Patrols, Pilots, and Coastwatchers: Reconnaissance and Operational Art in the Southwest Pacific

A Monograph

by

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As the United States entered the Pacific Theater in World War II, it lacked substantive reconnaissance doctrine and had yet to codify the concept of operational art. Regardless, in the summer of 1943, MacArthur and Halsey launched a two-pronged campaign to isolate Rabaul and seize the initiative from the Japanese. The operation, codenamed Cartwheel, represents close cooperation between two commanders who individually applied ideas associated with today's doctrinal concept of operational art. The research examined what role reconnaissance performed in shaping MacArthur's and Halsey's practice of operational art. Different reconnaissance assets and limited guidelines led to diverse and ad hoc implementation methods to support their planning. Although applied differently, reconnaissance activities supported each commander's use of the elements of operational art to arrange tactical actions to achieve a strategic objective.

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Abstract

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As the United States entered the Pacific Theater in World War II, it lacked substantive reconnaissance doctrine and had yet to codify the concept of operational art. Regardless, in the summer of 1943, MacArthur and Halsey launched a two-pronged campaign to isolate Rabaul and seize the initiative from the Japanese. The operation, codenamed Cartwheel, represents close cooperation between two commanders who individually applied ideas associated with today's doctrinal concept of operational art. The research examined what role reconnaissance performed in shaping MacArthur's and Halsey's practice of operational art. Different reconnaissance assets and limited guidelines led to diverse and ad hoc implementation methods to support their planning. Although applied differently, reconnaissance activities supported each commander's use of the elements of operational art to arrange tactical actions to achieve a strategic objective.

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Acronyms

ADP	Army Doctrine Publication
ADRP	Army Doctrine Reference Publication
JCS	Joint Chiefs of Staff
SWPA	Southwest Pacific Area

Illustrations

Introduction

The attainment of information is vital to planning and prosecuting operations in war. Clausewitz states "the general unreliability of all information presents a special problem in war: all action takes place, so to speak, in a kind of twilight."[1] Reconnaissance aims to illuminate this twilight and increase the fidelity of information to help commanders make more informed decisions. As the United States faces the possibility of fighting a peer competitor in a complex environment, reconnaissance forces will face the difficult challenge of acquiring information throughout the land, air, maritime, space, and cyber domains. However, the future will not be the first time the United States confronted a multi-dimensional environment contested by a resolute enemy.

From the summer of 1943 to spring 1944, the United States and its Allies conducted one of the largest and most successful offensive campaigns of World War II. Commanders in the South and Southwest Pacific Theaters faced a myriad of decisions ranging from selecting strategic objectives to identifying on which beach to land an assaulting force. To answer these questions, commanders employed a variety of reconnaissance methods to understand the situation and aid in developing an operational approach. With limited doctrine as a handrail, military staffs employed a variety of reconnaissance assets at the operational and tactical level to inform decisions.

Operation Cartwheel demonstrates the importance of reconnaissance regarding the creation of shared understanding, the practice of operational art, and the exploitation of opportunities. This subject is relevant because all operations require information collection to understand the operational environment and reconnaissance assets account for a substantial

[1] Carl von Clausewitz, *On War*, ed. and trans Michael Howard and Peter Paret (Princeton, NJ: Princeton University Press, 1984), 140.

portion of the overall information collection plan. Furthermore, the United States Army Operating Concept asserts continuous reconnaissance is required to seize, retain, and exploit the initiative.[2]

Commanders rely on reconnaissance operations to employ operational art and develop a successful operational approach. Historical case studies exploring major operations in the Solomon and New Guinea Islands will serve as the backdrop to examine the role reconnaissance performed in the application of operational art. In this case, analyzing how two operational commanders used reconnaissance as they converged on the same strategic objective will reveal how different reconnaissance means applied independently along separate avenues of approach can achieve effects. Thus, the study explores how General Douglas MacArthur and Admiral William Halsey Jr. used reconnaissance during the Cartwheel Campaign to help them implement operational art. An examination of original plans, the conduct of reconnaissance, and the resulting modifications will illustrate whether reconnaissance was impactful and facilitate a thorough analysis of the correlation between reconnaissance and operational art.

During each campaign, Allied forces continually sought positions of relative advantage that would enable units to engage the enemy on favorable terms and achieve operational objectives. MacArthur and Halsey leveraged reconnaissance differently to enable the practice of operational art and ensure continuous positions of relative advantage. Furthermore, examining past commanders' use of reconnaissance illustrates applicable concepts and methods inherent to modern operational art.

Although operational art is a modern construct, the concepts and ideas associated with operational art were present in both campaigns. The Army defines operational art as "the pursuit of strategic objectives, in whole or in part, through the arrangement of tactical actions in time,

[2] Army Training and Doctrine Command (TRADOC) Pamphlet 525-3-1, The US Army Operating Concept Win in a Complex World (Washington, DC: Government Printing Office, 2014), 18.

space, and purpose."[3] Operational art is a cognitive process that relies on the proper application of both art and science. To aid in the practice of operational art, commanders synthesize relevant information to help maximize the use of what are now the elements of operational art. The intent of reconnaissance is to discover the relevant information for the commander.

Army doctrine offers a bit clearer definition of reconnaissance than Joint Doctrine. Army doctrine describes reconnaissance as "operations undertaken to obtain, by visual observation or other detection methods, information about the activities and resources of an enemy or potential enemy, or to secure data concerning the meteorological, hydrographical or geographical characteristics and the indigenous population of a particular area."[4] Additionally, Army doctrine notes reconnaissance is more active than passive in execution and relies on the human dynamic opposed to technical means. Joint doctrine merges the term reconnaissance into the commonly abbreviated group of intelligence, surveillance, and reconnaissance (ISR) and does not provide a unitary definition.

Methodology

The historical case study of Operation Cartwheel will be sub-divided into two different areas of operation. The first case examines reconnaissance operations in the northern approach led by Admiral William Halsey. The second case studies General MacArthur's employment of reconnaissance in the southern axis along the New Guinea coast. The structure of each study will focus on the initial plans and the conduct of reconnaissance followed by an evaluation of how reconnaissance influenced each commander's practice of operational art as defined in today's doctrine. However, studying the relationship between operational art and reconnaissance requires a framework and scope for presentation and follow-on analysis.

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[3] Army Doctrine Publication (ADP) 3-0, Unified Land Operations (Washington, DC: Government Printing Office, 2017), 6.

[4] Army Doctrine Reference Publication (ADRP) 3-90, Offense and Defense (Washington, DC: Government Printing Office, 2012), 5-1.

The reconnaissance doctrine that existed in 1943 pertained to mostly armored reconnaissance in the European Theater of Operations. In fact, Operation Cartwheel would serve as the experiential catalyst to codify amphibious reconnaissance doctrine to include the importance of integrating air and ground reconnaissance. The Navy had recently published Fleet Training Publication 167, more commonly known as the Tentative Landing Manual, but the concepts had yet to be tested in combat. Therefore, the rudimentary framework for presenting reconnaissance activities consists of exploring both aerial and ground methods, with the ground form being a mix of conventional, amphibious, and special reconnaissance.

Although not documented in US doctrine, by the end of the interwar period the concept of operational art was described by terms such as successive and deep operations, synchronization of major operations and battles, and the combination of forces including air power.[5] As the notion of operational art continued to evolve certain integral elements were eventually collated into US doctrine. For analysis and assessment, the modern operational art elements of lines of operation, tempo, and risk will serve as the evaluation criteria to analyze how each commander applied operational art.

According to Army Doctrine Reference Publication 3-0, a line of operation defines the "directional orientation of a force in time and space in relation to the enemy, and link the force with its base of operations and objectives."[6] This element of operational art is critical because it involves the selection of objectives, including potential decisive points, and the arrangement of tactical actions or minor operations. Expanding upon the time factor in lines of operation, all commanders must consider the speed and rhythm of operations relative to the enemy, which the Army defines as tempo.[7] As with most elements of operational art, a linkage exists between lines

[5] Michael R. Matheny, *Carrying the War to the Enemy: American Operational Art to 1945* (Norman, OK: University of Oklahoma Press, 2011), 15.

[6] Army Doctrine Reference Publication (ADRP) 3-0, Operations (Washington, DC: Government Printing Office, 2017), 2-6.

[7] ADRP 3-0, 2-7.

of operation and tempo through the consideration of sequencing and expected duration. The final criteria are a critical consideration associated with all military operations - risk. The Army classifies risk as the "probability and severity of loss linked to hazards," therefore all operational planners must balance the estimated loss with the opportunity to achieve results.[8] These three elements are the criteria that make up the framework to evaluate the influence of reconnaissance on the practice of operational art during the campaign.

This monograph consists of multiple parts. First, the study will examine some background, which will include both the evolution of reconnaissance doctrine and the strategic situation in the South and Southwest Pacific. Next, the study will interpret how reconnaissance contributed to a commander's implementation of operational art using Cartwheel as a historical case study. The analysis will focus on the correlation between reconnaissance and how it supported the commander's use of lines of operation, tempo, and risk. Two case studies from Operation Cartwheel illustrate the connection and influence concerning reconnaissance and the current doctrinal concept of operational art. The Southwest Pacific Area (SWPA) during World War II provides context to study how different echelons of reconnaissance employed across the air, land, and maritime domains influenced the ability of two large units to achieve operational objectives in support of the broader strategy. Lastly, the monograph will conclude with some implications for future operations.

The research focuses on reconnaissance procedures within Operation Cartwheel to identify the implications of reconnaissance from a strategic and operational perspective. Most of the existing research spotlights the conduct of specific reconnaissance units such as Marine Raiders, Alamo Scouts, and the Australian coastwatchers, or the importance of aerial

[8] ADRP 3-0, 2-10.

reconnaissance, but to the author's knowledge, no studies explore the impact of the combined effects of this reconnaissance on operational planning.

The research utilizes primary sources such as operations orders or other planning documents, official post-campaign reports, military correspondence, doctrine, and military journals of the time. Autobiographies from General Douglas MacArthur and Admiral William Halsey, the two senior commanders, help provide both a greater context and personal insight into decision making.

Background

Doctrine

The concept of reconnaissance is as old as warfare itself. Sun Tzu in his famous work, *The Art of War* emphasized the vital link between intelligence and victory through the commonly quoted maxim "know your enemy and know yourself; in a hundred battles, you will never be in peril."[9] However, Sun Tzu expands upon this notion and addresses reconnaissance more specifically when he writes:

> Therefore, determine the enemy's plans and you will know which strategy will be successful and which will not; Agitate him and ascertain the pattern of his movement. Determine his dispositions and so ascertain the field of battle. Probe him and learn where his strength is abundant and where deficient.[10]

More than twenty centuries later, the topic of reconnaissance was still one of debate and research as the theorist Antoine Henri Jomini describes in Article XLII of his *Art of War* the importance of reconnaissance in forming ordered movements and good combinations in war. Jomini goes on to list reconnaissance as one of four primary means of obtaining information.[11] As these works

[9] Sun Tzu, *The Art of War*, trans. Samuel B. Griffith (London: Oxford University Press, 1963), 84.

