacts on Allied forces. Furthermore, over-estimated results provided Admiral Yamamoto with a false sense that the operation accomplished the aims to slow down the allied advance in the Solomons and New Guinea. After I-Go, Allied intelligence decoded messages

⁴⁰ Dean, *MacArthur's Coalition*, 205, 207-208.

⁴¹ Lewin, *The American Magic*, 185-187. In Lewin's book, he incorrectly names the Japanese 15th Infantry Division as the reinforcing unit sunk in the Bismarck Sea, however, multiple other sources correctly identify the Japanese 51st Infantry Division.

⁴² Toland, *The Rising Sun*, 438-439.

⁴³ Pike, *Hirohito's War*, 607-610.

about Admiral Yamamoto's travel plans to visit troops just south of Bougainville, and on April 18, a targeted strike downed his airplane and deprived the Japanese of "their greatest war hero."⁴⁴

Operation Cartwheel

The original Operation Cartwheel was designed to isolate and reduce the Japanese military base at Rabaul through an amphibious landing and capture of the garrison. As Operation Cartwheel progressed, however, the JCS decided that the isolation of Rabaul was so successful that it no longer warranted the resources for an amphibious invasion, and it was bypassed instead. For Operation Cartwheel, this paper begins with an overview of the maturation of General MacArthur's Eltkon plan, followed by an overview of the ten distinct operations and their link to Joint Chiefs of Staff directives.

Allied success at Milne Bay, along the Kokoda Track, Gona, Buna, Sanananda, Wau, and the Battle of Bismarck Sea secured the SWPA foothold on New Guinea and set the conditions for execution of the second and third tasks assigned to General MacArthur from the July 2, 1942 JCS directive. The Allied successes prompted the IGHQ to revise their strategy in the South Pacific, shifting the priority of effort to New Guinea rather than in the Solomon Islands.⁴⁵ The culmination of the Papua Campaign established a foothold in New Guinea, took the initiative away from the Japanese, and set the conditions to begin the reduction of the Japanese stronghold at Rabaul.

Based on Allied success at Guadalcanal and in Papua, the JCS directives shifted to actions necessary to accomplish the second two tasks from the July 2, 1942 directive, namely the capture of Salamaua, Lae, northeast New Guinea, and the Solomon Islands to set the conditions for the capture of the Japanese stronghold of Rabaul. Japanese efforts at Buna and in Guadalcanal delayed General MacArthur's time estimates, but did little to alter his plans. The question

⁴⁴ Toland, *The Rising Sun*, 440-444.

⁴⁵ Pike, *Hirohito's War*, 587-588.

concerning a unified command structure in the Pacific Theater, divided along Army and Navy lines, persisted. The January 1943 compromise between Army Chief of Staff General George C. Marshall and Chief of Naval Operations Admiral Ernest C. King did little to resolve it and outlined the same agreement on task assignment from the July 2, 1942 directive.⁴⁶ The command structure for the operations against Rabaul, however, remained as established, giving General MacArthur overall command of the operations and strategic control over Admiral Halsey's South Pacific Forces in the Solomons.⁴⁷ Allied concerns over the long-agreed upon Europe first approach at the Casablanca Conference, however, called into question the amount of resources the US could commit to accomplish the two tasks.

Following the Casablanca Conference in January 1943, the CCS set five priorities for the Pacific Theater, with operations against Rabaul and the "advance along the New Guinea-Mindanao axis" falling to General MacArthur.⁴⁸ The SWPA ranked behind the Pacific Ocean Areas for priority of resources in the Pacific, and fifth in the overall rank-order for priority in the entire war.⁴⁹ Despite the more than six-month delay, MacArthur's Elkton plan remained largely the same, with a five-phase progressive advance through the Solomons and New Guinea to isolate Rabaul before the final assault on Rabaul itself. In reality, both Admiral Halsey and General MacArthur lacked the forces and resources necessary to continue the July 2, 1942 JCS directive in the Pacific. This fact came to a head at the US Pacific Military Conference in February 1943. At this conference, General MacArthur's Chief of Staff, Major General Richard K. Sutherland, presented the five phases from Elkton II in addition to the resources and forces estimated to accomplish the plan. Based on the estimates, the JCS confronted the realization that their projections to the CCS at the Casablanca Conference to capture Rabaul were unrealistic. The JCS

⁴⁶ Morton, *Strategy and Command*, 374.

⁴⁷ Miller, *Cartwheel*, 20.

⁴⁸ Dean, *MacArthur's Coalition*, 209.

⁴⁹ *Ibid.*, 209.

produced a new directive on March 28, 1943 which outlined limited objectives from task two of the July 2, 1942 directive. The SWPA would “establish airfields on Woodlark and Kiriwina, to seize the Lae-Salamaua-Finschhafen-Madang area of New Guinea and occupy western New Britain, and to seize and occupy the Solomon Islands as far as southern Bougainville” and, as a result, MacArthur’s GHQ published Elkton III on April 26, 1943.⁵⁰

With the CCS approval of the JCS Pacific strategy during the 1943 Trident Conference and the updated JCS directive, Operation Cartwheel commenced on June 30, 1943, with simultaneous execution of Operation Toenails, in New Georgia, Operation Chronicle against the undefended Trobriand Islands of Kiriwina and Woodlark, and another landing at Nassau Bay in New Guinea. General MacArthur added Nassau Bay after Elkton III’s published date in response to General Blamey’s recommendation to ease logistical issues supplying the New Guinea Forces in Wau and to disperse Japanese forces from Lae towards Salamaua in preparation for future action against Lae.⁵¹ Following the Battle of Wau, Australian forces continued to retain the limited foothold in New Guinea, fighting limited counter-offensive operations until significant reinforcements arrived with the SWPA landing at Nassau Bay. The landings in New Georgia and the Trobriand Islands were designed to place Allied fighters and medium bombers within striking range of Rabaul and employed a combination of task forces created from the SWPA and SOPAC.⁵²

⁵⁰ Miller, *Cartwheel*, 9-14, 19-25.

⁵¹ Ibid., 49-61.

⁵² Dean, *MacArthur’s Coalition*, 250-252, 211.

Of the three simultaneous operations, the unopposed landings on the Trobriand Islands were training missions for General Krueger's 6th Army to build cooperation with the 7th Fleet's new 7th Amphibious Force, "VII 'Phib," and with Keeney's Fifth Air Force.⁵³ By July 16, 1943, an airfield on Woodlark was operational and another on Kiriwina was operational two days later.⁵⁴ Operation Toenails, however, proved to be a more challenging fight than anticipated. The SOPAC landings on New Georgia succeeded in establishing footholds on four islands, but Japanese reinforcements and realignment of command structures ensured that the Munda airstrip would not support Allied air force use until August 14, 1943. The landing at Nassau Bay was a success, despite tactical issues with the linkup of the 162d US Infantry Regiment with the 17th Australian Brigade. The Nassau landings set the conditions for following operations to draw Japanese forces out from Lae and subsequent landings and airborne operations against the Japanese.⁵⁵

With initial successes in Operation Cartwheel and the August 1943 Quadrant Conference, the JCS searched for options in the Pacific to increase the pressure on Japan. Prior to the Quadrant conference, the JCS decided to conduct a Central Pacific campaign, which altered the intended outcomes for Operation Cartwheel's end state. The Navy argued that a Central Pacific campaign would capitalize on the growing Pacific Fleet, which was not of full value for SOPAC or SWPA due to the presence of land-based fighters. Instead, a central campaign would provide a mutually supporting line of operations for the SWPA advance. This new campaign, however, would draw forces and resources away from SWPA's Operation Cartwheel as well as from the European Theater, resulting in a change to the desired outcomes. The CCS approved the addition

⁵³ Dean, *MacArthur's Coalition*, 216-220.

⁵⁴ Craven and Cate, *The Pacific: Guadalcanal to Saipan*, 165.

⁵⁵ Miller, *Cartwheel*, 165-166, 62-66.

of the Central Pacific campaign during the Quadrant Conference, which also downgraded the end state for Rabaul from captured to neutralized.⁵⁶

Bolstered by the new logistics line from Nassau Bay, General Blamey's New Guinea Force launched Operation Postern, designed to reduce Lae and seize the Markham Valley and the Huon Peninsula. The objective was to establish suitable airbases and port facilities for Allied power projection into the Bismarck Sea.⁵⁷ During Operation Postern, AAF shaping efforts against the Japanese airpower based in Wewak proved decisive, and enabled the ground forces operation. Wewak's location gave Japanese air elements a range advantage over the Allies, which enabled Japanese air coverage over ground operations around Lae. Allied fighters, however, could not escort bombers all the way to Wewak which increased the risk to the AAF.⁵⁸ General Kenney directed the construction of an allied airfield near Tsili Tsili, in Japanese controlled territory, to combat this problem.⁵⁹ As a deception, he built a decoy airstrip at Bena Bena, fifty miles northwest of the one at Tsili Tsili, which drew the Japanese attention away from Tsili Tsili until August 14, 1943, when the AAF were prepared for offensive action from the airfield. The AAF began their onslaught against Wewak by August 17, 1943 and reduced the majority of the Japanese airpower in New Guinea by the end of August.⁶⁰

Operation Postern required the maximum use of transportation and logistics resources available, as it combined an amphibious landing, an airborne insertion, the airlift of an entire division, and the continuation of landing troops at Nassau Bay.⁶¹ On September 4, 1943, the Australian 9th Division from General Blamey's New Guinea Force conducted an amphibious

⁵⁶ Maurice Matloff, *Strategic Planning for Coalition Warfare: 1943-1944* (Washington, DC: Center of Military History, 1959), 187-193, 231-235.

⁵⁷ Miller, *Cartwheel*, 189.

⁵⁸ Dean, *MacArthur's Coalition*, 298.

