Naval War College Review

Volume 50
Number 1 *Winter*

Article 7

1997

Bougainville: The Amphibious Assault Enters Maturity

David C. Fuquea

Follow this and additional works at: https://digital-commons.usnwc.edu/nwc-review

Recommended Citation

Fuquea, David C. (1997) "Bougainville: The Amphibious Assault Enters Maturity," *Naval War College Review*: Vol. 50 : No. 1 , Article 7.
Available at: https://digital-commons.usnwc.edu/nwc-review/vol50/iss1/7

This Article is brought to you for free and open access by the Journals at U.S. Naval War College Digital Commons. It has been accepted for inclusion in Naval War College Review by an authorized editor of U.S. Naval War College Digital Commons. For more information, please contact repository.inquiries@usnwc.edu.

Bougainville

The Amphibious Assault Enters Maturity

Major David C. Fuquea, U.S. Marine Corps

A SURVEY OF CONTEMPORARY NAVY AND MARINE personnel as to what were the most important amphibious assaults of World War II in the Pacific would yield several answers. Guadalcanal, Tarawa, Iwo Jima, and Okinawa would be among the four most prominent, but it is doubtful that many would mention the skillful execution of the Bougainville operation (in which initial landings took place on 1 November 1943 and, according to the 3rd Marine Division after-action report, ended on 28 December 1943). The attack's relative obscurity is mirrored not only in contemporary opinion but historical literature as well.[1] Standard reference works on amphibious operations, such as the official Marine Corps history of operations in World War II, often devote to Guadalcanal and the other operations mentioned above three or four times the amount of space they do to Bougainville. The landmark *The U.S. Marines and Amphibious War* provides only about six pages on Bougainville, one-tenth what it contains on the other four.[2] Both general and naval historians depict Bougainville in the same manner. Sir Basil Liddell Hart, in his *History of the Second World War*, writes one-third the amount of information on Bougainville that he does for Guadalcanal, Iwo Jima, or Okinawa. Nathan Miller and Robert Love do not even mention Bougainville in their widely read histories of the United States Navy.[3]

There are several reasons for his lack of recognition. The short space of time between Bougainville and Tarawa, less than three weeks, undoubtedly caused the more spectacular assault to receive more attention, and that was Tarawa. On one hand, the casualty figures for Bougainville and Tarawa were of the same order of magnitude: the I Marine Amphibious Corps suffered 1,841 killed and wounded

---

Major Fuquea is a Marine infantry officer who has served in all three Marine divisions as well as the First Marine Brigade in Hawaii. He received a master's degree in military history from Duke University and spent 1995–1996 as the Commandant of the Marine Corps Fellow to the Mershon Center at The Ohio State University, studying the transition of the Marine Corps from 1939 to 1943. He is currently assigned as the executive officer of 1st Battalion, 2d Marine Regiment. His thanks go to Dr. Allan Millett for his help on this article and his mentorship while at the Mershon Center.

Naval War College Review, Winter 1997, Vol. L, No. 1.

on Bougainville, where its counterpart, the II Marine Amphibious Corps, suffered 3,056 at Tarawa.[4] But the circumstances were drastically different: the casualties at Bougainville accumulated over the course of about two months, but at Tarawa in just over three days. The carnage at Tarawa shocked the American public.[5]