[10] Ibid., 100

[11] Antoine Henri de Jomini, *The Art of War,* trans. G.H. Mendell and W.P. Craighill (Novato, CA: Greenhill Books, 1992.), 268-269.

indicate, reconnaissance has been vital to military operations for centuries and understanding its foundation provides context to its execution and relation to the concept of operational art.

At the start of World War II, US reconnaissance units were primarily mechanized, and doctrine was limited or rather unchanged since the mid-19th Century. Reconnaissance development during the interwar period concentrated on creating ground reconnaissance elements to supplement air observation as air power theorists advocated a shift from supporting the Army to strategic bombing and air superiority.[12] Army infantry divisions had no assigned ground reconnaissance elements until the adaptation to the triangular division structure in 1939 but did maintain an Air Observation Squadron until 1941.[13] Even after the decision to field more ground reconnaissance units in the later stages of the interwar period, the purpose of these units and the associated equipment depended on the intended use.

Before World War II, most armies employed cavalry for combat, security, and pursuit missions.[14] Therefore, the transition between the world wars was both organizational and cultural. Tactical level reconnaissance supplanted operational and the need to obtain information by stealth, speed and mobility replaced combat action. However, an examination of Army and Navy Manuals reveals some similar and consistent doctrinal principles. The Army's 1942 publication of FM 100-15, *Field Service Regulations: Larger Units* outlines the need for distant and continuous reconnaissance to provide timely information so that the corps commander may adjust his plans accordingly.[15] Furthermore, the older but still relevant 1923 version of the *Army's Field Service Regulations* categorizes reconnaissance into distant, close, and battle. The chapter goes

[12] John J. McGrath, *Scouts Out! The Development of Reconnaissance Units in Modern Armies* (Leavenworth, KS: Combat Studies Institute Press, 2008), 49-50.

[13] Ibid., 50 & 55.

[14] Ibid., 49.

[15] Field Manual (FM) 100-15, *Field Service Regulations: Larger Units* (Washington, DC: Government Printing Office, 1942), 62.

on to explain the differences regarding distance, time, purpose and support element.[16] The 1943 Field Manual 2-30, *Cavalry Mechanized Reconnaissance Squadron* is the most detailed in describing the conduct of ground reconnaissance and emphasizes air-ground reconnaissance cooperation, the need to gain and maintain contact with the enemy, and communications.[17] Published in 1938, the Navy's Fleet Training Publication 167 or Tentative Landing Operations Manual is another detailed account, which describes the conduct of advance forces, small reconnaissance patrols, and aerial reconnaissance in support of opposed landing operations. The publication addresses the composition and security of patrols and essential information required to proceed with a landing.[18] It is important to note that because the Fleet maintained a possessive relationship with the Marines it produced all doctrine associated with the Marine Corps. The Fleet revised the Tentative Landing Manual from 1941-1942, which was later adopted by the US Army in 1941 as Field Manual 31-5.[19]

Taking into consideration the key threads throughout the limited existing doctrine the following connecting tenets emerge: range (distant, close, and battle), means (aerial, ground patrol, special), and synchronization. Furthermore, two primary factors appear that tend to govern the reconnaissance considerations of a commander: echelon and mission. For instance, a corps commander must focus on operational objectives and how many regiments and enablers the enemy can field while a division commander focuses more on the number of enemy battalions and tanks. These factors served as the primary considerations of MacArthur and Halsey during the execution of reconnaissance throughout the study.

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[16] Field Service Regulation (FSR), *United States Army 1923* (Washington, DC: Government Printing Office, 1923), 32-33.

[17] FM 2-30, *Cavalry Mechanized Reconnaissance Squadron* (Washington, DC: Government Printing Office, 1943), 17-19 & 30.

[18] Fleet Training Publication (FTP) 167, *Landing Operations Manual* (Washington DC: Government Printing Office, 1938) 101-102.

[19] Gunther E. Rothenberg, "From Gallipoli to Guadalcanal," in *Assault from the Sea,* ed. Merril L. Bartlett (Annapolis, MD: Naval Institute Press, 1983), 179.

No matter the echelon or means the fundamental mission of reconnaissance is to gather battlefield information in accordance with the commander's directives.[20] Whether it is distant reconnaissance directed against far-off objectives to inform a high command's strategic and operational plans or tactical reconnaissance to determine the most appropriate landing site, each has an impact on operational art. Since the mechanized based doctrine of the time did not transfer well to the nature of the Pacific environment commanders began using non-standard methods and training specific units to accomplish required tasks.

Strategic Context

A broad strategic background is important to understand why Operation Cartwheel came to fruition. Japanese expansion began in 1931 with the seizure of Manchuria and subsequent military build-up in China. Japanese operations in the second Sino-Japanese War between 1937 and 1940 stretched the Japanese economy and military boundaries to their limits. The absence of regional allies and President Roosevelt's decision to enact an oil embargo and freeze all Japanese assets in the United States in 1941 put Japan in a serious predicament regarding lack of resources.[21] Japan's desire to expand its sphere of influence and continue industrialization without the means induced action. Therefore, the Japanese vast and somewhat desperate expansion to the south and southwest in 1942 was both ideological and resource driven. Japan needed time to carry out this expansion unhindered and presumed the United States might intervene, thus leading to the attack on Pearl Harbor. After Pearl Harbor, the Japanese set out to capture Indochina, Burma, Philippines, Malayan Peninsula, Singapore, and areas throughout the southwest Pacific.[22] In short, prior Japanese conflict, desire to expand their sphere of influence,

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[20] Gordon L. Rottman and Peter Dennis, *World War II Combat Reconnaissance Tactics* (Oxford: Osprey Publishing Ltd., 2007), 6.

[21] Harry A. Gailey, *The War in the Pacific: From Pearl Harbor to Tokyo Bay* (Novato, CA: Presidio, 1997), 72-73.

[22] William L. McGee, and Samuel Eliot Morison, *The Solomons Campaigns, 1942-1943, from Guadalcanal to Bougainville: Pacific War Turning Point* (Santa Barbara, CA: BMC Publications, 2002), XXVII & XXXIV.

domestic industrialization, and severe lack of resources led to Japanese expansion. The Japanese followed with a rapid expansion south and southwest concluding in a defensive perimeter vicinity of the Solomon and New Guinea Islands.

While America remained stunned by the attack on Pearl Harbor and Japan's continued expansion, the Allied grand strategy discussed in late December 1941 during the Arcadia Conference identified the European Theater as the most decisive.[23] The results of this decision meant the Pacific Theater would maintain a strategic defensive posture with limited offensive objectives until the Allies could shift attention and resources to defeat Japan. However, of the highest strategic importance were the lines of communication between the United States and Australia.

Japanese Strategy

Japanese strategy in the Pacific was not without contention. Parochialism in the Imperial Army and Navy made collaborative planning difficult. Furthermore, Japanese war plans hinged on some flawed assumptions of which the most notable was that America would seek peace early.[24] Even after the creation of Imperial Headquarters in 1937, the notion of establishing a joint commander for large inter-service operations did not exist, and each force still maintained its own air force.[25] Regardless of internal discord, Japan recognized the benefits from the resources gained from the area around the East Indies, which they titled the "Southern Resource Zone," and set out to capitalize on those resources.[26]

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[23] Joint History Office, *World War II Inter-Allied Conferences: Part Two Arcadia Conference Approved Documents* (Washington, DC, 2003), US Serial ABC-4/CS-1.

[24] Eric Bergerud, *Touched with Fire the Land War in the South Pacific* (New York, NY: Penguin Books, 1997) 10.

[25] Harry Gailey, *The War in the Pacific: From Pearl Harbor to Tokyo Bay*. (Novato, CA: Presidio, 1997), 59.

[26] Bergerud, *Touched with Fire*, 3.

With United States Pacific operations in their infancy and most of Australia's forces in Egypt, Japanese expansion into the South and Southwest was vast and unhindered. Specifically, on January 22, 1942, Japan captured the city of Rabaul, on the island of New Britain, and with it the strategic advantage of a deep-water port and suitable terrain for a handful of airfields. Owning Rabaul did two things for the Japanese: it threatened the lines of communication between the United States and Australia and prevented an Allied assault toward the Philippines.[27] From there Japan set its sights on key locations in Northeast New Guinea, Solomon Islands, and Port Moresby, even briefly considering invading the mainland of Australia.

After unopposed seizures in New Guinea and the Solomons in March 1942, The Battle of the Coral Sea checked Japanese advancement toward Port Moresby, a vital location between the United States and Australia. Additionally, the Battle of Midway, in the central Pacific, hindered Japan's notion of continued expansion and the initiative began to shift to the Americans. In *Guadalcanal: The Definitive Account of the Landmark Battle*, Richard Frank suggests it was Guadalcanal, not Midway, that was the turning point of the Pacific War because Japan's actions after Midway continued to demonstrate offensive action.[28] After Guadalcanal, the Japanese transitioned to an operational defense and became mostly reactionary.

After the massive evacuation of Japanese forces from Guadalcanal in early February 1943, the Japanese intent was to regroup, strengthen defenses, and retain their hold in the South West Pacific Area.[29] Again the contention between services arose when the Imperial Army argued to retrograde to Bougainville and the Navy advocated holding New Georgia. Eventually, the services came to a compromise, and on January 4th the Japanese Imperial Headquarters

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[27] John Miller, *Cartwheel: The Reduction of Rabaul* (Washington, DC: Government Printing Office, 1959), 1.

[28] Richard B. Frank, *Guadalcanal: The Definitive Account of the Landmark Battle* (New York, NY: Penguin, 1992), 614.

[29] Louis Morton, *Strategy and Command: The First Two Years* (Washington DC: Government Printing Office, 1962), 367.

issued the Army/Navy Central Agreement, which set forth the Japanese strategy for the Southwest Pacific. Following the immediate withdrawal from Guadalcanal by all available means the Army would strengthen positions in the Northern Solomons, and the Navy was responsible for establishing a defense in the Central Solomons. Furthermore, the Imperial Army would establish a strong defensive line incorporating Salamaua, Lae, Madang, and Wewak on the eastern coast of New Guinea. Lastly, the Japanese 6th Air Division would cover New Guinea while Kusaka's Base Air Force was responsible for the Solomons and areas in New Guinea not covered by the 6th Air Force.[30] With the Japanese strategy in place, the Allies still faced a substantial fight to achieve their strategic objective of Rabaul.