⁵⁹ Craven and Cate, *The Pacific: Guadalcanal to Saipan*, 176.

⁶⁰ Dean, *MacArthur's Coalition*, 299-300.

⁶¹ Miller, *Cartwheel*, 190.

landing just east of Lae, with air and naval support, which turned the Japanese defense of Lae which was oriented towards Salamaua. General Imamura sent limited bombers to oppose the landing, as the bulk of the Japanese land forces were drawn out from Lae towards the actions at Salamaua, with minimal results. One day later, the US 503d Parachute Infantry Regiment reinforced with Australian artillery conducted an airborne jump into Nadzab, to the west of Lae, to seize an airfield necessary to support the air movement of the Australian 7th Division, which then attacked Lae from the northwest while the Australian 9th Division continued to attack from the east. General Adachi realized Lae and Salamaua were isolated. Coupled with the losses in the Bismarck Sea, he ordered a retreat from both to the north which allowed the Allies to secure Salamaua on September 11, 1943 and Lae on September 15, 1943.⁶² The loss of Lae, combined with other Japanese losses in the central Solomons and the Aleutians, prompted the IGHQ to switch to a strategic defense and prepare a subsequent defensive line in New Guinea to buy time necessary to rebuild combat power.⁶³

While Lae fell to the multi-pronged pincer move, subsequent efforts to supply the airfield at Nadzab from the pre-war developed port at Lae proved difficult.⁶⁴ Initial shortages in heavy engineer equipment, coupled with weather complications, delayed effective road construction until December which required aerial resupply for the airfield at Nadzab. Despite the delays, General Blamey's New Guinea Force continued their offensive with an amphibious landing to capture Finschhafen on September 22, 1943. The landing was planned and executed within three days, and fit the pattern of landing beyond the objective to isolate Japanese forces from support while executing a pincer move from multiple directions. Japanese defenses at Finschhafen fell on October 2, 1943. The New Guinea Force continued their offensive on November 17, 1943 after defeating a Japanese counterattack from Sattelberg. The New Guinea Force then seized Sattelberg

⁶² Dean, *MacArthur's Coalition*, 306-311.

⁶³ Miller, *Cartwheel*, 212-213.

⁶⁴ Dean, *MacArthur's Coalition*, 313.

by December 8, 1943, followed by Sio by January 15, 1944. These tactical actions, coupled with the completed logistics architecture to support three airfields around Lae, set the conditions necessary to move against Saidor and Madang and complete the capture of the Huon Peninsula.⁶⁵

While the campaign continued on the mainland of New Guinea, Admiral Halsey prepared for Operation Cherryblossom, the landing at Bougainville. As preparation for Bougainville, the 8th New Zealand Infantry Brigade launched Operation Goodtime and landed on the Stirling and Mono Islands on October 27, 1943. This operation established a radar station on Mono Island and secured the Blanche Harbor as a staging base for future landings against Bougainville by November 12, 1943. The day after the landings in the Treasury Islands, Admiral Halsey launched a deception raid named Operation Blissful against Choiseul Island, just southeast of the island of Bougainville. Operation Blissful intended to draw General Imamura's attention towards the east side of Bougainville, as opposed to the west side where Allied landings were planned for November 1, 1943. It is uncertain if this action influenced the Japanese preparation for the Bougainville landings.⁶⁶

Operation Cherryblossom commenced on November 1, 1943. The US I Marine Amphibious Corps, under Major General Alexander Vandegrift, landed at eleven beaches on the western side of Bougainville in the Empress Augusta Bay. Despite minimal, but stiff, Japanese defenses on the western side of the island, the US Marines landed 14,000 men and 6,200 tons of supplies on the beach within eight hours.⁶⁷ Preliminary action, in addition to the Treasury Island landings, consisted of significant air attacks against Rabaul to diminish the Japanese ability to respond to the landings. US aircraft carriers from Admiral Halsey's fleet launched aircraft against the Japanese held airfields and ships at Kahili, Kara, Ballale, Choiseul, as well as at Buka and

⁶⁵ Miller, *Cartwheel*, 217-221.

⁶⁶ Ibid., 240-241.

⁶⁷ Morison, *Breaking the Bismarcks Barrier*, 300-304.

Bonis in support of the US I Marine Amphibious Corps landing.⁶⁸ This operation marked the first time since Guadalcanal that US aircraft carriers were in range of Japanese aircraft from Rabaul.⁶⁹ Japanese Army and Naval air elements based in Rabaul, however, managed to attack the amphibious landing forces during three separate attacks.⁷⁰

The majority of the fighting occurred in the air and sea around Bougainville and Rabaul. On November 2, 1943, the naval Battle of Empress Augusta Bay demonstrated the US Navy's effective use of radar-controlled ship gunnery and proved the end of the IJN's night combat superiority. Subsequent Japanese air attacks from Rabaul cost the Japanese several aircraft with minimal results. The Japanese sent fleet reinforcements with heavy cruisers from Truk to Rabaul, which arrived by November 4, 1943. Halsey responded by sending all of his carrier and land based naval aircraft against Rabaul on November 5, 1943, resulting in damage to three heavy cruisers, two light cruisers, and two destroyers.⁷¹ The Fifth Air Force attacked Rabaul that same day, causing the Japanese to withdraw the heavy cruisers back to Truk. Halsey received an additional carrier task group on November 7, 1943, which he used to send a double carrier strike against Rabaul. By November 12, 1943, the Japanese navy withdrew their carrier capable planes from Rabaul to Truk, which combined with the damage to the heavy cruisers, ended Rabaul's offensive capability threat.⁷²

Allied naval and air actions further reduced Rabaul's strength and significant land reinforcements arrived to expand the beachhead on Bougainville. These reinforcements, bolstered by the Japanese continued belief that the main allied landings would occur at Buka, ensured that the airfield at Empress Augusta Bay was open by December 9, 1943. Fighters arrived the next

⁶⁸ Morison, *Breaking the Bismarcks Barrier*, 286-293.

⁶⁹ Miller, *Cartwheel*, 242-243.

⁷⁰ Pike, *Hirohito's War*, 647-650.

⁷¹ Morison, *Breaking the Bismarcks Barrier*, 309-322, 323-328.

⁷² Prados, *Islands of Destiny*, 331-345.

day to start operations. This airfield, coupled with others at Torokina and in the Treasury Islands ensured fighters could accompany bombers all the way to Rabaul, establishing essential conditions necessary for the neutralization of Rabaul.⁷³

With Admiral Halsey's Operation Cherryblossom underway, General MacArthur's SWPA forces placed mounting pressure on the Japanese at Rabaul to launch the next series of landings against New Britain, named Operation Dexterity, aimed at Gasmata and Cape Gloucester. The intent of the operation was to establish airstrips and PT boat bases in New Britain to further the isolation and strangulation of Rabaul as well as establish aerial dominance over the Vitiaz and Dampier Straits, providing secure routes into the Bismarck Archipelago. At the August 1943 Quadrant Conference, however, the CCS directed Rabaul to be neutralized rather than captured.⁷⁴ This changed the considerations inherent in the GHQ's September 1943 plan to "seize Cape Gloucester...and neutralize the forward Japanese base at Gasmata on southern New Britain, to gain control over western New Britain...and to capture Vitu and Long Islands."⁷⁵ As a result, Arawe was substituted for Gasmata as it better aligned with future objectives and provided a diversion towards the goal of landing on Cape Gloucester, the main objective for Operation Dexterity.⁷⁶

General Krueger's Alamo Force took the lead for Operations Director and Backhander, the names for the respective landings at Arawe and Cape Gloucester. Much of the support for these operations would come from aircraft launched from Finschhafen and Nadzab airfields, which were behind schedule. Since the US Navy's "VII 'Phib" supported the supply train for those airfields, it further delayed the operation multiple times. These operations also witnessed

⁷³ Miller, *Cartwheel*, 265-270.

⁷⁴ Matloff, *Strategic Planning for Coalition Warfare*, 230-235.

⁷⁵ Miller, *Cartwheel*, 272.

⁷⁶ Charles A. Willoughby and John Chamberlain, *MacArthur: 1941-1951* (New York: McGraw-Hill, 1954), 121-122.

the first employment of the famous Alamo Scouts, confirming and denying AAF and intelligence estimates of Japanese strength at Gasmata and Arawe prior to the landings. New support infrastructure for the Finschhafen and Nadzab airstrips ensured the most comprehensive AAF preparations prior to landings in the SWPA to date. It also enabled the elimination of the Japanese airfield at Cape Gloucester early in the operation until the Marines secured the airfield on December 29, 1943.⁷⁷ Despite extensive reinforcement from the Japanese 17th Division and air support from Rabaul, the 112th Cavalry Regiment landed on Arawe and surrounding islands on December 15, 1943, seizing subsequent objectives and neutralizing Japanese resistance by January 17, 1944.⁷⁸ Furthermore, the US 1st Marine Division landed just southeast of Cape Gloucester and at Tauli, New Guinea, on December 26, 1943. An additional landing at Long Island to establish a radar station met more difficult Japanese resistance.⁷⁹ Success in Operation Dexterity never supported the further reduction of Rabaul since the PT boat base was never built and the airfield was no longer required to support operations.⁸⁰

Within two days of Operation Director, MacArthur saw the opportunity to isolate two divisions from General Adachi's 18th Army by landing at Saidor, which would split the forces at Madang and Wewak from those at Sio and Gali. Again, he tasked this mission to General Krueger, guaranteeing allied air and naval support, as well as the continued pressure from the New Guinea Force against the Japanese divisions near Sio.⁸¹ Krueger had a very tight timeline from receipt of mission to execution, and the major deciding factor about the initiation date rested on VII 'Phib completing their support for the US 1st Marine Division landing on Cape Gloucester. Codenamed Operation Michaelmas, the landings at Saidor occurred on January 2,

⁷⁷ Miller, *Cartwheel*, 274-277, 282-292.