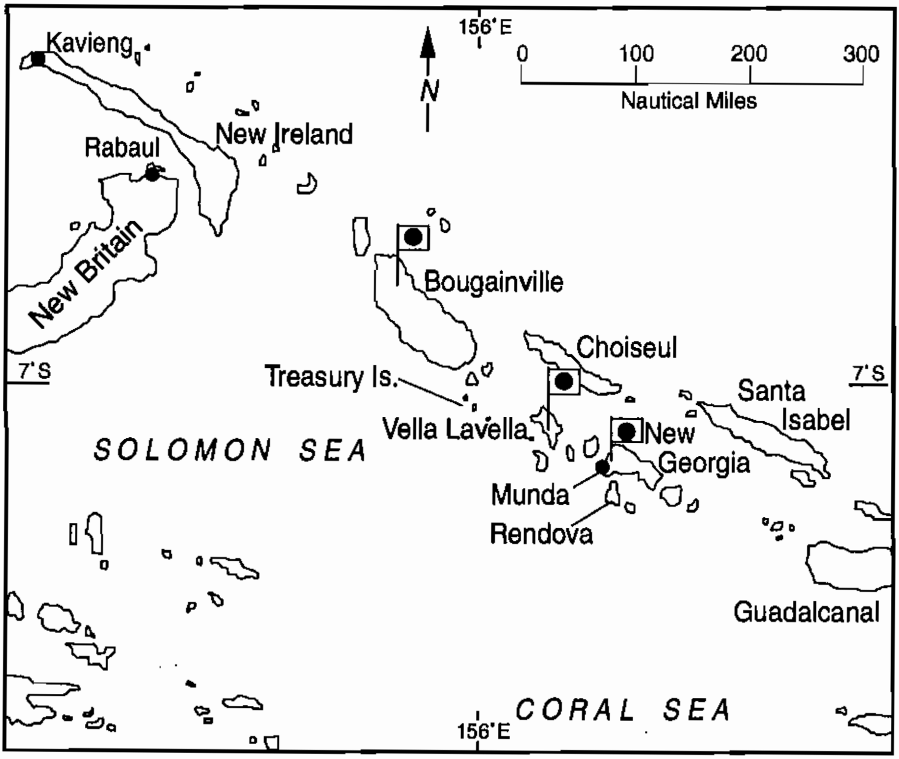
From an operational standpoint as well, Bougainville seemed to merit "backwater" status. Tarawa was the first thrust of the Central Pacific drive that was the linchpin of the Allied effort to defeat the Japanese. Throwing an assault force over two thousand miles from its major staging base onto a heavily defended shore was unprecedented.[6] In contrast, Bougainville was the fourth major expedition in the Solomons and extended only 150 miles from its major staging base. By this time, Vice Admiral William F. Halsey and his operations in the South Pacific, however impressive, seemed simply a sideshow and flank protection for General Douglas MacArthur's move along the northern coast of New Guinea.

Unfortunately, lack of attention at the time of execution often means absence of recognition even later, regardless of the level of competence displayed. The Bougainville operation was a great, yet even today unacknowledged, milestone in the progression of the amphibious assault. With the help of hindsight, this article attempts to place the operation in the proper historical perspective relative to the other famous assaults of the Pacific War, by examining a number of its facets. Bougainville was the first amphibious operation to benefit from planning by a staff with wartime experience. Seasoning at all levels meant competence and innovation to a high degree. At the operational and tactical levels, in terms of warfighting, combat support, and logistics, Bougainville unmistakably represented an ascent of the amphibious assault to a higher plane than had been witnessed up to that time. The result was tremendous gains at relatively low cost (and therefore less publicity). Other amphibious assaults were all vital to the successful prosecution of the war, but it was at Bougainville that the amphibious assault entered maturity.

Setting and Preparations

By the spring of 1943, the situation facing the Allies in the South Pacific theater was looking brighter than it had been. The dramatic struggle for Guadalcanal had ended successfully in January and February, with the well disguised withdrawal of Japanese forces to the northern Solomons. The plan approved by the Combined Chiefs meeting in Quebec in August 1943, bypassing the major Japanese naval base at Rabaul, now moved into its advanced stages. Halsey (the Commander, South Pacific Force and Area, or COMSOPAC) and his staff recognized that the next step would be to take the island of New Georgia, but there was some question as to what the final objective in the northern Solomons should be.[7]