Allied Strategy

The Allies were not expecting nor prepared for decisive battle in the Southwest Pacific. In response to the "Germany first" policy, military planners abandoned the long-existing strategy to reinforce the Philippines as a reaction to Japanese aggression.[31] The decision to cede the Philippines put Allied Forces in a line of bases stretching southwest from Hawaii to Australia that included Fiji, Espiritu Santo, New Caledonia, New Zealand, and the northernmost location of Port Moresby in Papua. The Japanese Army aspiring to take Port Moresby and the Navy seizing Tulagi and Guadalcanal set the stage for an Allied response.

On July 2, 1942, the Joint Chiefs of Staff (JCS) came to a consensus in formulating that response. The strategic objective was set as the seizure and occupation of the New Britain-New Ireland-New Guinea area to deny the area to Japan. To achieve this objective, the JCS outlined three separate tasks or phases as:

> 1) Seizure and occupation of Santa Cruz Islands, Tulagi, and adjacent positions.
> 2) Seizure and occupation of the remainder of the Solomon Islands, of Lae, Salamaua, and Northeast Coast of New Guinea.

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[30] Ronnie Day, *New Georgia: The Second Battle for the Solomons* (Bloomington, IN: Indiana University Press, 2016), 10-11.

[31] Bergerud, *Touched with Fire*, 5.

3) Seizure and occupation of Rabaul and adjacent positions in the New Guinea-New Ireland Area.[32]

As the Marines were landing at Guadalcanal on August 7th, 1942, as part of task one, the Japanese moved further south down the coast of New Guinea to Buna with the intention of taking Milne Bay and Port Moresby. As Guadalcanal operations amplified so did the clash between forces on New Guinea. After some intense fighting, MacArthur's Australian and American Force repelled the assault on Milne Bay and took Buna by late January. With MacArthur in position at Buna and the Allied seizure of Guadalcanal on February 9th, 1943, the situation was set to transition to tasks two and three.

Operation Cartwheel called for a two-pronged attack aimed at the seizure of Rabaul. Strategically, the plan and objectives remained unchanged from July 1942. However, MacArthur and Halsey still needed to sort many of the details including the selection of objectives and timeline coordination, which led to the Pacific Military Conference in March of 1943. MacArthur's Chief of Staff, Major General Richard Sutherland, presented the Elkton Plan, which sub-divided tasks two and three into five major operations:

1) Seizure of airdromes on the Huon Peninsula of New Guinea.
2) Seizure of Munda Point and other airdromes on New Georgia.
3) Seizure of airdromes on New Britain and Bougainville.
4) Capture of Kavieng and isolation of Rabaul.
5) Capture of Rabaul.[33]

When questioned on the timeline, delegates from the conference estimated completion of task two or the first three major operations by the end of 1943. With that answer, the JCS accepted the plan with the caveat that operations be limited to task two and promptly issued new orders on March 28th, 1943.[34] This directive annulled the July 2nd, 1942 version and ordered MacArthur and Halsey to establish airfields on Woodlark and Kiriwina, to seize locations up to Madang on the

[32] Joint Directive for Offensive Operations in the Southwest Pacific Area Agreed upon by the United States Chiefs of Staff, 2 July 1942, quoted in Morton, 619.

[33] Miller, *Cartwheel: The Reduction of Rabaul,* 13.

[34] Ibid., 14-15.

New Guinea coast, and occupy the Solomon Islands up to southern Bougainville. The purpose of the campaign was to inflict losses on the Japanese, retain the initiative, and prepare for the seizure of the Bismarck Archipelago.[35] Upon receiving the new directive, MacArthur and Halsey met in Brisbane to revise the previous versions of the Elkton Plan and published Elkton III on April 26th, 1943.

The updated plan included detailed coordination measures and a schedule that amounted to a three-phase operation, along two axes of advance, with six major subordinate operations grouped under the codename Cartwheel. Halsey would execute the northern approach through the Solomon Islands consisting of three major operations, while MacArthur conducted the other three major operations along the southern axis of the coast of New Guinea (see Map 1). The JCS resolved the always present delicate topic of command structure by giving General MacArthur strategic control of Admiral Halsey's operations for the campaign.

[35] Miller, *Cartwheel: The Reduction of Rabaul,* 19.

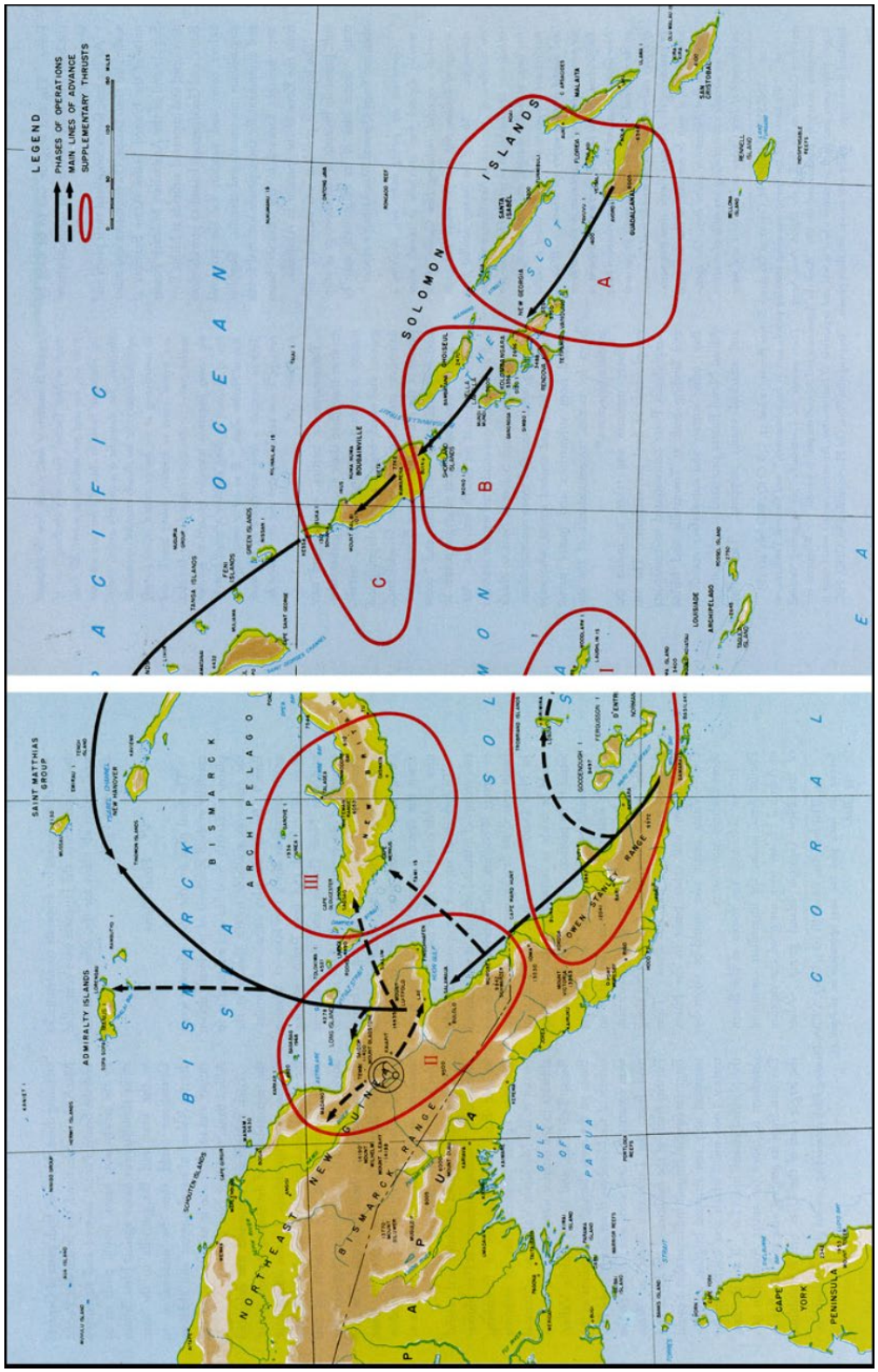

Figure 1. Douglas MacArthur*, Reports of General MacArthur: The Campaigns of MacArthur in the Pacific, Vol. I.* (Washington, DC: Government Printing Office, 1966), Plate No. 33.

Area of Operations

The operational area for Cartwheel stretched twelve hundred by seven hundred miles and included some of thickest jungle terrain in the world. Furthermore, reefs and narrow straits throughout the area presented navigational challenges while the Owen Stanley Range on New Guinea hampered ground maneuver. The terrain combined with the poor quality of maps increased the difficulty of determining objectives and establishing reasonable timetables even before considering the enemy dispositions. The combination of jungle terrain and moist tropical climate presented the additional impediment of disease. Ultimately, the terrain favored the Japanese defense and presented significant obstacles to Allied forces.

Another unique feature of the Cartwheel area of operations is that the terrain did not offer any inherent value to either belligerent. Both the Solomons and New Guinea were remote areas lacking in raw materials, arsenals, cities, infrastructure or anything else that could be of direct use to the war effort.[36] Therefore, the military importance of the region arose from its geographic relationship with other areas and potential for military infrastructure development such as airfields. The combination of lack of resources and limited development in the area presented a difficult challenge to operations in that Allied Forces had to import supplies from outside the region, and the absence of infrastructure hindered distribution.[37] In addition to restricting the operational reach, these factors also led to airfield suitability and harbor accommodations elevating as primary objective selection criteria.

Case Study 1: Halsey's Northern Approach

As Guadalcanal concluded in February 1943, Commanders considered the next objectives associated with task two of the joint directive. Admiral Halsey commanded the northern prong of the allied double envelopment and his staff intensified the planning for the push

[36] Bergerud, *Touched by Fire*, 57-62.

[37] Ibid., 61.

through the Solomon Islands. This axis consisted of two major operations and multiple minor landings. The first major operation, Operation Toenails, targeted the New Georgia Islands. The second, Operation Cherry Blossom aimed at the largest island in the Solomons, Bougainville.

Before turning complete attention to New Georgia, Task Force 61 conducted an unopposed landing of a reinforced division on the Russell Islands on February 21st, 1943. This undertaking put Allied Forces 250 kilometers from New Georgia and one step closer to Rabaul. Furthermore, the landings strengthened the defenses of Guadalcanal, provided an intermediate staging point, and offered an excellent opportunity to improve amphibious landings in anticipation of more to come.[38] From late February to June 1943 an operational pause occurred as the Allies built up forces in the Southern Solomons and amplified planning for the next major offensive – New Georgia.