⁷⁸ Pike, *Hirohito's War*, 636-637.

⁷⁹ Miller, *Cartwheel*, 290-292.

⁸⁰ Pike, *Hirohito's War*, 637.

⁸¹ Miller, *Cartwheel*, 295.

1944. The US 32nd Infantry Division, the reserve for Operation Dexterity, conducted the landing. Commanders accepted the timeline risk because the advantage, if successful, outweighed the consequences of not separating the Japanese forces. The risky venture paid off, and the amphibious engineers offloaded massive volumes of supplies and material in near record time, demonstrating the efficiency their forces were building throughout Operation Cartwheel. Given the pressure of Allied forces against the Japanese near Sio and the threat to their rear area, the 20th and 51st Japanese Divisions retreated towards Madang, bypassing Saidor without threat to Allied operations there, allowing the Australians to occupy Sio on January 15, 1944. The near 200-mile retreat caused nearly 10,000 Japanese casualties due to starvation, disease, and exposure. Less than half their original number reached Madang in February. The Saidor landing fulfilled the JCS March 1943 orders for Operation Cartwheel, but General MacArthur and Admiral Halsey committed to two further actions in the Admiralty Islands and the Emirau Island to ensure the complete neutralization of Rabaul.⁸²

Throughout Operation Dexterity, the AAF directed the maximum available air attacks against Rabaul. The last Japanese attempt at air interception of Allied air attacks occurred on February 19, 1944. As Allied forces pressed west, other basing locations proved more effective to support the onward advance towards Japan, such as Seeadler Harbour in the Admiralties. As a result, the JCS decided that Rabaul did not warrant a direct assault. Despite eliminating Rabaul's offensive power, it still proved too strong defensively to risk a direct attack. Therefore, General MacArthur issued orders to seize control over the Bismarck Archipelago and isolate Rabaul through the seizure of Manus and Kavieng no later than April 1, 1944.⁸³

The SWPA GHQ selected the Admiralty Islands for the two airfields and the "superb harbor" at Seeadler, which would serve as a base for future operations towards the Philippines.⁸⁴

⁸² Miller, *Cartwheel*, 300-305.

⁸³ Ibid., 309-316.

⁸⁴ Ibid., 317.

Allied signals intelligence, supported with aerial reconnaissance, encouraged General MacArthur to accelerate this timeline to February 29, 1944, with elements of the US 1st Cavalry Division executing a reconnaissance in force against Los Negros. They seized the airfield on Los Negros the same day they landed, and turned the Japanese defensive forces out of position which reduced US casualties during the initial landing and allowed General MacArthur to visit the troops on the beach the same day as the landing.⁸⁵

The remainder of the fight for the Admiralty Islands was not so easy, however. It took a full week to secure Los Negros. The Momote airfield was not utilized until May 18, 1944 due to heavy resistance. Seeadler Harbour proved the windfall as promised, and served as a base of operations for the Third, Fifth, and Seventh Fleets during the remainder of the war. The JCS followed Admiral Halsey's recommendation to seize Emirau, as opposed to landing in force at Kavieng. Admiral Halsey carried out an unopposed landing at Emirau on March 20, 1944 with an opened airfield for ongoing operations active by May 1944.⁸⁶ With the airfields at Momote and Emirau, Allied forces encircled Rabaul and neutralized it for the remainder of the war.

Defining Operational Art

JP 5-0 describes strategy as the “prudent idea or set of ideas for employing the instruments of national power in a synchronized and integrated fashion to achieve theater, national, and/or multinational objectives.”⁸⁷ It further simplifies the definition as the cognitive art and science of linking ends, ways, and means to reach a desired end state, balanced with the inherent risk involved. President Roosevelt served as the strategist for the United States during WWII, as he dictated the objective as “unconditional surrender” of the Axis powers during the Casablanca Conference and dictated the means, throughout other conferences, with which to

⁸⁵ Costello, *The Pacific War*, 455-456.

⁸⁶ Miller, *Cartwheel*, 350-380.

⁸⁷ US Joint Staff, *JP 5-0, Joint Planning* 2017, I-5.

support the ways for accomplishing that objective. Strategic art is the cognitive ability to conceptualize how military capabilities can support the accomplishment of strategic objectives, provided the strategic variables inherent in a particular operational area.⁸⁸ The JCS filled this role for President Roosevelt providing him with the understanding of the military capabilities requisite to support the established objectives in the various operational areas during World War II.

JP 5-0 defines operational art as “the cognitive approach by commanders and staffs...to develop strategies, campaigns, and operations to organize and employ military forces by integrating ends, ways, means, and risks.”⁸⁹ The commanders and staff rely on their “skill knowledge, experience, creativity, and judgement” to support their roles in the application of operational art in the creation of operational design, which serves as the “framework that underpins a campaign or operation.”⁹⁰ The result of this iterative process is defined as the operational approach, which “allows the commander to continue [the joint planning process], translating broad strategic and operational concepts into specific missions and tasks to produce an executable plan.”⁹¹ JP 5-0 describes the four essential, continuous components within operational design as understanding strategic guidance, understanding the operational environment, defining the problem(s), and the operational approach. Considering that General MacArthur served as the joint forces commander for the SWPA, he occupied the role as operational artist and the responsible commander to translate the broad strategic and operational concepts as they related to President Roosevelt’s desired condition for the Japanese unconditional surrender. JP 5-0 identifies the thirteen distinct elements within operational design, which can be used for planning but not all elements are always required or inherent within every plan, as: termination, military end state, objectives, effects, center of gravity, decisive points, lines of operation and lines of

⁸⁸ US Joint Staff, *JP 5-0, Joint Planning* 2017, I-5.

⁸⁹ Ibid., IV-1.

⁹⁰ Ibid., IV-1.

⁹¹ Ibid., IV-1.

effort, direct and indirect approach, anticipation, operational reach, culmination, arranging operations, and forces and functions.

Operational Art Analysis

This section analyzes General MacArthur's Papua Campaign and Operation Cartwheel in order to highlight the elements of operational design that influenced his decisions and actions. The termination criteria in the Pacific was outside General MacArthur's purview, and fell on President Roosevelt and the other Commanders-in-Chief represented in the Grand Alliance. The military end state and objectives in the Pacific came from the CCS, with primary input from the US JCS, thus also fell outside the scope of General MacArthur's decision making, but were subject to his influence. The remaining elements of operational design, while not formulated in doctrine as they are today, can be used to evaluate General MacArthur's decision making within the campaigns. For continuity purposes, this section will briefly touch on the termination, military end state, and objectives as these were directed to General MacArthur during the Pacific campaign, before an analysis of the other elements.

Termination

General MacArthur had no influence on the termination criteria throughout the course of WWII. Termination refers to the "specified standards approved by the President...that must be met before military operations can be concluded."⁹² Termination criteria, approved by the President, is essential to establishing the [operational environment] conditions that define the military end state and objectives. President Roosevelt established this criteria during the January 1943 Casablanca Conference, calling for the "unconditional surrender" of Axis forces.⁹³ Despite the announcement occurring over a year past the onset of war, there was little doubt for General MacArthur concerning the President's intentions for what constituted termination criteria with

⁹² US Joint Staff, *JP 5-0, Joint Planning* 2017, IV-19.

⁹³ Matloff, *Strategic Planning for Coalition Warfare*, 37.

regards to Japan. Communications between President Roosevelt, General MacArthur, and the Philippines President Quezon during General MacArthur's defense of the Philippines all indicated an understanding that US forces would return to the Philippines to "bring to the southwest Pacific the forces that will ultimately smash the invader and free your country."⁹⁴ With such clear language, and General MacArthur's level of professional military experience previously on the JCS, there is no doubt understood the termination criteria throughout 1942 until the announcement of the official terms from the Casablanca Conference.

Military End State

The military end state is the "set of required conditions...beyond which the President does not require the military instrument of national power as the primary means to achieve remaining national objectives."⁹⁵ Despite the pre-war decision to prioritize the European theater during the war, there was little doubt as to the military end state associated with the defeat of Japan in the Pacific as it demanded the total defeat of the Japanese Army and Navy. After all, the Japanese launched the surprise attack against the United States, not the Germans, and the American public demanded revenge as General MacArthur articulated to President Roosevelt in personal correspondence.⁹⁶ The fact remains that General MacArthur served the American public as a "hero," and often used his status publicly to pressure the JCS and even President Roosevelt.⁹⁷ The American public wanted to take the fight to the Japanese, a sentiment that General MacArthur played on often with the Australian Prime Minister Curtin as well as in the press.⁹⁸

⁹⁴ MacArthur, *Reminiscences*, 137.

⁹⁵ US Joint Staff, *JP 5-0, Joint Planning* 2017, IV-20.

⁹⁶ Maurice Matloff and Edwin M. Snell, *Strategic Planning for Coalition Warfare: 1941-1942* (Washington, DC: Center of Military History, 1951), 215.

⁹⁷ Stanley L. Falk, "Douglas MacArthur and the War against Japan," in *We Shall Return! MacArthur's Commanders and the Defeat of Japan, 1942-1945*, ed. William M. Leary (Lexington: University Press of Kentucky, 1988), 8.

⁹⁸ Matloff and Snell, *Strategic Planning for Coalition Warfare*, 214.

General MacArthur's experience in the Pacific endowed him with a clear perspective of the Japanese military and nation. He recognized the Japanese fragility in the Pacific, as an island nation devoid of the natural resources to build a modern nation, economy, and military. In fact, he visited Japan, accompanied by the Philippine President Manuel L. Quezon, in 1937 and saw first-hand their "burgeoning population," and recognized that "without the products [Formosa, Manchuria, China, Korea] possess, their industry could be strangled."⁹⁹ For General MacArthur, there was no doubt that the military end state included total defeat of the Japanese military with Allied troops on the Japanese home islands. He also recognized that the military end state required complete isolation of the Japanese islands from the resources necessary to fuel its industries and feed its population, which he believed included occupying the Philippines to cut-off access to the Dutch East Indies and petroleum resources.