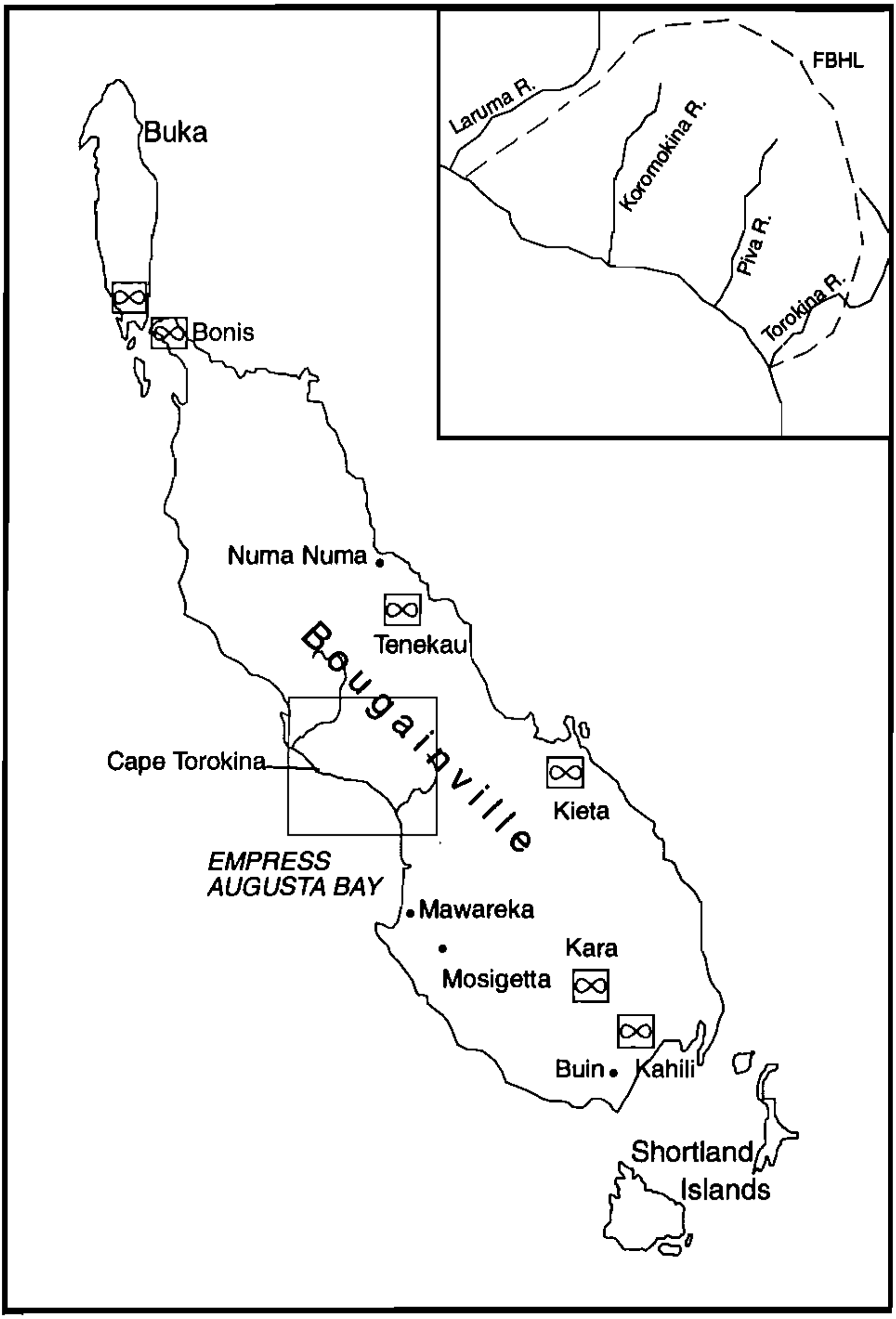
Command Decisions. Earlier, Admiral Ernest J. King, the Chief of Naval Operations, had argued that a direct assault against the Japanese stronghold at Rabaul might not be required (see map). Neutralization would serve the Allied course just as well, but it would require air bases in the northern Solomons. Additionally, MacArthur's advance along the northern coast of New Guinea demanded the establishment of air facilities in the same area, to support the flank of his operations. "The exact location for such an undertaking had been the cause for considerable discussion and reconnaissance by Halsey's staff."[8]


Kavieng
156°E
N
0
100
200
300
Nautical Miles
Rabaul
New Ireland
New Britain
Bougainville
Choiseul
7°S
Treasury Is.
7°S
Santa Isabel
Vella Lavella
New Georgia
SOLOMON SEA
Munda
Rendova
Guadalcanal
CORAL SEA
156°E

Joseph R. Nunes, Jr.

Halsey considered a proposal for attacking the southern end of Bougainville via the Shortland Islands (see small-scale map). From there, fifteen miles off the larger island, the Allies could interdict the Japanese air facilities at Kahili and Kara until amphibious forces took them outright. This scenario offered a valuable prize that was close to Halsey's support network in the southern Solomons. However, it also pitted the Allied effort against the majority of the Japanese strength in the northern Solomons; the Shortlands, Kahili, and Kara were very well defended. These circumstances forced Halsey to consider other possibilities.

The inability of Allied escort fighter aircraft to reach Rabaul from the island of Choiseul, about fifty miles southeast of Bougainville, eliminated that island


FBHL
Laruma R.
Koromokina R.
Piva R.
Torokina R.
Buka
Bonis
Numa Numa
Tenekau
Bougainville
Cape Torokina
Kieta
EMPRESS
AUGUSTA BAY
Mawareka
Kara
Mosigetta
Buin
Kahili
Shortland
Islands

Joseph R. Nunes, Jr.

from consideration by COMSOPAC as the ultimate objective in the Solomons. Another option, Kieta, about one-third of the way up the eastern coast of Bougainville, had the benefit of a protected anchorage and a completed airfield but was deep within the enemy air envelope from Rabaul. Its sea approaches were long and exposed, a situation further complicated by a critical Allied shipping shortage in the theater.[9] Moreover, a preliminary assault to secure Choiseul would be required if Kieta was to be the target, making this choice untenable. A third course of action considered the island of Buka, north of Bougainville. This island also offered good anchorages and completed airfields, but it was too far north to be supported by Allied air.[10]