New Georgia: June – September 1943

The preponderance of planning for Operational Toenails occurred the last two weeks of May 1943 concluding with Admiral Halsey's operations order on June 3rd. The two-phase plan consisted of phase one preliminary landings at Rendova Island, Segi Point, Viru Harbor, and Wickham Anchorage followed by the phase two main assault on the primary objective of Munda Point (see Map 2).[39] The capture of Munda Airfield would allow US fighter planes to escort bombers onto the next operational objective which aligns with the larger plan to "advance under the umbrella of land-based aircraft."[40]

The tasks of Operation Toenails went to the Third Fleet of Halsey's South Pacific Force which he divided into three task forces. The main effort, Task Force 31, was the amphibious

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[38] William L. McGee, and Samuel Eliot Morison, *The Solomons Campaigns, 1942-1943, from Guadalcanal to Bougainville: Pacific War Turning Point* (Santa Barbara, CA: BMC Publications, 2002), 231 and 243.

[39] Ibid., 307.

[40] Richard B. Frank, Guadalcanal: *The Definitive Account of the Landmark Battle* (New York: Penguin, 1992), 16.

attack force which the commander, Admiral Kelly Turner further sub-divided into Western and Eastern Task Groups. Admiral Halsey commanded Task Force 36, the covering task force responsible for fire support, while Task Force 33 provided air support for the duration of the campaign.[41] As 30,000 Soldiers, Sailors, and Marines waited to occupy New Georgia; the New Georgia campaign was underway for reconnaissance forces.

A significant amount of reconnaissance occurred to support the development of the plan. However, with limited reconnaissance doctrine to guide different collection assets and agencies, the conduct of reconnaissance operations aimed at New Georgia varied in means and methods. Because of the dense jungle terrain, aerial reconnaissance was limited in nature but did provide initial disposition assessments and terrain photographs, which often needed confirmation through ground reconnaissance. Additionally, the top-secret network of Australian coastwatchers proved indispensable to Allied reconnaissance efforts.

Active reconnaissance of New Georgia began in November of 1942 while Guadalcanal was ongoing. On November 21st, 1942 Australian coastwatchers reported Japanese airfield construction activities vicinity of Munda Point, which triggered a surge in aerial reconnaissance flights. Due to exceptional Japanese camouflage efforts, it was not until December 3rd that members of the South Pacific Aerial Photograph Interpretation Unit discovered a nearly completed 4,700-foot runway.[42] The discovery of Munda Airfield combined with the fact that fighters could not reach Bougainville from Guadalcanal expedited the planning for New Georgia.

As recon focused on the primary objective of Munda Airfield, planners needed more information to develop the concept. Multiple flight reports informed Halsey that a significant

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[41] McGee, *The Solomons Campaigns, 1942-1943, from Guadalcanal to Bougainville: Pacific War Turning Point,* 308.

[42] Henry Shaw, Jr. and Douglas T. Kane, *Isolation of Rabaul Vol. 2. History of US Marine Corps Operations in World War II* (Washington, DC: Government Printing Office, 1963), 43.

barrier reef protected Munda, which ruled out a direct amphibious assault.[43] Aerial reconnaissance also provided the initial laydown of anchorages, beaches, and key terrain features but it was not enough to begin detailed planning. To supplement the aerial representation, Admiral Halsey initiated a series of amphibious and ground reconnaissance patrols to help determine his way forward.

The first patrol of only six Marines landed in Roviana Lagoon at the end of February 1943. Lieutenant William Coultis led the scouts on a three-week mission where they reconnoitered beaches, trails, and enemy activity near Munda. He then reported directly to Halsey's Headquarters in late March that an attack on New Georgia was feasible.[44] Armed with this information Halsey's Chief of War Plans, General DeWitt Peck, proposed a landing at Segi Point followed by a westward maneuver to Munda. Major General Millard Harmon, commander of Army Forces South Pacific argued the feasibility of the plan, which led Halsey to order the First Marine Amphibious Corps to conduct another set of reconnaissance operations throughout New Georgia.

This time four reconnaissance parties, each representing a Marine Raider Battalion, set out to begin patrols targeting several areas of the New Georgia Island group. In addition to supplying allied forces with accurate and detailed information, Australian Coastwatcher Donald Kennedy hosted these ground reconnaissance parties from his position at Segi Point and augmented them with native guides.[45] The Raiders carefully gathered information for three weeks specific to New Georgia, Kolombangara, and Vangunu Islands and returned to Segi Point on April 9th. The reports confirmed Harmon's reservations about being able to maneuver a large

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[43] William F. Halsey and J. Bryan, III, *Admiral Halsey's Story* (New York, NY: McGraw-Hill Book Company, 1947), 159.

[44] John N Rentz, *Marines in the Central Solomons* (Washington, DC: Government Printing Office), 19.

[45] McGee, *The Solomons Campaigns, 1942-1943, from Guadalcanal to Bougainville: Pacific War Turning Point,* 314.

element from Segi to Munda.[46] This information paired with MacArthur's approval to assault New Georgia left Halsey and his planners with a difficult undertaking and again Halsey responded by intensifying reconnaissance efforts.

Figure 2. John Miller Jr., *Cartwheel: The Reduction of Rabaul* (Washington, DC: Center of Military History, 1959), Map 7. Modified by author.

The planners needed landing sites and potential airfield locations to construct a viable plan. With direct orders from Halsey to double reconnaissance efforts, multiple patrols commenced the largest reconnaissance mission to date. One element surveyed the south coast of New Georgia and Raviana Lagoon while another examined the islands offshore from Zanana Beach. Several other patrols dispersed to areas such as Grassi Lagoon, the western shores of Kula

[46] Colonel W. F. Coleman, "Amphibious Recon Patrols," *Marine Corps Gazette*, December 1945, 22-25.

Gulf, and Rendova. Another team escorted Commander Wilfred Painter onto Segi Point to survey a potential airstrip.[47] Captain Edwin Wheeler led a thorough ground reconnaissance of Kolombangara and determined the few landing sites available were heavily defended and, more importantly, the Vila airfield could not be modified to meet Allied aircraft requirements.[48] This report ruled out the possibility of bypassing Munda, which already faced stiff resistance from Admiral Halsey's operations officer.

With a direct assault impracticable and the bypass option rejected, Halsey was forced to seek another line of operation, and he described his new approach in a report to Nimitz as "infiltration and staging."[49] Considering the new information, planners developed a new concept for New Georgia that projected multiple simultaneous landings to stage for the main assault. These landings would eventually become the four preliminary landings described as phase one. Once Halsey specified the initial objectives and allocated the appropriate forces to the mission in his December 3rd plan, he yielded detailed planning to his subordinate commanders.

Furthermore, Halsey did not dictate where to land the primary assault force at Munda. Earlier recon patrols reported that Lahaina beach, two miles east of Munda, was heavily fortified but Zanana beach, five miles from Munda, was undefended. Furnished with this information, reconnaissance planes continued to monitor developments around the Munda Airstrip looking at enemy defenses and suitable beach sites.[50] Since Halsey entrusted his Task Force Commanders with the remainder of the plans, the planning on how to conduct the main assault fell to Admiral R. K. Turner, commander of Task Force 31.

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[47] Rentz, *Central Solomons*, 20.

[48] Captain Edward Wheeler led the reconnaissance of Kolombangara. For more information see Joseph H. Alexander, *Edson's Raiders: The 1st Marine Raider Battalion in World War II* (Annapolis: Naval Institute Press, 2001) 147-48.

[49] Day, *New Georgia: The Second Battle for the Solomons,* 75.

[50] Rentz, *Central Solomons*, 20.

Kept abreast of most of the reconnaissance efforts and planning by Halsey's staff, Turner quickly drafted a simple and direct approach. Nevertheless, his concept required additional reconnaissance efforts to help with information gathering and maneuver. Admiral Turner divided his force into an eastern and western task group. The western group was responsible for Rendova, Munda, and Bairoko while the eastern group took Wickham, Segi Point, and Viru. The joint effort from natives, led by Coastwatcher Harry Wickham, and Captain Clay Boyd's amphibious scouts discovered a small channel leading to the undefended Zanana Beach. The channel later served as the primary means to usher the Army's 43rd Infantry Division ashore.

Comfortable with the scheme for the 43rd Division, Turner wrestled with how to employ the 1st Marine Raider Regiment. He could land them in the north at the Enogai-Bairoko area or in the south around the Roviana Lagoon beaches, which the previous reconnaissance patrol led by Coultis discovered in February. If Turner chose the southern option, then the Marines would have to march overland to the objective at Bairoko. To help him in his decision Turner ordered Captain Boyd on another recon patrol inland to determine time and space factors.[51] As Turner grappled with his decision in early June, both coastwatchers and aerial reconnaissance reported Japanese reinforcements headed to the Central Solomons, specifically Kolombangara. Also, time was beginning to complicate matters.

In addition to wanting more time, Admiral Turner received more unfortunate news from Boyd's reconnaissance patrol that an overland march from a southern landing site to the Japanese installation at Bairoko would take about a month.[52] This update eliminated the prospect of landing the Marines in the South alongside the 43rd Infantry and established their objective in the North at Rice Anchorage. Because most reconnaissance patrols focused on the Munda area and the few patrols that attempted to collect around Rice Anchorage encountered Japanese resistance,

[51] Boyd interview with Colonel S. B. Griffith, 21 February 1951 as cited in Rentz*, Central Solomons*, 29-31.

[52] Rentz, *Central Solomons*, 31.

Turner did not know much about the area other than it was a suitable landing location. All signs were starting to suggest the plan, more specifically the timeline, may be in jeopardy.

Once US forces seized the main objectives at Munda and Bairoko, they would await the order from Halsey to assault the island of Kolombangara. However, based on Captain Wheeler's previous report about Kolombangara Admirals Halsey and Turner began to reconsider their options. Given the unexpected delays to the capture of New Georgia, the strengthened Kolombangara posed an even bigger problem. Like in the past, Halsey immediately deployed reconnaissance to Vella Lavella, which was the next largest island beyond Kolombangara. Again, using aerial and coastwatcher reports, a team scouted the island in late July and found reliable landing sites and terrain acceptable for an airfield in the southern part of the island. Additionally, a coastwatcher reported that he estimated only 250 Japanese defenders occupied the northern portion of the island.[53] This information combined with the patrols' reports led Admiral Halsey to decide to bypass Kolombangara and seize Vella Lavella.

Analysis

Reconnaissance efforts during Halsey's northern approach proved to be critical to planning and the practice of operational art. Although there were some information gaps, Admirals Halsey and Turner used the combination of coastwatcher reports in conjunction with ground and air reconnaissance to gain a remarkably accurate picture. In his memoir, Halsey expresses the importance of the reconnaissance teams by stating "we never made a forward move without their help."[54] The reports, photographs, and accounts from patrols, pilots and coastwatchers provided the operational commander options, determined tempo, and helped mitigate risk.