Military Objectives

General MacArthur often used his influence to shape the military objectives necessary to accomplish his vision of the military end state associated with President Roosevelt's termination criteria. Objectives are "clearly defined, decisive, and attainable," "describe what must be achieved to reach or attain the end state," and tie tactical tasks with the military end state.¹⁰⁰ As identified in the historical overview section, General MacArthur received multiple JCS directives following conferences as conditions changed in the Pacific, and in the European theater, that outlined general objectives and required General MacArthur to reply with input to propose plans to accomplish those objectives. The responses from General MacArthur, and the exchange of ideas with Admiral Halsey in the SOPAC and Admiral Nimitz in the Pacific Ocean Area, shaped the JCS approval of campaign plans and allocation of resources to accomplish the JCS outlined

⁹⁹ MacArthur, *Reminiscences*, 106.

¹⁰⁰ US Joint Staff, *JP 5-0, Joint Planning* 2017, IV-20 - IV-21.

objectives.¹⁰¹ For this analysis of the early campaigns in the SWPA, these directives and the subsequent objectives can be divided into two; to stop the Japanese advance towards Australia, and achieve limited strategic defensive, but operationally offensive, objectives necessary to secure the Allied lines of communication with Australia.

Once the JCS named General MacArthur as Supreme Commander in the SWPA in April 1942, the JCS assigned him the objective to halt the Japanese offenses towards Australia. Two events outside of General MacArthur's command shaped the environment in his favor, and ensured he could accomplish the tasks within the directive given his limited resources. The Battle of Coral Sea in May 1942 caused the IJN to withdraw their planned landing forces aimed at Port Moresby and altered the IJA's approach to seize Port Moresby. The second event, the Battle of Midway in June 1942, saw the loss of four IJN aircraft carriers and the significant delay of the IJN's Operation FS, or the neutralization of Australia via the occupation of the Fiji Islands, Samoa, and New Caledonia.¹⁰² These two actions provided General MacArthur with the time to concentrate his limited resources for the defense of Port Moresby and to establish an airfield at Milne Bay. These two tasks were outside the scope of the original Australian defense plan, which intended a "passive defense" that General MacArthur felt would only result in an "eventual defeat."¹⁰³ Furthermore, these actions enabled General MacArthur to reposition forces in respond to the Japanese landing at Buna on July 21, 1942, and the subsequent Seventeenth Army overland Kokoda Trail attack towards Port Moresby as well as repulse the attempted IJN amphibious landing at Milne Bay in August 1942.¹⁰⁴ General MacArthur selected the forward defense for the "opportunity to pass from defense to offense, to seize the initiative, move forward, and attack."¹⁰⁵

¹⁰¹ Matloff and Snell, *Strategic Planning for Coalition Warfare*, 258-259.

¹⁰² Dean, *MacArthur's Coalition*, 54, 108.

¹⁰³ MacArthur, *Reminiscences*, 152.

¹⁰⁴ Falk, *We Shall Return!*, 9-10.

¹⁰⁵ MacArthur, *Reminiscences*, 152.

The second military objective for analysis is the reduction of Rabaul, as outlined by the July 2, 1942 JCS directive. The JCS was eager to take advantage of the results from the Battle of Midway, but lacked the naval strength in the Pacific Ocean Area to press towards any objectives that would provide much benefit. As early as February 1942, the US Navy initiated plans for offensive action in New Guinea and the Solomons, intending to use naval bases in Funafuti and Efate as launching points for future operations. After the Battle of Midway, General MacArthur began communicating to the JCS “with an urgent appeal for an immediate offensive.”¹⁰⁶ General MacArthur’s staff completed TULSA I on June 27, 1942 aimed at reducing Rabaul and revised later versions to align with the original and subsequent JCS directives to set the conditions on Papua and New Guinea to attack towards Rabaul.¹⁰⁷ The JCS adjusted the objectives for the Pacific following the January 1943 Casablanca Conference, requiring General MacArthur to present a revised Elkton Plan, which was the Tulsa plan with edits, to align with the March 28, 1943 JCS directive.¹⁰⁸ Despite numerous edits, the JCS pressed forward with General MacArthur’s initial recommendation for actions against the objective Rabaul.

Effects

Considering that the JCS directed the objectives for the SWPA, POA, and SOPAC, General MacArthur placed significant emphasis on the specific effect, as it related to the conditions surrounding the objective, as a consequence of his tactical actions. An effect is a physical or behavioral aspect concerning the state of a system, which results from an action(s) or another effect, can be desired or undesired, and are useful in identifying tasks that support objectives.¹⁰⁹ General MacArthur’s early plans to defend Australia from Papua established the conditions to transition to limited offensive actions, which he recognized must be directed

¹⁰⁶ Morton, *Strategy and Command*, 289-294.

¹⁰⁷ Ibid., 297-298.

¹⁰⁸ Miller, *Cartwheel*, 25.

¹⁰⁹ US Joint Staff, *JP 5-0, Joint Planning* 2017, IV-21 - IV-23.

towards Rabaul. In order to reduce Rabaul and secure the sea LOC with Australia, General MacArthur's assigned tasks to his joint force sought to capitalize on superior Allied intelligence, superior logistics capability, and air superiority to create the desired effect of neutralizing the Japanese numerical and positional superiority. He sought to use his intelligence advantage with ULTRA to neutralize the IJN's ability to reinforce the 17th and 18th Armies while forward positioning and supplying Allied Air Force fighters necessary to escort bombers against Rabaul to prevent the Japanese from contesting Allied amphibious landings with air power and to prevent the Japanese from massing combat power against his or Admiral Halsey's advance towards Rabaul.

General MacArthur capitalized on superior Allied signals intelligence to inform the array of his limited forces and defeat the Seventeenth Army's Kokoda Trail campaign, defend Milne Bay against an attempted IJN amphibious landing, and interdict Japanese reinforcement in New Guinea at the Battle of Bismarck Sea. The Battle of Coral Sea, as already mentioned, ended the IGHQ's plan to take Port Moresby with an amphibious landing operation. General MacArthur identified the overland approach through the Owen Stanley Range along the Kokoda Trail as the most probable Japanese approach towards Port Moresby. Allied signals intelligence proved this correct when they intercepted IJH orders for the Seventeenth Army to "immediately make land-attack plans against Port Moresby."¹¹⁰ Allied signals intelligence also provided General MacArthur of early warnings about Operation RE, the Japanese planned amphibious landing of 1,200 Special Naval Landing Force Marines to take the Allied airfields at Milne Bay on August 25, 1942. The early warning allowed General MacArthur to reposition the 18th Australian Infantry Brigade and 1,300 American Soldiers, giving the Allies a ten to one numerical superiority plus the fighter aircraft stationed at Milne Bay. The Japanese abandoned Operation RE on September 5, 1942, at the loss of over 2,000 casualties, which gave the Allies their first victory over a

¹¹⁰ MacArthur, *Reminiscences*, 160.

Japanese amphibious attack.¹¹¹ In both of these situations, capitalization on signals intelligence allowed General MacArthur to reposition his limited forces to create the desired effect of overmatch against the Japanese. On February 25, 1943, Allied intelligence provided General MacArthur with information concerning the IJA's 51st Division reinforcement intended to land at Lae.¹¹² While the loss of the 51st Division was hard for the IJA, more so this incident created the desired effect for General MacArthur's joint force of limiting future Japanese naval resupply and reinforcement efforts to "night destroyer and barge runs," limiting their scope and scale.¹¹³

Following the Battles of Coral Sea and Midway, General MacArthur appreciated the dominant role of air power in shaping naval operations in the geographic features around New Guinea and the Solomon Islands. Therefore, he aimed his tactical actions to locating air bases to support the decisive point of Allied air superiority against Rabaul. General MacArthur made this clear with his intent to establish airfields at Milne Bay, necessary to "pave the way for a move around the end of New Guinea" and on to future objectives.¹¹⁴ General MacArthur also sought airbases on Kiriwina and Woodlark Islands, essential "if bombers were to approach Rabaul with adequate fighter convoy."¹¹⁵ His forces went to great lengths to establish airfields in remote and inhospitable terrain such as Tsili Tsili to support operations against Lae.¹¹⁶ General Eichelberger described the Allied aim as "advance farther and farther our airfields for fighter planes and to put those planes to work."¹¹⁷ Once airfields were in place, General MacArthur relied on their

¹¹¹ Costello, *The Pacific War*, 335-336.

¹¹² Morton, *Strategy and Command*, 368.

¹¹³ Costello, *The Pacific War*, 391.

¹¹⁴ MacArthur, *Reminiscences*, 159.

¹¹⁵ Willoughby and Chamberlain, *MacArthur*, 109.

¹¹⁶ Kenney, *General Kenney Reports*, 252-253.

¹¹⁷ Eichelberger, *Our Jungle Road to Tokyo*, 96-97.

mutually supporting range and locations to exercise aerial interior LOO against the estimated three to one numerically superior Japanese air assets at Rabaul and Wewak.¹¹⁸

Despite the limits set on the allocation of resources to the SWPA, General MacArthur capitalized on the available Australian logistics capabilities and Allied air lift capabilities to reposition the limited Allied land forces to tactical decisive points in the SWPA. The Australian Prime Minister wrote about General MacArthur's innovative integration of air power with naval and land strength and the close coordination with the Australian government, going so far as to requisition "every civil air service in Australia" to air transport the US 32nd Division to Port Moresby for defense against the Japanese 17th Division's Kokoda Trail attack.¹¹⁹ Similar efforts were made to reinforce Milne Bay to repel the Japanese amphibious landing attempt. Two other examples stand out during these early campaigns. The first is the air movement of 2,000 Australian troops and over a million pounds of material from January 29 to February 4, 1943 into Wau to check the Japanese Seventeenth Army advance towards the Wau airstrip. The second instance was the September 5, 1943 airborne drop of the 503rd PIR to seize the Nadzab airfield and the subsequent air transportation of the Australian 7th Division into the airfield at to reinforce the Allied landings at Lae.¹²⁰ Despite limitations of Allied troop numbers and equipment, General MacArthur's joint force employed air mobility on numerous occasions to reinforce multiple locations and stop Japanese offensive actions, creating the effect of massing combat power at the right time and the right place against a numerically superior foe.