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[53] Henry Shaw, Jr. and Douglas T. Kane, *Isolation of Rabaul Vol. 2. History of US Marine Corps Operations in World War II* (Washington, DC: Government Printing Office, 1963), 153.

[54] William F. Halsey and J. Bryan, III, *Admiral Halsey's Story* (New York, NY: McGraw-Hill Book Company, 1947), 159.

The first element of operational art that Halsey's use of reconnaissance highlights are lines of operation. MacArthur gave Halsey the task to seize the remainder of the Solomons, particularly Munda Airfield. The original plan considered two principal options of a direct assault on Munda or a landing at Segi followed by a large westward overland movement. However, after a considerable amount of reconnaissance from February to June 1943 the line of operation underwent multiple revisions. After detailed and synchronized reconnaissance efforts, Halsey ultimately employed a "reconnaissance-pull" to establish an indirect approach that better accounted for terrain and enemy thus significantly improving the likelihood of success.[55] Although the refined indirect approach avoided enemy strengths, presented the Japanese with multiple dilemmas, and increased the chances of success, it also complicated matters concerning synchronization and sequencing.

Halsey's and Turner's use of reconnaissance shaped tempo in multiple ways. Without the knowledge of the terrain and enemy from the numerous reconnaissance reports, Halsey and Turner could not have planned for the relative speed, sequencing, rhythm, and synchronization of operations. After reconnaissance helped establish the lines of operation, both commanders leveraged reconnaissance to help determine an estimated timetable as seen through the multiple orders post objective selection requesting information about "time and space" factors. Scouting reports that examined these factors, such as determining it would take a month to move inland to Bairoko, allowed the commanders not only to adjust lines of operation but arrange and synchronize simultaneous and follow-on ground operations as well as air and artillery support.

[55] Reconnaissance pull is a modern doctrinal concept that entered the United States Army lexicon in the 1980s. Today, Army Field Manual 3-90-1, *Offense and Defense*, explains reconnaissance pull as a method to find weaknesses in enemy dispositions that can be exploited by the main force. Reconnaissance is launched over a broad area that allows the reconnaissance elements to identify enemy weaknesses to exploit and enemy strengths to avoid. Once these are identified, the commander exploits the situation by choosing a course of action that allows the decisive operation to attack enemy weaknesses and penetrate gaps in the enemy's defense.

Furthermore, the establishment of an approximate timeline enabled Halsey and Turner to better plan logistical requirements at specified time and locations.

However, reconnaissance operations can also adversely affect tempo. Two examples of this are the compromise of Coastwatcher Kennedy's team at Segi Point, which caused Halsey to expedite his landing on Segi by nine days and the delay at Viru that altered the timing and composition of the landing force at Rice Anchorage. The first is an example of the associated risk with conducting reconnaissance and the second an example of marginal reconnaissance efforts leading to disruption in tempo. Fortunately, flexibility in the plan could overcome these setbacks. An operational commander must weigh the benefits of reconnaissance against the likelihood of compromise and disruption, which highlights the last element of operational art.

Risk should constantly be on the operational commander's mind, and it was no different for Admirals Halsey or Turner. Both these commanders had to weigh hazards and loss against opportunities and initiative. Reconnaissance greatly assisted them in doing so. Halsey's and Turner's implementation of reconnaissance garnered information that facilitated the assessment of risk. For instance, Turner's decision to land at Zanana instead of the closer and more suitable Laiana beach and Halsey's choice to bypass Kolombangara Island are directly related to the assessment of risk based off the information from reconnaissance. Reconnaissance cannot eliminate risk, but as seen in this case study when it is reliable it can generate a simpler equation for the commander.

The final plan accommodated the terrain as much as it did the enemy, but reconnaissance brought fidelity to both and helped Halsey and Turner arrange tactical actions in time and space, evaluate tempo, and mitigate risk. Reconnaissance assets working with minimal doctrine and training in some of the most trying conditions proved their utility during Operation Toenails. However, renowned naval historian Samuel Morison points out the Solomons were a difficult and trying campaign and although forces needed Munda to move toward Rabaul the tactics employed

were questionable.[56] The plan was to capture the island with one division, but Halsey ultimately employed four divisions to accomplish the task.

Case Study #2: MacArthur's Southern Approach

With the major timings of Operation Cartwheel finalized during the April 1943 meeting between MacArthur and Halsey in Brisbane, General Douglas MacArthur was set to initiate his "southern pincher" toward the Japanese fortress of Rabaul. After some intense fighting during the Papua campaign, a combined American and Australian force had dislocated the Japanese to secure the staging base of Buna, but both Allied and Japanese forces needed to consolidate and reorganize.[57] In January 1943, the Japanese surged much-needed reinforcements to New Guinea; however, robust aerial reconnaissance coverage was able to identify and disrupt Japanese reinforcement operations. So, with both sides needing reinforcements and resupply in eastern New Guinea, the Allied offensive slipped into a stalemate from February to June 1943 as General Headquarters Southwest Pacific evaluated the task of seizing the Huon Peninsula.[58]

In accordance with the new March 28th, 1943 JCS Directive, MacArthur issued his first warning order on May 6th, 1943.[59] General MacArthur designated General Walter Krueger's Sixth Army or Alamo Force to plan, prepare, and execute the seizure of two Trobriand Islands, Woodlark and Kiriwina, codenamed Operation Chronicle. MacArthur's Headquarters realized the completion of a mountain highway envisioned to sustain operations on the New Guinea coast, specifically the Huon Peninsula, was proving much more difficult and threatened to delay

[56] Samuel Eliot Morison, *Breaking the Bismarck's Barrier 22 July 1942 – 1 May 1944*, (Boston, MA: Little, Brown and Company, 1984), 224.

[57] Edward J. Drea, *The U.S. Army Campaigns of World War II: New Guinea*, CMH Pub 72-9 (Washington, DC: Government Printing Office, 1993), 4.

[58] Ibid., 5.

[59] David Dexter, *The New Guinea Offensives Vol. 6. Australia in the War of 1939-1945,* (Canberra: Australian War Memorial, 1968), 220.

significant timings. Thus, MacArthur added the seizure of Nassau Bay, mainly to relieve logistical barriers, as the third objective of Operation Chronicle.[60]

The preponderance of reconnaissance for Operation Chronicle occurred in May of 1943. The first reconnaissance was a bit ad hoc and came via senior officers from Admiral Halsey's Task Force en route to a planning conference at Brisbane. Halsey had previously offered to support MacArthur's initial operations, but his planner's analysis suggested the limited usefulness of the islands and they recommended a bypass. The senior Air Corps general, General George Kenney, argued the need for both Woodlark and Kiriwina as fixed airbases in support of future operations and convinced Halsey's planners to move forward.

With that decision, MacArthur's subordinate headquarters issued reconnaissance orders related to all three objectives. General Krueger's Alamo headquarters ordered a ground reconnaissance of the two islands, and two small reconnaissance parties infiltrated the islands in early May 1943 to collect on airfield sites, beach conditions, and enemy forces. These two-reconnaissance patrols reported suitable conditions for an amphibious landing as well as airfields but most worthwhile that the islands were devoid of enemy forces.[61] Meanwhile, the New Guinea Force, a combined United States and Australian unit, began reconnaissance tasks directed at Nassau Bay. Two major reconnaissance actions assisted the 162nd Regimental Combat Team tasked with the landing at Nassau Bay. First, reconnaissance patrols occupied small islands off-shore from Nassau Bay to help guide the amphibious assault. Second, a reconnaissance party reconnoitered south of Nassau Bay reporting an enemy strength of three hundred to four hundred Japanese troops.[62]

Reconnaissance operations for Operation Chronicle appeared to be straightforward and achieved two distinct outcomes. First, the reconnaissance actions confirmed the absence of enemy

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[60] Miller, *Cartwheel: The Reduction of Rabaul,* 61.

[61] Ibid., 55.

[62] Ibid., 62.

on the Trobriand Islands and second, they facilitated tactical success at Nassau Bay. Morison called the entire operation "prosaic and lacking any real dividends except as an impressive rehearsal to prove good theories and discard bad ones."[63] However, Morison did acknowledge the very important benefit that "air, land and sea power operated as a balanced team and the final plan became a template for future shore-to-shore amphibious operations in the Southwest Pacific." [64] Not to be lost in this is the use and contribution of air and ground reconnaissance to gather battlefield information in support of the commander's objectives because it would prove to be much more valuable during the latter stages of Cartwheel.

Huon Peninsula: June – September 1943

The second phase of MacArthur's campaign was a series of coastal seizures along the New Guinea coast to continue toward the envelopment and isolation of Rabaul. MacArthur envisioned a strategy opposite of "island hopping," which advocated the gradual pushback of the enemy. Instead, MacArthur would rather Allied forces envelop with mass and surprise against only calculated objectives and bypass the Japanese strongholds if possible. He believed island hopping took too many casualties and was too slow and that his new concept would go faster with less costly results. This strategy required thoughtful selection of objectives combined with well-timed strikes.[65] MacArthur's first opportunity to test this concept came during the second phase of Cartwheel, codenamed Postern, which consisted of the following line of operations: Salamaua – Lae – Finschhafen – Madang (see Map 3). Seizing these objectives would secure the entire Huon Peninsula, as well as the Western side of the Vitiaz and Dampier Straits, and provide excellent locations for airfield development to progress the bomber line forward.

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[63] Morison, Breaking the Bismarck's Barrier 22 July 1942 – 1 May 1944, 133.

[64] Ibid., 134.

[65] Douglas MacArthur, *Reports of General MacArthur: The Campaigns of MacArthur in the Pacific*, vol. I, (Washington, DC: Government Printing Office, 1966), 100.

Frequent and intense reconnaissance patrolling near the Ramu and Markham River Valleys by Australian forces kept MacArthur's headquarters abreast of the Japanese defensive focus around the Huon Peninsula. Because of the dense jungle canopy, ground reconnaissance provided the most reliable information to commanders. The Australian Kanga Force, coastwatchers, and Moss troops contributed to the majority of ground reconnaissance during Operation Postern. However, in late April 1943 Australian commanders directed the newly arrived Australian 3rd Division to absorb the Kanga Force, which dissolved its existence as an independent unit and removed a vital ground reconnaissance asset from MacArthur's arsenal.[66] Because of the lack of operational reconnaissance assets, MacArthur relied more on his codebreaking organization, ULTRA, which played a momentous role by deciphering Japanese transmissions and emerged as a vital source of information.[67] The loss of the Kanga Force, the over-reliance on ULTRA, and the difficult terrain illuminated a shortfall of MacArthur's organic reconnaissance assets and instigated activities to create a capable ground reconnaissance force.

The birth of the Alamo Scouts filled this capability gap. At the conclusion of Operation Postern, Major General Kruger created the Alamo Scouts as a response to General MacArthur's desire for a "reliable reconnaissance unit whose information he could depend on for its accuracy."[68] This ad hoc and all volunteer unit formed in November of 1943 and after an intense training course commenced reconnaissance and raider operations in June 1944 during the New

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[66] James P. Duffy, *War at the End of the World: Douglas MacArthur and the Forgotten Fight for New Guinea, 1942-1945* (New York, NY: New American Library Caliber, 2016), 217.

[67] Edward J. Drea, *MacArthur's ULTRA: Codebreaking and the War against Japan, 1942-1945* (Lawrence, KS: University Press of Kansas, 1992), 61-62. Before 1943, ULTRA was struggling through trial and error and looking for a breakthrough, which came in early 1943 through significant decryption advancements. This discovery allowed MacArthur to use ULTRA to overcome the lack of ground reconnaissance. Because ULTRA is passive in nature and is considered surveillance by today's standard it does not meet the criteria to assess as reconnaissance.

[68] Larry Alexander, *Shadows in the Jungle: The Alamo Scouts Behind Japanese Lines in World War II* (New York, NY: NAL Caliber, 2009), 4.

Guinea campaign.[69] Unfortunately, the Alamo Scouts would not contribute directly to Operation Cartwheel, but the events or lack thereof during Operation Postern exposed this vital reconnaissance gap.

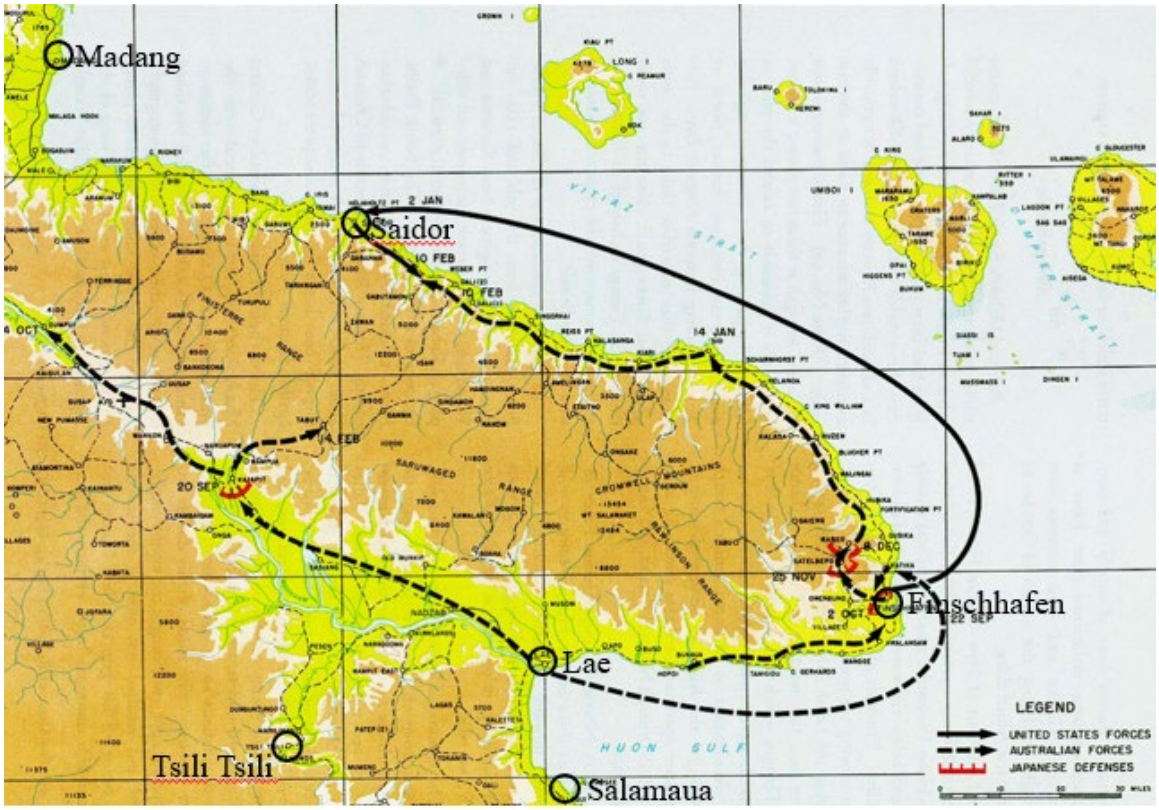

Figure 3. Douglas MacArthur, *Reports of General MacArthur: The Campaigns of MacArthur in the Pacific, Vol. I* (Washington, DC: Government Printing Office, 1966), Plate No. 36. Modified by author.

The preponderance of reconnaissance was via aircraft because they compromised MacArthur's only real reconnaissance capability. General Kenney's persistent aerial reconnaissance operations would alleviate some information gaps related to the current fight, but

[69] Lance Q. Zedric, *Silent Warriors of World War II: The Alamo Scouts Behind Japanese Lines* (Ventura, CA: Pathfinder Publishing of California, 1995), 11-16. The Alamo Scouts, much like the Marine Raiders, operated in six-to-seven-person teams behind enemy lines for long durations. Although approximately 350 graduated from the grueling six-week training program, only 138 were selected to participate in combat missions as part of Alamo Scout Teams. The remainder of graduates returned to their units to lead reconnaissance parties.

they were directed primarily at objectives further up the coast. One such location was the Wewak area, which the Japanese transformed into a major hub consisting of four airfields and a port facility. Kenney's reconnaissance flights struggled to be of value initially because of range and a persistent air defense threat.

Upset over the loss of reconnaissance planes combined with the fact he could not provide fighter protection to the long-range bombers, Kenney ordered ground reconnaissance to go forty miles into enemy territory to find an old mining airstrip. The efforts paid off as the party returned a few days later with an ideal site comprised of two seven thousand-foot strips near the village of Tsili-Tsili.[70] After about a month of maintenance on the airfield, the first fighters landed at Tsili-Tsili on July 26th, 1943 and missions commenced immediately. On August 16th, a photoreconnaissance plane, from Tsili-Tsili, flew over all four Wewak airfields locating a total of 225 Japanese planes on the ground, and before sunrise on August 17th, two hundred tons of ordnance fell on these Japanese airdromes. The attacks on the Japanese aircraft continued the next day, and by the evening of August 18th, Kenney's airplanes destroyed most of the Japanese air assets in the Wewak area including vital fuel supplies.[71] The discovery of the airfield by the ground reconnaissance party and the subsequent aerial reconnaissance and combat missions further confirmed the need and merit of reconnaissance air and ground assets working together to achieve direct operational impact.

With the Japanese Air Force out of commission and excellent deception operations at Salamaua, Lae fell quickly, and MacArthur set his sights on the next objective, Finschhafen. The original plan called for a month-long consolidation phase between the capture of Lae and initiation of Finschhafen, but when aerial reconnaissance identified elements of a Japanese

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[70] Duffy, *War at the End of the World: Douglas MacArthur and the Forgotten Fight for New Guinea,* 225.

[71] General George C. Kenney, *General Kenney Reports, A Personal History of the Pacific War* (Maxwell AFB, AL: Air Force History and Museums Program, 1997), 276-279.

division reinforcing the area, MacArthur was intent to move up the date. On September 15th, 1943, the day after Lae fell, MacArthur met with his ground, air, and amphibious commanders. After some reluctance from the commanders, MacArthur settled on a September 22nd pre-dawn strike consisting of a brigade-sized amphibious landing with a slightly smaller force conducting an overland attack from Lae.[72] Because of the condensed timing, both air and ground reconnaissance could not provide much more than helping to determine the landing beach and informing the amphibious force of several enemy machine gun positions toward the north end of the beach.[73] Despite the lack of contribution from reconnaissance, the plan unfolded with minor complications and the two assaulting brigades linked up in Finschhafen on October 2nd, 1943 to begin work on improving the prime coastal airfield.

After follow-on successes at Satelberg, MacArthur was within reach of Madang. However, before continuing MacArthur confronted some significant operational decisions. By this time in the campaign MacArthur and Halsey, as well as the JCS, knew that a direct assault on Rabaul was not feasible and that isolation was the preferred option. Senior leaders solidified this decision at the Quadrant conference in August of 1943.[74] Additionally, the JCS provided refined guidance to MacArthur to seize or neutralize eastern New Guinea as far west as Wewak to include the Admiralty Islands and the Bismarck Archipelago."[75]

New Britain and the Admiralty Islands: December 1943 – May 1944

Shifting focus to the finale of Operation Cartwheel, MacArthur planned to gain complete control of the waterways separating New Guinea and New Britain. Control of these strategic

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[72] Duffy, *War at the End of the World: Douglas MacArthur and the Forgotten Fight for New Guinea,* 246-248

[73] Dexter, *The New Guinea Offensives Vol. 6. Australia in the War of 1939-1945,* 447.

[74] United States Secretary Office of the Combined Chiefs of Staff, *Quadrant Conference August 1943: Papers and Minutes of the Meeting* (Washington, DC: Joint History Office, 2003), 67 & 256.

[75] Duffy, *War at the End of the World: Douglas MacArthur and the Forgotten Fight for New Guinea,* 266.

straits gave MacArthur uncontested access to the Bismarck Sea enabling future operations against the Admiralty Islands and along the New Guinea coast. Again, MacArthur selected Krueger's Sixth Army to invade New Britain and augmented them with the 1st Marine Division.[76] The operation, codenamed Dexterity, would start with western New Britain followed by the seizure of the Admiralty Islands and ultimately seal off Rabaul.

The original plan for New Britain called for amphibious landings at Gasmata and Cape Gloucester with a subsequent airdrop to support the Marines at Cape Gloucester. Reconnaissance of New Britain began three months prior when a submarine landed sixteen coastwatchers and twenty-seven trained natives to occupy key positions and report on enemy activity.[77] Their reports combined with aerial reconnaissance of Gasmata identified two noteworthy factors discussed during a late November 1943 commanders conference. First, a sizeable Japanese force of about three thousand garrisoned Gasmata.[78] Second, the potential airfield site at Lindenhafen plantation was not suitable, which raised the additional question of whether an airfield was necessary if forces would capture Cape Gloucester shortly after.[79] Provided with this information, MacArthur approved an objective change from Gasmata to Arawe and set the date of capture for December 15th, 1943.

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[76] Ibid., 267.

[77] Douglas MacArthur, *Reports of General MacArthur: The Campaigns of MacArthur in the Pacific, Vol. I (*Washington, DC: Government Printing Office, 1966), 129. There are conflicting reports that this ground reconnaissance effort also consisted of Alamo Scouts, which would have been the earliest combat mission undertaken by this organization. Miller, 277. Miller writes, Alamo Scouts reconnoitered Gasmata from 6 through 27 October.