Center of Gravity

A center of gravity (COG) is the "source of power that provides moral or physical strength, freedom of action, or will to act."¹²¹ There can be multiple COGs at various levels, but

¹¹⁸ Willoughby and Chamberlain, *MacArthur*, 116.

¹¹⁹ Ibid., 143.

¹²⁰ Ibid., 186-187, 291-292.

¹²¹ US Joint Staff, *JP 5-0, Joint Planning* 2017, IV-21 - IV-23.

objectives should always be tied to a COG. Within the identified period of the overall Pacific campaign, the Japanese strategic center of gravity in the Pacific was the Japanese Naval Headquarters stationed at Truk. This strategic COG was far outside of operational reach and forces available to all of the Pacific Theater, let alone General MacArthur's limited resources in the SWPA. The Japanese operational COG, however, was the JCS directed objective for Operation Cartwheel, the Japanese fortress at Rabaul. General MacArthur characterized Rabaul as "the focal point for the protection and reinforcement by the enemy of the whole northeast area which he had seized and occupied, with his stated goal in 1943 to "cut off the major Japanese naval staging area, the menacing airfields, and the bulging supply bases at Rabaul."¹²² In other words, he focused on reducing the airfields and aircraft as the critical capabilities based in Rabaul, the naval ports as a critical vulnerability, and the logistics support projection as a critical requirement to reduce the strength of the Japanese forces forward of Rabaul.

Decisive Points

Decisive points can be physical or cognitive, a key event, or a component within a system of systems that "allows a commander to gain a marked advantage over an enemy or contributes materially to achieving success."¹²³ During the Papua Campaign, the retention of Port Moresby and Milne Bay proved decisive as it provided a defense in depth for Australia, enabled forward power projection bases to support the subsequent Papua actions, and facilitated General MacArthur's force with the operational reach to strike against Fortress Rabaul. Upon taking command, General MacArthur's decision to defend Australia from forward positions on Papua provided the Allied forces with options to develop future opportunities. There were few routes the Japanese could take towards Australia with their base of operations in Rabaul. General MacArthur recognized that Port Moresby, and accompanying air fields, was decisive terrain

¹²² MacArthur, *Reminiscences*, 168.

¹²³ US Joint Staff, *JP 5-0, Joint Planning* 2017, IV-26 - IV-28.

against any Japanese efforts to isolate Australia. He sought “to move [his] center of gravity forward 1,500 miles and secure this line before the enemy could seize it.”¹²⁴ Furthermore, Milne Bay dominated the only sea route to Port Moresby, and also represented decisive terrain because it provided “a route for Allied aircraft to attack Rabaul and the surrounding region without having to cross the Owen Stanley Range.”¹²⁵ Superior Allied intelligence, as mentioned before, provided him with an asymmetric advantage and he repositioned forces to dominate the land and air domains at both locations, which proved decisive against the Japanese Seventeenth Army and the Special Naval Landing Force Marines at Milne Bay.

During Operation Cartwheel, the Allied defense of Wau, the establishment of airfields at Kiriwina and Woodlark Islands, and the seizure of the Vitiaz Strait proved decisive points in the land, air, and sea domains towards the reduction of Rabaul. General MacArthur capitalized on superior Allied air lift capability to transport reinforcements into Wau. These forces succeeded in defeating a detachment from the IJA Seventeenth Army, and in doing so “marked the final effort of the enemy to extend his hold in New Guinea,” shifting the initiative towards the Allies in the land domain.¹²⁶ While this action in no way defeated the IJA on New Guinea, it signaled the initiative shift for land forces on New Guinea, and in combination with the Battle of Bismarck Sea, the Japanese “now concentrated every effort in strengthening those areas he already held.”¹²⁷

Concerning the air domain, airfields at Kiriwina and Woodlark Islands proved decisive towards establishing Allied air superiority during Operation Cartwheel. Prior to those airfields, General Kenney’s bombers had sufficient range to reach Rabaul from Port Moresby and Milne Bay, but the fighters lacked the range necessary to support the bombers to Rabaul.¹²⁸ In fact,

¹²⁴ MacArthur, *Reminiscences*, 154.

¹²⁵ Dean, *MacArthur’s Coalition*, 113.

¹²⁶ MacArthur, *Reminiscences*, 170.

¹²⁷ *Ibid.*, 170.

¹²⁸ Willoughby and Chamberlain, *MacArthur*, 109.

General MacArthur's bombers struck against Rabaul in support of Admiral Ghormely's landings in Guadalcanal. However, in order to provide "escorts for the bombers and strafers on big-scale daylight raids on Rabaul," the two airfields were essential.¹²⁹ As General Willoughby described it, "the seizure of Woodlark and Kiriwina was the prelude to the main task of Elktion III," indicating the decisive nature of the airfields towards the reduction of Rabaul.¹³⁰

The seizure of the Vitiaz Straight during Operation Dexterity proved decisive in the sea domain as it allowed for Allied freedom of movement in the Solomon Sea and denied the Japanese Navy access to support the isolated elements of the Japanese Seventeenth Army on New Guinea. The Vitiaz straight is the "narrow and dangerous stretch of water between New Guinea and the Island of New Britain," which was dominated with the capture of one airstrip at Cape Gloucester.¹³¹ The capture of this straight "effectively bottled up the 135,000 Japanese troops at Rabaul...they could not get out by sea because the American fighters from New Gloucester dominated the air."¹³² General MacArthur utilized the air domain to dominate the sea domain and control the critical sea route.

Lines of Operation and Lines of Effort

Lines of operation and lines of effort support the commander's ability to "connect objectives to a central, unifying purpose."¹³³ Lines of operation are the "orientation of the force in relation to the enemy or that connects actions on nodes and/or decisive points related in time and space to an objective(s)."¹³⁴ Lines of effort "links multiple tasks and missions using the logic of purpose — cause and effect — to focus efforts towards establishing operational and strategic

¹²⁹ Kenney, *General Kenney Reports*, 238.

¹³⁰ Willoughby and Chamberlain, *MacArthur*, 125.

¹³¹ Eichelberger, *Our Jungle Road to Tokyo*, 97.

¹³² Costello, *The Pacific War*, 447.

¹³³ US Joint Staff, *JP 5-0, Joint Planning* 2017, IV-29.

¹³⁴ *Ibid.*, IV-28.

conditions.”¹³⁵ Lines of effort are more suitable for counterinsurgency or stability operations and are critical for integrating military efforts with other instruments of national power.

During the Papua Campaign and Operation Cartwheel, General MacArthur’s forces operated on interior lines to establish a foothold on Papua and New Guinea and to neutralize the Japanese stronghold of Rabaul. Some early plans, however, proposed General MacArthur’s forces advancing along the southern coast of New Guinean, physically separating and “isolat[ing] [his] command from that of Admiral Nimitz in the Central Pacific.”¹³⁶ General MacArthur, however, appreciated the capacity and capability limits within his joint force, as well as with all the US forces in the Pacific at the time. As a result, he focused on maximizing the concentration of Allied forces utilizing interior lines. A prime example of this mentality is the placement of airfields in July 1943 at Tsili Tsili, the Woodlark Islands, and Kiriwina Islands, during Operation Chronicle. From these airfields, General MacArthur located his “advance air bases between those of the enemy,” namely between Rabaul and Wewak.¹³⁷ As indicated earlier, he realized that the combined Japanese army and naval air forces at Rabaul and Wewak outnumbered him, by estimates of three to one, but the interior lines offered the Allied Air Force the opportunity to “concentrate first on one side, then on the other.”¹³⁸ The Allied Air Force then used the interior nature of these airbases to mass air attacks against alternating bases, depriving the Japanese of the airfields and aircraft with the operational range to affect subsequent amphibious landings for the remainder of Operation Cartwheel.

¹³⁵ US Joint Staff, *JP 5-0, Joint Planning* 2017, IV-29.

¹³⁶ MacArthur, *Reminiscences*, 161.

¹³⁷ *Ibid.*, 167.

¹³⁸ *Ibid.*, 167.

Direct and Indirect Approach

An approach is “the manner in which a commander contends with a COG,” and can be considered either direct or indirect.¹³⁹ Intuitively, a direct approach maximizes combat power directly against an opponent’s COG, while an indirect approach utilizes combat power against critical vulnerabilities to weaken and defeat the enemy COG. During the Papua campaign, General MacArthur utilized an indirect approach against Fortress Rabaul in the land, sea, and air domains due to resource and capability limitations across his joint forces. At the time, Australia comprised the bulk of the ready land force to blunt the Japanese Army onslaught, but in July 1942, only four of the thirty-two Australian brigades rated as “efficient and experienced for mobile operations,” namely from the Australian 6th and 7th Divisions. Furthermore, only four other Australian brigades and the US 32nd Infantry Division were even rated as efficient for “mobile offensive operations,” while six rated as “efficient in a static role.”¹⁴⁰ As a result, General MacArthur’s land component was not ready to defeat massed elements from the Japanese Eighth Area Army in maneuver combat, let alone the jungle warfare conditions in Papua or New Guinea. Instead, they relied on defensive actions to stop the Seventeenth Army offense along the Kokoda Trail and at Wau and to stop the IJN at Milne Bay. He followed with limited counter-offensives, with substantial air power support, against Japanese holdings during the Battle of Buna-Gona, earning hard lessons-learned for the juvenile American units, and going so far as to tell General Eichelberger to “take Buna, or not come back alive.”¹⁴¹ For the sea domain, General MacArthur’s naval component lacked aircraft carriers, battleships, or cruisers to confront any Japanese naval presence in the Bismarck Sea or the Solomon Sea.¹⁴² Instead, he relied on land-based aircraft to gain dominance over Japanese shipping, such as during the Battle of Bismarck

¹³⁹ US Joint Staff, *JP 5-0, Joint Planning* 2017, IV-33.

¹⁴⁰ Dean, *MacArthur’s Coalition*, 78.

¹⁴¹ Eichelberger, *Our Jungle Road to Tokyo*, 21.

¹⁴² Willoughby and Chamberlain, *MacArthur*, 108.

Sea. The air component did not have the capacity for a direct challenge against Rabaul. The long-range bombers in Melbourne could reach Rabaul, but they lacked fighters for coverage and the added firepower that the short and medium range bombers provided.¹⁴³ As a result, General MacArthur's air component focused on attacking critical requirements for the Eighth Area Army's land forces and critical vulnerabilities for the Japanese Army Air and Naval Air forces in New Guinea.

During Operation Cartwheel, General MacArthur used a direct approach in the air domain and an indirect approach in the land and sea domains "to neutralize and by-pass enemy centers of strength," neutralizing Fortress Rabaul.¹⁴⁴ Following the seizure of the Kiriwina and Woodlark Islands, General Kenney's air component gained the ability to range Rabaul with fighters as well as with short and medium range bombers.¹⁴⁵ This location, along with other airfields on New Guinea, allowed the air component to alternate strikes between Wewak on New Guinea and Rabaul. General Kenney gained air superiority over Rabaul and Wewak, paving the way to support SOPAC and SWPA amphibious landings as well as to gain maritime superiority in the Solomons and Bismarck Seas. For the land and sea components, General MacArthur's joint force gained in capacity and capability throughout Operation Cartwheel, but never had the strength to strike directly against Rabaul. In reality, General MacArthur's forces never set foot on Rabaul or sailed into Rabaul's harbors. The combination of direct and indirect approach against Rabaul proved so successful that Rabaul required no direct ground action and an estimated 140,000 Japanese remained isolated and neutralized until the end of the war.¹⁴⁶

¹⁴³ Willoughby and Chamberlain, *MacArthur*, 108-109.

¹⁴⁴ MacArthur, *Reminiscences*, 169.

¹⁴⁵ Kenney, *General Kenney Reports*, 238.

¹⁴⁶ Steven Bullard and Tamura Keiko, eds., *From a Hostile Shore: Australia and New Zealand at War in New Guinea* (Canberra, Australia: Australian War Memorial, 2004), 140, accessed January 27, 2019, [http://ajrp.awm.gov.au/AJRP/AJRP2.nsf/Web/Chapters/\\$file/HostileShore.pdf?OpenElement](http://ajrp.awm.gov.au/AJRP/AJRP2.nsf/Web/Chapters/$file/HostileShore.pdf?OpenElement).

Anticipation

Anticipation considers “what might happen” and requires JFCs to identify the signals that might bring the “possible event to pass.”¹⁴⁷ In other words, the force must remain flexible to take advantage of unexpected events and opportunities to exploit which place the joint force in an advantageous position in relation to the enemy force. A critical component for anticipation is maintaining the initiative, forcing the enemy to “react rather than initiate.”¹⁴⁸ Anticipation, however, increases the risk inherent in operations. Timely and accurate intelligence reduces the risk and increases the joint force commander’s capability to anticipate opportunities.

General MacArthur enjoyed undeniable intelligence superiority over the Japanese in the SWPA, which reduced his operational risk and increased his capability for “anticipating opportunities and challenges.”¹⁴⁹ As already described in the effects section, General MacArthur capitalized on intelligence to inform his array of his limited forces during the Kokoda Trail campaign, the defense of Milne Bay, and his commitment of the 5th Air Force to the Battle of Bismarck Sea. Two further examples of anticipation during Operation Cartwheel include General MacArthur’s decision to conduct an amphibious landing at Saidor as part of Operation Dexterity and the decision to accelerate the amphibious landing at Los Negros in the Admiralty Islands. He launched Operation Michaelmas, the US 32nd Infantry Division landing at Saidor, to cut the Japanese 18th Army in half, where the “main concentrations were at Madang-Wewak to the west, and at Sio-Gali to the east.”¹⁵⁰ This operation increased his risk, as it placed just two battalions from the 32nd ID between two much larger enemy elements, but the rapid development of Allied airfields convinced General Adachi to “retreat over the Finisterre passes” as opposed to fighting,

¹⁴⁷ US Joint Staff, *JP 5-0, Joint Planning* 2017, IV-34

¹⁴⁸ *Ibid.*, IV-34.

¹⁴⁹ *Ibid.*, IV-34.

¹⁵⁰ Miller, *Cartwheel*, 295.

resulting in an estimated 4,000 Japanese casualties due to hunger and disease.¹⁵¹ General MacArthur viewed a general “lack of opposition to Allied air and naval craft in the Bismarck area” as an opportunity for a “coup de main...to advance the Allied timetable in the Pacific.”¹⁵² Aerial reconnaissance indicated that the Momote airfields on Los Negros in the Admiralty Islands were in disuse and the surrounding support infrastructure appeared unmanned. Additional intelligence indicated that Los Negros was the least defended position. Therefore, he launched a reconnaissance in force with over 1,000 US 1st Cavalry Division Soldiers to seize the airfield.¹⁵³ Despite tense conditions during the landing and subsequent defense of the airfield, General MacArthur’s decision forced General Adachi to withdraw his forces over 150-miles further west to Wewak.¹⁵⁴ These landings “securely encircled” Rabaul, neutralizing the remaining Japanese combat power abandoned there for the remainder of the war.¹⁵⁵

Operational Reach

Operational reach is described as “the distance and duration across which a joint force can successfully employ military capabilities” and is often constrained by geography, threat capabilities, and environmental conditions.¹⁵⁶ Operational reach and lines of operation are linked together through the concept of basing, or the “locality from which operations are projected or supported.”¹⁵⁷ General MacArthur’s joint force based the majority of their decisions around the location of Allied airfields to extend their operational reach as it pertained to the critical requirement of providing Allied fighter coverage. Allied fighter range was a critical requirement

¹⁵¹ Costello, *The Pacific War*, 447-448.

¹⁵² MacArthur, *Reminiscences*, 188.

¹⁵³ Wheeler, *Kincaid of the Seventh Fleet*, 356-357.

¹⁵⁴ Costello, *The Pacific War*, 456.

¹⁵⁵ MacArthur, *Reminiscences*, 189.

¹⁵⁶ US Joint Staff, *JP 5-0, Joint Planning* 2017, IV-35.

¹⁵⁷ US Department of Defense, Joint Staff, *Joint Publication (JP) 4-0, Joint Logistics* (Washington, DC: Government Printing Office, 2013), GL-5.

to enable effective attacks against Japanese airfields, provide Allied air support for amphibious landings and ground operations, and Allied air dominance over naval shipping routes. As a result, throughout the Papua Campaign and Operation Cartwheel, General MacArthur directed the seizure of objectives and establishment of air fields for the express purpose of extending his joint forces operational reach in the air, land, and sea domains. The dispersion of Japanese resources and loss of critical requirements, such as naval transportation and air superiority, limited the Japanese operational reach, decreasing the operational risk for General MacArthur's forces and increasing the flexibility for his decisions. All of these effects are discussed in depth in other sections of this analysis, but the herculean movement, maintenance, and logistics effort to support these effects are not. The SWPA's component commanders all coordinated their efforts to maximize the limited resources available to the theater, and in doing so, extended General MacArthur's operational reach through innovative applications in the air, land, and sea domains.

General Kenney, as the Allied Air Forces commander, conducted a personal inspection of every fighting plane under his command, and prioritized forward aircraft maintenance in an environment even more detrimental to airplanes than it was to people. Upon his first impression, he decided that any accomplishment would be an improvement over the previous conditions for the Allied Air Force. General Kenney, therefore, set out to improve everything from aircraft readiness to health standards for his forces. He found ways to improve the supply chain and get parts moving from all over Australia to forward air bases in New Guinea to ensure maximum fighter and bomber readiness.¹⁵⁸ He encouraged innovation within his command which facilitated skip bombing during the Battle of Bismarck Sea, converting B-25s into a "commerce destroyers" against Japanese shipping, and the use of parachutes on bombs known as "parafrags" for

¹⁵⁸ Kenney, *General Kenney Reports*, 39-48.

increased precision and effectiveness during low-level bombing runs.¹⁵⁹ He capitalized on the demonstration of his innovation successes to push hard with the JCS, General Hap Arnold in particular, to get an increase in resources for the SWPA Theater during planning for Operation Cartwheel as well as to get aircraft producers to convert production aircraft for the type of operations in the SWPA.¹⁶⁰ General Kenney's efforts combined with other aspects and domains within the SWPA to increase General MacArthur's operational reach against the Japanese at Rabaul.