[78] Kenney, *General Kenney Reports, A Personal History of the Pacific War,* 327.

[79] Harry A. Gailey, *MacArthur's Victory: The War in New Guinea, 1943-1944* (Novato, CA: Presidio, 2005), 111.

Figure 4. Douglas MacArthur, Reports of General MacArthur: The Campaigns of MacArthur in the Pacific, Vol. I *(Washington, DC: Government Printing Office, 1966), Plate No. 33.* Modified by author.

With the decision to land at Arawe settled, MacArthur shifted to the main objective of Cape Gloucester. Despite the sixteen coastwatchers and natives operating for a couple of months throughout the interior of New Britain, planners did not have much information about Cape Gloucester. With the landing date of December 26th quickly approaching, Kenney and MacArthur's operations officer, General Stephen Chamberlin, disagreed about the plan. Since the recent strategic decision to isolate Rabaul, Kenney questioned the necessity of Cape Gloucester

and argued for a bypass to maintain "faster action."[80] Chamberlain opposed this view saying there would be enough time and offered three distinct advantages.[81] MacArthur decided to keep Gloucester as the main objective and delegated detailed planning efforts down to Krueger.

Krueger's staff planning efforts for Operation Dexterity were ongoing since late August, and they were aware of the Japanese reinforcing western New Britain.[82] Recognizing the need for more relevant information, Krueger ordered a ground reconnaissance to augment the substantial amount of on-going aerial photography. Reconnaissance operations proved difficult as patrols were not able to examine the main landing site at Cape Gloucester, so Krueger added more daily aerial photography flights to identify gun positions, beach defenses, trails, and hydrographic data. The vast amount of aerial reconnaissance paid dividends as Generals Krueger and Rupertus, 1st Marine Division, conferred and adjusted the entire concept of the operation. The adjustments included reducing the force at Arawe, the cancellation of a parachute jump, increased landings on the north shore, and changes to the sequence of the landings.[83] The changes were valuable as the Army and Marines landed nearly unopposed and fought their way inland against much less resistance than planners expected. The Marines raised the American flag at the Cape Gloucester

[80] Kenny, *General Kenney Reports, A Personal History of the Pacific War,* 323; Miller, *Cartwheel: The Reduction of Rabaul,* 273. In General Kenney's reports he recalls making the recommendation to establish a base at Cape Gloucester and use Arawe for its harbor. Correspondence between Kenney's and MacArthur's Headquarters suggests Kenney later changed his mind to forego any requirement for bases on western New Britain. Kenney told MacArthur bases at Dobdura, Dadzab, and Kiriwina, plus the one at Finschafen and perhaps a new one at Saidor, could provide enough support. The term faster action is most likely about MacArthur's follow-on Reno III plan, which called for quick neutralization of Rabaul by March 1944 and then movement toward the Philippines.

[81] Miller, *Cartwheel: The Reduction of Rabaul,* 273. The three advantages Chamberlain argued were: 1) better control of the Vitiaz Strait (this was a reversal of his position a month earlier), 2) better support for the Kavieng and Admiralties attacks, and 3) better cover for convoys moving toward the Admiralties.

[82] Miller, *Cartwheel: The Reduction of Rabaul,* 276. In December, Krueger placed enemy strength at between 5,668 and 9,344 with the strongest concentration at Cape Gloucester.

[83] Ibid., 277-278.

airdrome on December 31st, 1943, and the Japanese 17th Division completely withdrew from western New Britain two months later.[84]

With success at Arawe and Allied momentum rolling, MacArthur elected to exploit success. On December 16th, 1943 he decided to attack Saidor on the northern shoulder of the Huon Peninsula. Control of Saidor assured Allied forces of another area for airfield development, a harbor for the small naval craft, and a welcomed consolidation area after continuous fighting on the Huon Peninsula.[85] Additionally, the capture of Saidor would put the Allies fifty miles south of Madang and in an excellent position for northward and westward advances. The Saidor task force under General Clarence Martin, deputy commander of the Alamo Force, had little time to plan or prepare for this operation. Most of the planning took place on December 20th, 1943 and with no time or opportunity to infiltrate ground reconnaissance the planners relied strictly on aerial reconnaissance photographs.[86] The decision to sacrifice reconnaissance for speed proved worthwhile as the landing force encountered little resistance and 7,000 Allied forces occupied Saidor on January 2nd, 1944. With the invasion of New Britain and Saidor complete, MacArthur met the stipulations of the March 28th, 1943 JCS directive and Cartwheel operations concluded; however, both MacArthur and Halsey were uncomfortable ending Cartwheel since they had not neutralized Rabaul completely and desired a more deliberate transition before thrusting toward the Philippines.

Seizure of the Admiralty Islands accomplished many purposes for MacArthur. First, they provided an additional staging area for the large amphibious task force needed to attack along the New Guinea coast. Second, the islands protected MacArthur's right flank, while preventing

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[84] Duffy, *War at the End of the World: Douglas MacArthur and the Forgotten Fight for New Guinea, 1942-1945,* 277-278.

[85] Wesley F. Craven and James L. Cate, eds., *The Pacific—Guadalcanal to Saipan*, vol. 4, The Army Air Forces in World War II (Chicago, IL: The University of Chicago Press, 1950), 345.

[86] Miller, 297.

Japanese reinforcements from reaching cut-off troops. Lastly, the Admiralties could officially conclude Operation Cartwheel by clinching the "pincher" around Rabaul and provide an excellent position to project future operations toward the Philippines.[87] The base plan designated April 1st, 1944 as a start date for an amphibious assault; however, after the unforeseen quick success on New Britain and a lack of enemy opposition in the Bismarck Sea, MacArthur wanted to capitalize on the opportunity.

With a welcomed break in the weather, three photo reconnaissance B-25s set off to investigate the two main islands of Manus and Los Negros. The ULTRA reports suggested heavy Japanese activity, but the planes found none even after descending to a very low altitude at times to see if they would draw fire. Upon returning the pilots reported:

> "three crews all claim Manus and Los Negros Is. have been evacuated. Nil signs of enemy activity. Grass growing thickly on Momote and Lorengau airstrips. Strips u/s [unserviceable] and badly pitted. Planes spent one hour and a half in area circling islands…[They received] nil AA [antiaircraft fire] even at low altitude.[88]

Considering the aerial reconnaissance reports and still unsure of the enemy's strength, General MacArthur ordered an immediate reconnaissance in force operation directed toward Hyane Harbor on the eastern side of Los Negros island.[89] Krueger, the man responsible for the overall invasion, was not pleased with the shift in the timeline and believed the Japanese maintained a strong presence on the island. He decided to send the newly commissioned Alamo Scouts.[90]

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[87] MacArthur, *Reports of General MacArthur*, 137.

[88] "Aircraft Reconnaissance Reports," 23/24 February 1944, Sutherland Papers, DMMA, RG 30, Box 14, p. 3. as cited in Stephen R. Taaffe, *MacArthur's Jungle War: The 1944 New Guinea Campaign* (Lawrence, KS: University Press of Kansas, 1998), 56.

[89] Douglas MacArthur, *Reports of General MacArthur: The Campaigns of MacArthur in the Pacific*, Vol. I (Washington, DC: US Government Printing Office, 1966), 138; Duffy, *War at the End of the World: Douglas MacArthur and the Forgotten Fight for New Guinea, 1942-1945,* 283. A reconnaissance in force consisted of a force large enough to elicit a reaction from the Japanese but still be quickly withdrawn if needed.

[90] Duffy, *War at the End of the World: Douglas MacArthur and the Forgotten Fight for New Guinea, 1942-1945,* 283.

In the early morning of February 27th, 1944 Lieutenant John McGowen led a six-man team to Los Negros Island and within three hours of the mission realized the air reports were wrong. The scouts observed numerous signs of a robust enemy defense and came so close they could even tell the Japanese were larger, in better shape, and much better equipped than normal. The next day McGowen reported his findings via radio to a teammate onboard an aircraft overhead who forwarded it to Sixth Army Headquarters. McGowen extracted his team immediately and rushed to a destroyer to report directly to the commander of the reconnaissance in force. Supplied with this information the commander doubled the number of destroyers requested, directed more naval and air bombing of the areas the scouts reconnoitered and changed the invasion area.[91] The Alamo Scouts' first patrol was an outstanding success and provided relevant information to commanders.

Analysis

MacArthur faced a challenge when the JCS prioritized the central Pacific but knew there was the possibility to become the main effort with early success and any missteps in the central Pacific. Acknowledging the need for early and timely gains combined with his borderline obsession to return to the Philippines appears to be the primary driver of MacArthur's operational approach. To achieve this approach, MacArthur chose to apply a series of envelopments or as he refers to it a "hit 'em where they ain't and let 'em die on the vine" philosophy.[92] At first glance, reconnaissance does not seem to have a significant role in MacArthur's practice of operational art. However, closer scrutiny reveals examples of how reconnaissance directly influenced MacArthur's arrangement of tactical actions, consideration of tempo, and mitigation of risk. The evidence illustrates the increasing use and utility of reconnaissance throughout the campaign but also invites speculation and dispute of whether it could have been more valuable.

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[91] Zedric, *Silent Warriors of World War II: The Alamo Scouts Behind Japanese Lines,* 99-101.

[92] Douglas MacArthur, *Reminiscences* (New York: De Capo Press, 1964), 169.

MacArthur's determination to return to the Philippines gives the impression that his line of operation remained unaltered from Port Moresby to the recapture of the Philippines. Although not abundant, there is clear evidence that reconnaissance contributed to the arrangement of tactical actions during Operation Cartwheel. In fact, the JCS only mention Hollandia and Mindanao in the March 1943 directive, which gave MacArthur the liberty to align his objectives as necessary. Even with minimal reconnaissance resources, it was the Kanga force reports on Japanese disposition that led MacArthur to feint at, but bypass Salamaua and capture Lae as the first prime objective. The information also contributed to the decision to add Nassau Bay as a third objective in Operation Chronicle to better support the assault on Lae. Another adjustment to the line of operation came when MacArthur decided to seize Arawe in place of Gasmata because of coastwatcher and aerial reports of a large Japanese force occupying Gasmata. Moreover, Generals Krueger and Rupertus decided to adjust the entire New Britain concept of the operation based on additional reconnaissance reports. Lastly, the decision to substitute Saidor for Madang and add the Admiralty Islands to conclude the Cartwheel line of operation were direct results of aerial and coastwatcher observations. Although airfields and ports informed objective selection, MacArthur employed what little recon assets he controlled to confirm the line of operation and adjust as necessary along the way.