Of all the forces assigned to General MacArthur, his land forces represented the greatest limitation on his operational reach due a lack of units trained in jungle warfare, combined with an exceptionally harsh environment and terrain conditions, against a numerically superior Japanese 8th Area Army. In General MacArthur's words, the "ground troops...were too few in number...lacked the equipment and the strenuous training necessary for combat."¹⁶¹ General Eichelberger, upon assignment as a task force commander to take the Buna and Gona area, reported that "the [US] 32nd Division was not sufficiently trained to meet Japanese veterans on equal terms" and gave them a "barely satisfactory rating in combat efficiency."¹⁶² For most of the Papua Campaign, General MacArthur relied on General Blamey's Australian units, which were effective against the Japanese, but lacked sufficient numbers. When General Krueger arrived to take command of Sixth Army on February 16, 1943, he identified concerns about "the tropical conditions on his troops," and set out to implement a series of measures to combat those conditions from training programs to a "rehabilitation center" to help Soldiers suffering from

¹⁵⁹ Donald M. Goldstein, "Ennis C. Whitehead: Aerial Tactician," in *We Shall Return! MacArthur's Commanders and the Defeat of Japan, 1942-1945*, ed. William M. Leary (Lexington: University Press of Kentucky, 1988), 189.

¹⁶⁰ Kenney, *General Kenney Reports*, 212-215.

¹⁶¹ MacArthur, *Reminiscences*, 156.

¹⁶² Eichelberger, *Our Jungle Road to Tokyo*, 11-12.

malaria return to duty.¹⁶³ Furthermore, he recognized the nature of the terrain and the contrast of environment the 1941 *Field Service Regulations* (FSR) was created for, which only contained two pages of jungle warfare instruction. Therefore, General Krueger altered the Alamo Force's approach to warfare in the SWPA, through training at the Canungra Jungle Training School and through use of "combined-arms force" in the jungle, which stood in contrast to guidance in the FSR. He insisted on "maneuvers despite the difficult terrain," because he recognized the risk to landing forces if they spent too much time "establishing a beachhead before moving inland," which would allow the Japanese to establish an effective defense around the landing site.¹⁶⁴ General Krueger insisted on preparing for jungle warfare under combat conditions, and used *Operations Chronicle* and *Dexterity* to "provide adequate and gradual training for him and his staff."¹⁶⁵ As a result, the Allied Land component evolved into an effective fighting force, capable of dealing "a serious blow to the Japanese Eighth Area Army at Rabaul and the Japanese 18th Army on New Guinea," and extended General MacArthur's operational reach through the triphibious campaign against Fortress Rabaul.¹⁶⁶

Admiral Barbey's "fighting part of the Seventh Fleet" served as both the movement force during amphibious landing operations and as the logistics supply chain to ground forces until an adequate port and airfield was established to continue operations.¹⁶⁷ Air superiority over the sea lanes enabled his resupply efforts, as any time Japanese air threatened his resupply efforts, his forces ceased their resupply as seen following the amphibious landing at Finschhafen, when elements of the Japanese 11th Air Fleet interfered with resupply operations for two days by

¹⁶³ Holzimmer, *General Walter Krueger*, 103-104.

¹⁶⁴ *Ibid.*, 104-126.

¹⁶⁵ *Ibid.*, 129.

¹⁶⁶ *Ibid.*, 125.

¹⁶⁷ Wheeler, *Kincaid of the Seventh Fleet*, 346.

attacking amphibious shipping.¹⁶⁸ However, without the “VIIth ‘Phib’s” efforts, the ground forces would not be capable to sustain the fight against the Japanese land forces which would prevent the engineers from building the airfields, and by extension the air force from moving their range ever forward.

Culmination

Operational reach is directly tied to the tenant of culmination, or the “point in time and/or space at which the operation can no longer maintain momentum.”¹⁶⁹ For offensive operations, this tenant is characterized by the forced transition from offensive operation to defensive. In the defense, inability to mount a counterattack or loss of ability to defend characterizes culmination. Culmination and operational reach are coupled through the generation of resources and logistics.

Throughout both campaigns, General MacArthur maintained a precarious balance between his operational reach and the tempo of his planned operations to avoid Allied culmination in the SWPA. Considering the severe limitations of resources and forces, General MacArthur’s joint force conducted two operational pauses, one during the Battle of Buna-Gona in November 1942, and the other prior to Operation Dexterity in December 1943. In the first instance, prior to the Battle of Buna-Gona General MacArthur “was certain that General Horii had overreached himself along the Kokoda Trail” and decided to launch a counter-offensive.¹⁷⁰ The Japanese Seventeenth Army, however, fought an effective rear-guard action, which delayed Allied operations and stretched the Allies lines of communication “1,700 miles from Australia to the landing strips and supply dumps along the coast of New Guinea.”¹⁷¹ The Allies relied on air

¹⁶⁸ Miller, *Cartwheel*, 219.

¹⁶⁹ US Joint Staff, *JP 5-0, Joint Planning* 2017, IV-36.

¹⁷⁰ MacArthur, *Reminiscences*, 162.

¹⁷¹ *Ibid.*, 163.

resupply for their forces, but the combination of Japanese resistance and weather stalled the attack, forcing a “withdraw because of a shortage of ammunition.”¹⁷²

In the second instance, General MacArthur delayed Operation Dexterity by over a month and altered landing sites to prevent a similar operational pause due to logistics limitations. General Krueger, as commander of the Alamo Force, received the mission to seize Gasmata and Cape Gloucester on November 14 and 20, 1943, respectively. General Krueger provided his initial plan to GHQ SWPA on September 28, 1943, almost two months prior to seizure. Subsequent repositioning of Japanese forces and an identified shortage of Allied landing craft delayed and altered their plans. During the original planned window for the operation, the “VIIth ‘Phib’” was still providing resupply operations to the Australian forces during their efforts to seize the Huon Peninsula, leaving little time to reposition their limited craft to support both landings. As a result, General MacArthur agreed to delay the operation and then altered the Gasmata objective to Arawe after General Kenney presented his reservations concerning Gasmata and suitability for an airfield.¹⁷³ General MacArthur was very concerned about logistics limitations causing his Joint Force to culminate.

Arranging Operations

Arranging operations entails the “combination of simultaneous and sequential operations to reach the end state conditions with the least cost in personnel and other resources.”¹⁷⁴ In arranging operations, commanders must consider geographic elements in the area of operations, movement forces available, established command and support relationships, protecting the force, logistics capacity and ability, adversary capabilities, and public opinion. The concepts of simultaneity, depth, timing, and tempo are essential considerations for arranging operations,

¹⁷² MacArthur, *Reminiscences*, 164.

¹⁷³ Holzimmer, *General Walter Krueger*, 115-117.

¹⁷⁴ US Joint Staff, *JP 5-0, Joint Planning* 2017, IV-36.

which can be punctuated and sequenced with phases, branches and sequels, and operational pauses.¹⁷⁵

General MacArthur followed a sequential approach throughout all of the Papua Campaign and much of Operation Cartwheel. On occasion, in coordination with Admiral Halsey's forces, he utilized simultaneous operations to increase the tempo of operations during Operation Cartwheel, such as the simultaneous Operations Chronicle and Toenails.¹⁷⁶ General MacArthur outlined the critical elements that dictated the arrangement of his operations as the "calculated advance of bomber lines through seizure of forward bases...each phase of advance had as its objective an airfield which could serve as a steppingstone to the next advance." This airfield then provided the immediate air coverage to support land operations and, due to the geographic nature of the Solomon Sea and surrounding islands, provided the navy with "air cover...to regain the sea lanes."¹⁷⁷ He often referred to this approach as "three-dimensional warfare...the triphibious concept" and "leapfrogging," which he recognized as a derivation of "the classic strategy of envelopment" to bypass Japanese defensive strongpoints. General MacArthur believed this approach was forced upon him, due to his lack of naval aircraft carriers and the "paucity of the resources" at his command.¹⁷⁸ Despite these perceived shortcomings, the sequential arrangement succeeded and frustrated the Japanese intelligence at the Eighth Area Army staff, as evident from post-war interrogations.¹⁷⁹

Forces and Functions

Forces and functions refers to the joint force commander's decision to "plan campaigns and operations that focus on defeating either enemy forces, functions, or a combination of

¹⁷⁵ US Joint Staff, *JP 5-0, Joint Planning* 2017, IV-37 - IV-39.

¹⁷⁶ Morton, *Strategy and Command*, 402-403.

¹⁷⁷ MacArthur, *Reminiscences*, 165.

¹⁷⁸ *Ibid.*, 166.

¹⁷⁹ Pike, *Hirohito's War*, 771.

both.”¹⁸⁰ Enemy functions can refer to command and control, sustainment, and protection capabilities, in an effort to expose a vulnerability for exploitation to collapse the “enemy capability and will.”¹⁸¹ Alternately, forces refers to the more direct approach of attacking the enemy fighting formations. Attacking both is appropriate when facing either technologically or numerically superior opponents.

Throughout the Papua Campaign and Operation Cartwheel, General MacArthur’s focused on defeating two specific enemy forces that provided two specific functions for the Japanese 8th Area Army. In particular, General MacArthur focused on “cut[ting] off the major Japanese naval staging area, the menacing airfields, and the bulging supply bases at Rabaul” by defeating the Japanese army and naval aircraft in and around Rabaul as well as defeating Japanese merchant shipping.¹⁸² The Japanese naval aircraft stationed at Rabaul and the numerous Japanese Army Air units stationed at Wewak, and surrounding airfields, were a specific force that served the essential function of contesting Allied amphibious landings. Furthermore, the Japanese merchant shipping provided the essential logistics support function to the 17th and 18th Army Forces on New Guinea. Through targeting the specific Japanese forces that provided the function of critical capabilities and critical logistical requirements against the Allied counter-offensive, General MacArthur neutralized Rabaul as a center of gravity.

General MacArthur focused on the “piecemeal destruction” of the Japanese army and naval air forces “on many different islands and fields” to negate the Japanese capability to contest Allied amphibious landings and operations, an essential function for the various Japanese air forces. Prior to the spring of 1943, the Allies struggled to gain traction against the numerically superior Japanese air components though. General Kenney described his first impression from Port Moresby as establishing “the determination to clear the enemy off our lawn so that we could

¹⁸⁰ US Joint Staff, *JP 5-0, Joint Planning* 2017, IV-39.