There are several examples of the impact of reconnaissance activities on the tempo of MacArthur's campaign. MacArthur seems to escalate the tempo as the campaign progresses, which is most likely due to his desire to demonstrate success, and reconnaissance helped illuminate windows of opportunity. The first instance occurs when MacArthur decides to expedite the seizure of Finschhafen by three weeks after Lae because aerial reconnaissance detects Japanese reinforcements headed to Finschhafen. The change in tempo represented a calculated decision based on reconnaissance reports and eliminated all other pre-assault reconnaissance activities to exploit a temporal opening. It is about this same time MacArthur replaces island hopping with the "leapfrog" concept hoping to continue to rely on accurate reconnaissance to find

"the most opportune moment to strike."[93] Even with limited assets, MacArthur understood the benefits of controlling the tempo and used reconnaissance to support his decisions of whether to decrease, maintain, or increase the tempo.

Other aspects of tempo are the sequencing and rhythm of operations. MacArthur elects to adjust the sequence and maintain a rapid rhythm by crossing the Vitiaz and Dampier straits before continuing up the coast of New Guinea toward Madang, which was the original plan. Another example is when MacArthur moves up the Admiralties attack based on a desire to capitalize on the previous success and lack of enemy presence. However, when subsequent Alamo Scouts reports differ from the airplanes', MacArthur maintains his line of operation and tempo but makes minor tactical changes to the landing area and composition of the force, electing to go with a reconnaissance in force.

The most contentious element evident when examining MacArthur's use of reconnaissance is risk. MacArthur employed reconnaissance mainly to alleviate risk and "hit 'em where they ain't," but controversy and speculation remain about whether it was sincere. For example, many historians question whether an assault on Arawe was necessary and doubt the Japanese capacity to control the Vitiaz Strait from Cape Gloucester. MacArthur relied heavily on reconnaissance to help him select the appropriate size force, but there is little evidence of major operational modifications because of risk. Furthermore, MacArthur was willing to accept increased risk by acting with limited information and time to conduct reconnaissance to gain an advantage with tempo. One exception to this is before the New Britain assault. MacArthur delayed in selecting dates because of a lack of information about the enemy and insisted on daily reconnaissance flights because he refused to repeat the carnage the Marines endured at Tarawa.[94]

[93] MacArthur, *Reminiscences*, 169.

[94] Duffy, *War at the End of the World: Douglas MacArthur and the Forgotten Fight for New Guinea, 1942-1945*, 270.

But the issue remains of whether the reconnaissance provided enough relevant information for New Britain to meet bypass criteria. Furthermore, Stephen Taaffe, a historian who specializes in military leadership and command, titles a chapter in *MacArthur's Jungle War,* "The Admiralties: An Unnecessary Risk?" Analyzing MacArthur's decision to launch a reconnaissance in force against a potential Japanese stronghold elicits one of the fundamental questions ever-present on the minds of commanders – is the risk worth the advantage? In this specific case MacArthur exhausted his normal reconnaissance sequence of air, small team, battalion and still did not have information available; therefore, he decided to employ enough troops to force the enemy to react.

MacArthur and Kenney coordinated efforts to maximize the function and utility of different reconnaissance assets. Instead of wasted attempts trying to extract information through the dense canopy of the Huon Peninsula, MacArthur relied on the Kanga Force and later the Alamo Scouts to provide what they could and allowed Kenney's airplanes to collect on areas further north such as New Britain and Wewak. This effective management of limited reconnaissance assets facilitated what would be described today as operational art by informing MacArthur's line of operation, dictating his tempo, and managing risk. But perhaps the most significant takeaway regarding MacArthur and reconnaissance is the recognition of an initial capability gap and the innovative actions to fulfill the gap with the Alamo Scouts to enhance his practice of operational art.

Conclusion

The JCS selected and eventually modified the strategic objective to isolate the Japanese fortress of Rabaul. But the responsibility to arrange tactical actions in time, space, and purpose to accomplish the task fell on MacArthur's and Halsey's shoulders. Both commanders required reconnaissance to provide relevant information necessary to plan and make decisions associated with ideas now captured in current doctrine as elements of operational art. The continuous and diligent study of theory and history maintain the relevance of all ten elements as a guide for

operational planners. The prominent historian John Lewis Gaddis in *The Landscape of History* writes about the concept of structure and process, where if enough remnants of a structure survive it may be possible to reconstruct a process that took place in the past.[95] In this case, taking current doctrine and the historical narrative of Operation Cartwheel as the structural residue, one can attempt to derive the process of reconnaissance's impact on operational art.

Early operations in the Southwest Pacific Theater during World War II provide examples of how two operational commanders employed reconnaissance and the critical relationship between it and today's concept of operational art. Both MacArthur and Halsey faced a skilled and professional peer enemy that could challenge air and maritime superiority. Patrols, pilots, and coastwatchers provided essential and timely information that allowed each commander to set lines of operation, control tempo, exploit opportunities, and manage risk. Each commander possessed different reconnaissance capabilities and employed their reconnaissance forces differently. Using a current doctrinal lens, it is clear Halsey preferred a reconnaissance pull approach while MacArthur favored a reconnaissance push method.

Even in similar jungle terrain the approach and methods of reconnaissance differed. MacArthur used aerial reconnaissance at maximum range and with a focus on interdiction or identifying reinforcements while the conventional ground reconnaissance from subordinate commanders would progress from small reconnaissance party upwards to a reconnaissance in force if needed looking at the closer more immediate objectives. On the other hand, Halsey preferred a much more combined approach using air in conjunction with small Raider patrols guided by coastwatchers to look at more near-term objectives. Halsey would repeat this method as many times as needed until the reconnaissance assets fulfilled the information requirements.

[95] John Lewis Gaddis, *The Landscape of History: How Historians Map the Past* (New York, NY: Oxford University Press, 2002), 35.

Although dissimilar, both approaches to the employment and outcomes of reconnaissance succeeded for this campaign

A comparison of MacArthur's and Halsey's use of reconnaissance reveals distinct differences in multiple areas. First, Halsey insisted on exhausting all possible reconnaissance efforts to inform objective selection and mitigate risk while MacArthur was comfortable assuming considerable risk by sacrificing some reconnaissance efforts to increase the tempo. Halsey used reconnaissance to shape transitions and intermediate objective locations whereas MacArthur relied on reconnaissance to govern the timings of an assault. Unlike examples of Vella Lavella where Halsey adjusted a major operational objective from reconnaissance reports, there is little evidence showing MacArthur was willing to do the same. However, MacArthur was quite content with delaying or, more commonly, increasing a timeline based on reconnaissance accounts to gain a position of relative advantage.

Second, MacArthur's reconnaissance efforts aimed more at shaping the tactical scheme of maneuver than informing operational decisions. Even after the JCS decision to isolate instead of capture Rabaul changed the character of the operation MacArthur did not make major operational adjustments. For instance, MacArthur was more comfortable with switching the landing site on New Britain from Gasmata to Arawe, rather than bypassing New Britain altogether even though reconnaissance operations combined with the latest nature of operation presented it as a very feasible option.

Third, reconnaissance operations were sufficient to inform both commanders and provide improved situational understanding at the point of decisions, but Halsey seemed more personally familiar with the reconnaissance efforts. The associated impacts of this include Halsey appearing to be more familiar with the risk associated with operations and less likely to delegate significant operational decisions but also more prone to delay his decisions. Conversely, MacArthur was more likely to convene several commander conferences to inquire about reconnaissance efforts and gain substantive information from his subordinate commanders. These differing styles most

likely correspond to the affiliated assets that each commander had at his disposal. Halsey benefited from a large network of coastwatchers and retained the ability to employ Marine Raiders as required while MacArthur suffered from a lack of ground assets and depended on subordinate unit ground reconnaissance operations for most of his information.

In both cases, reconnaissance delivered relevant information to the operational artist, which enabled insight and foresight. Without this information, planners would lack understanding, operate with significant uncertainty, and invite failure. Reconnaissance cannot eliminate the fog of war but it alleviates uncertainty in a milieu characterized by chaos and uncertainty. Reconnaissance provided commanders in the SWPA a capability that enhanced understanding which translated into maximizing the use of today's elements of operational art. Put differently, once MacArthur and Halsey interpreted and assigned meaning to the information obtained through reconnaissance, they could align objectives, regulate tempo, and assess risk more effectively. Therefore, deliberate thought must be applied to the planning and execution of reconnaissance activities to ensure the commander is receiving relevant information directly related to increased understanding.

Implications

At the start of World War II, US doctrine had not codified the concept of operational art, and the force lacked any significant reconnaissance doctrine relating to amphibious operations and the Pacific Theater. Operation Cartwheel provides historical insight into the development and relationship between these two prominent doctrinal concepts. Furthermore, the campaign exemplifies joint and multi-domain operations, which had no supporting doctrine at the time. As doctrine is continually revised and unable to provide the historical background associated with many of the practical concepts it is important, as practitioners, to pursue and appreciate the historical relevance and underpinnings of modern doctrine.

Given the past decade of counter-insurgency and stability focused operations, the United States Military has limited experience employing reconnaissance in support of operational planning. During Operation Cartwheel, military staffs confronted a multi-faceted problem including initiating a rapid offensive tempo and maintaining operational reach with limited resources against a resolute Japanese defense. Reconnaissance operations proved critical to helping MacArthur and Halsey understand the situation and develop operational approaches to achieve strategic objectives. Future operational level commanders will face the same challenges when developing campaigns, but the relationship between reconnaissance and the Army Operating Concept remains unmapped in current doctrine and unfamiliar to many. Doctrine categorizes reconnaissance as a tactical enabling task and does not clarify the linkage between reconnaissance and campaign development. In short, today's operational commanders function much like MacArthur and Halsey by relying on information gained through lower level tactical reconnaissance action to make operational decisions.

Additional research might explore if a direct relationship between reconnaissance and an operating concept exists in other armies and if historical evidence confirms its relevance. Also, exploring the evolution of MacArthur's employment and influence of reconnaissance into the Philippines and eventually Korea may illuminate significant doctrinal advances. Lastly, researching the relationship between reconnaissance and operational art using more modern operations may uncover a continuing doctrinal gap akin to the one encountered by MacArthur and Halsey.

The study does not intend to offer any specific recommendations to improve operational reconnaissance or illuminate any current capability gaps but simply analyzes how two large unit commanders employed reconnaissance to employ the modern concept of operational art better. Commanders at all levels must be comfortable employing reconnaissance to inform operational decisions and, after a decade of unconventional warfare, tactical level reconnaissance and corresponding decisions have improved while the former may have degraded. Arguably, the most

significant benefit of reconnaissance historically and in the future is to help commanders find and act on windows of opportunity associated with the elements of lines of operation, tempo, and risk. Having insight into the historical underpinnings provides both a context to today's doctrine and develops a habit of mind for the future.

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