¹⁸¹ *Ibid.*, IV-40.

¹⁸² MacArthur, *Reminiscences*, 168.

go across the street and play in his yard” when a Japanese aircraft strafed the runway after he landed for the first time.¹⁸³ He went on to describe the early Allied air approach as “duck[ing] the haymakers...and at the same time keep jabbing, looking for openings.” This economy of force approach also led to targeting the Japanese airfields as opposed to providing extensive fighter cover during Allied amphibious landings, such as during Operation Chronicle.¹⁸⁴ General Kenney provided the same results prior to the Operation Postern to take Lae, when within two days of attacks, the Allied Air Forces “destroyed on the ground and in the air practically the entire Japanese air force in the Wewak area.”¹⁸⁵

General MacArthur utilized a similar approach to neutralize Rabaul’s critical requirement to resupply the 17th and 18th Army forces on New Guinea and the Solomons, a function, by targeting the Japanese merchant ships, a force. The Battle of Bismarck Sea, as already described, is an outstanding example of this approach. General Willoughby described shipping as “the most lucrative target” and “the best substitute for hitting the factories and shipyards of Japan.”¹⁸⁶ According to General Kenney’s memoirs, the Allies received early intelligence concerning the effectiveness of targeting Japanese transportation ships, indicating that the Japanese would “send no more shipping to this points [Lae and Gasmata] on account of the danger from our air attacks.”¹⁸⁷ The Japanese gave a directive to utilize barges to transport towards Lae, which were easier to hide. However, the Allied Air Forces make short work of those as well, depriving the Japanese at Lae an estimated 250 barges, each capable of seventy-five tons, over a two week period, leaving the Japanese ground forces to “let-‘em-die-on-the-vine,” as often described by

¹⁸³ Willoughby and Chamberlain, *MacArthur*, 113.

¹⁸⁴ Holzimmer, *General Walter Krueger*, 111.

¹⁸⁵ Kenney, *General Kenney Reports*, 279.

¹⁸⁶ Willoughby and Chamberlain, *MacArthur*, 118.

¹⁸⁷ Kenney, *General Kenney Reports*, 247.

General MacArthur.¹⁸⁸ General MacArthur denied the Japanese 17th and 18th Armies of necessary supplies and degraded their fighting capability through the use of Allied aircraft to target Japanese shipping.

Conclusion

General MacArthur's process linking his tactical actions with the Allied Combined Chiefs of Staff (CCS) strategy in the Pacific and the political aims is not a perfect-scenario case-study for "how to." It is the result of a series of political compromises aimed at maintaining political alliances in the interest of defeating Axis powers and military compromises aimed at placating Allied and inter-service rivalries within the Allied forces and the US military which resides outside the scope of this work. Furthermore, as demonstrated, no Allied force in the Pacific achieved sufficient combat power to destroy all the Japanese military forces based at Rabaul. Despite these conditions, General MacArthur's actions in Papua to blunt the Japanese military expansion towards Australia, and his actions during Operation Cartwheel to reduce the Japanese stronghold of Rabaul, played a critical role in accomplishing the "Grand Alliance" political aim of the "unconditional surrender" of Axis forces, as established in the January 1943 Casablanca Conference.¹⁸⁹ The examination of General MacArthur's Papua Campaign and Operation Cartwheel does demonstrate critical elements from the modern concept of joint operational art which best enabled the Allied forces to gain the initiative against Japan in the Pacific.

General MacArthur's Papua Campaign provides an excellent example of a joint force operation against a peer enemy in a complex, and multi-domain, A2/AD operational environment. Furthermore, the Papua Campaign provides valuable insight for modern Joint Force Commanders confronted with near-peer threats capable of conducting A2/AD operations. Throughout the

¹⁸⁸ Willoughby and Chamberlain, *MacArthur*, 107.

¹⁸⁹ Matloff, *Strategic Planning for Coalition Warfare*, 37.

Papua Campaign, General MacArthur capitalized on superior intelligence to inform the employment of his limited forces along interior lines of operation through the sequential and simultaneous arrangement of operations. His actions massed his joint forces' capabilities to create desired effects which neutralized the Japanese army and navy forces committed against him.

General MacArthur's Operation Cartwheel demonstrates an effective operational approach, through both direct and indirect means, towards the reduction of a superior force through the targeting of critical requirements and critical vulnerabilities. Throughout Operation Cartwheel, Japanese forces committed against General MacArthur's forces outnumbered him by estimates of three to one. Despite this numerical disadvantage, General MacArthur utilized his superior joint interoperability to capture a series of decisive points which extended his operational reach. He utilized this extended operational reach to isolate, bypass and turn Japanese land forces in defensive positions around Rabaul, negating their positional advantage without directly challenging the majority of the defensive forces. As in the Papua Campaign, this enabled him to mass his joint forces' capabilities against isolated elements of Japanese land forces, which often withdrew due to unfavorable conditions.

Bibliography

- Bergerud, Eric M. *Fire in the Sky: The Air War in the South Pacific*. New York: Basic Books, 2000.
- . *Touched with Fire: The Land War in the South Pacific*. New York: Penguin Books, 1996.
- Blair Jr., Clay. *Silent Victory: The U.S. Submarine War Against Japan*. Philadelphia: J.B. Lippencott Company, 1975.
- Bullard, Steven, and Tamura Keiko, eds. *From a Hostile Shore: Australia and New Zealand at War in New Guinea*. Canberra, Australia: Australian War Memorial, 2004. Accessed January 27, 2019.
[http://ajrp.awm.gov.au/AJRP/AJRP2.nsf/WebI/Chapters/\\$file/HostileShore.pdf?OpenElement](http://ajrp.awm.gov.au/AJRP/AJRP2.nsf/WebI/Chapters/$file/HostileShore.pdf?OpenElement).
- Costello, John. *The Pacific War*. New York: Atlantic Communications, Inc, 1981.
- Craven, Wesley Frank, and James Lea Cate, eds. *The Army Air Forces in World War II: The Pacific*. Vol. 4, *Guadalcanal to Saipan, August 1942 to July 1944*. Chicago: University of Chicago Press, 1950.
- Dean, Peter J. *MacArthur's Coalition: US and Australian Operations in the Southwest Pacific Area, 1942-1945*. Lawrence: University Press of Kansas, 2018.
- Eichelberger, Robert L. *Our Jungle Road to Tokyo*. New York: Viking Press, 1950.
- Holzimmer, Kevin C. *General Walter Krueger: Unsung Hero of the Pacific War*. Lawrence: University of Kansas Press, 2007.
- Judge, Sean M. *The Turn of the Tide in the Pacific War: Strategic Initiative, Intelligence, and Command 1941-1943*. Edited by Jonathan House. Lawrence: University Press of Kansas, 2018.
- Kenney, George C. *General Kenney Reports: A Personal History of the Pacific War*. 1949. Reprint, Washington, DC: Office of Air Force History, 1987.
- Leary, William M., ed. *We Shall Return! MacArthur's Commanders and the Defeat of Japan, 1942-1945*. Lexington: University Press of Kentucky, 1988.
- Lewin, Ronald. *The American Magic: Codes, Ciphers and the Defeat of Japan*. New York: Farrar, Straus, Giroux, 1982.
- MacArthur, Douglas. *Reminiscences*. New York: De Capo Press, 1964.
- Matloff, Maurice. *Strategic Planning for Coalition Warfare: 1943-1944*. Washington, DC: Center of Military History, 1959.
- Matloff, Maurice, and Edwin M. Snell. *Strategic Planning for Coalition Warfare: 1941-1942*. Washington, DC: Center of Military History, 1951.

- Maxon, Yale Candee. *Control of Japanese Foreign Policy: A Study of Civil-Military Rivalry 1930-1945*. 1957. Reprint, Westport: Greenwood Press, 1973.
- Miller, John Jr. *Cartwheel: The Reduction of Rabaul*. Washington, DC: Center of Military History, 1959.
- Morison, Samuel Eliot. *History of United States Naval Operations in World War II*. Vol. 6, *Breaking the Bismarcks Barrier, 22 July 1942 - 1 May 1944*. Boston: Little, Brown and Company, 1950.
- . *History of United States Naval Operations in World War II*. Vol. 8, *New Guinea and the Marianas, March 1944 - August 1944*. Boston: Little, Brown and Company, 1953.
- Morton, Louis. *Strategy and Command: The First Two Years, U.S. Army in World War II: The War in the Pacific*. Washington, DC: Center of Military History, US Army, 1962.
- Petillo, Carol Moris. *Douglas MacArthur: The Philippine Years*. Bloomington: Indiana University Press, 1981.
- Pike, Francis. *Hirohito's War: the Pacific War 1941-1945*. New York: Bloomsbury Publishing, 2015.
- Prados, John. *Islands of Destiny: The Solomons Campaign and the Eclipse of the Rising Sun*. New York: Penguin Group, 2012.
- Spector, Ronald H. *Eagle Against the Sun: The American War with Japan*. New York: The Free Press, 1985.
- Taaffe, Stephen R. *MacArthur's Jungle War: The 1944 New Guinea Campaign*. Lawrence: University Press of Kansas, 1998.
- Toland, John. *The Rising Sun: The Decline and Fall of the Japanese Empire, 1936-1945*. New York: The Modern Library, 1970.
- Wheeler, Gerald E. *Kincaid of the Seventh Fleet*. Washington, DC: Naval Historical Center, 1995.
- Willoughby, Charles A., and John Chamberlain. *MacArthur: 1941-1951*. New York: McGraw-Hill Book Company, Inc., 1954.
- US Department of Defense, Joint Staff. *Joint Publication (JP) 4-0, Joint Logistics*. Washington, DC: Government Printing Office, 2013.
- . *Joint Publication (JP) 5-0, Joint Planning*. Washington, DC: Government Printing Office, 2017.