MacArthur's schedule demanded that air facilities in the northern Solomons be operational by December 1943; on 22 September, Vice Admiral Halsey alerted his commanders to the course of action he had selected.[11] Halsey's Marines would land on Bougainville itself, at Cape Torokina at the northern end of Empress Augusta Bay, about halfway up the western coast. Once ashore, they would establish a defensive beachhead while building airfields where none then existed. These fields, 220 miles from Rabaul, would enable Allied fighters to reach that target and would also provide an emergency landing field for damaged bombers flying against Rabaul from bases further south.[12] The primary reason for choosing the assault beach was in itself a demonstration of the lesson learned at Munda and Vella Lavella in June and August: coastwatcher intelligence had indicated that Cape Torokina "was going to be completely undefended."[13]

The Enemy Threat. The defense of Bougainville was under the direction of Lieutenant General Haruyoshi Hyakutake, who had also commanded the Japanese forces on Guadalcanal. Despite the dismal result of that campaign, Hyakutake still had sizeable forces at his disposal. Over seventeen thousand soldiers of his Seventeenth Army protected the southern end of the island, around Kahili and Kara. The majority of these troops came from the 23rd and 45th regiments of Lieutenant General Masatane Kanda's 6th Division. Another five thousand controlled Buka, with a similar number of soldiers at Kieta. Close to six thousand members of the elite Special Naval Landing Force provided security for the Shortland Islands.[14]

In contrast, the west coast was nearly barren of Japanese defenders. The largest concentration, approximately a thousand Japanese soldiers, cultivated rice near Mosigetta, twenty-five miles south of Cape Torokina, which was itself defended by fewer than three hundred men. These latter, the 2nd Company of the 23rd Regiment, had constructed an impressive array of bunkers to protect the beach, twenty-five emplacements two feet thick made of ironwood and coconut logs. Interlocking fields of fire protected all bunkers from the sides and rear.[15] (The information provided by the coastwatchers, then, was good but not perfect.

However, only one of the planned twelve beaches on D-Day would encounter the Japanese defensive array.) The key element in favor of Allied success was the isolation of the Cape Torokina area. A meager trail network between there and Mosigetta was the only overland route for resupply and reinforcement. Although men, supplies, and pack artillery could be moved this way, it was time-consuming and difficult to do so; the Japanese relied primarily on coastal barges.[16] The experienced U.S. Navy and Marine staff personnel planning the operation recognized that the Japanese would be forced, as they had been at Guadalcanal, to throw themselves against an established defensive perimeter if they were to defeat the Allied operation.

The Operational Level

By the time Vice Admiral Halsey informed General MacArthur, on 1 October 1943, that Cape Torokina would be the main objective for the northern Solomons, he had been in command of the Solomons theater for nearly a year. During that time he and his staff had incorporated several important changes in operational doctrine, and these changes had now borne fruit. The result at Bougainville was an exceptionally complicated operation, involving several feints and a strong foundation of rehearsals and reconnaissance, all made possible by new and much improved command structures.

Command Relationships. At Bougainville, for the first time, a coequal relationship existed between the amphibious task force commander, Rear Admiral Theodore S. Wilkinson, and the landing force commander, Lieutenant General Alexander A. Vandegrift, USMC. As the commanding general of I Marine Amphibious Corps (I MAC), General Vandegrift had available a force that exceeded thirty thousand. The corps included the U.S. Army's 37th Infantry Division (which played no role in the initial operations at Bougainville) and the 8th Brigade Group from the 3rd New Zealand Division. The heart of Vandegrift's corps was made up of Marines. The approximately nineteen thousand Marines of Major General Allen H. Turnage's 3rd Marine Division would shoulder responsibility for the Bougainville assault. Three infantry regiments—the 3rd, 9th, and 21st, each with over three thousand Marines—provided the principal assault battalions as well as a corps reserve. Vandegrift augmented the infantry regiments in the assault with battalions from the 2nd Marine Raiders Regiment.

A key point for Vandegrift was to ensure that he, and not a naval officer, controlled the fight ashore. Few, perhaps only Rear Admiral Richmond Kelly Turner himself, were now willing to tolerate the tight control that Turner had held over ground operations during much of the Guadalcanal campaign. Instead, at Halsey's direction, Wilkinson would maintain overall command, with Vandegrift as the subordinate, only until Vandegrift was ashore and indicated he was ready to take command, at which time Vandegrift would exercise command over all units ashore, including diversionary movements.[17] This arrangement established the doctrine that is still standard in modern amphibious operations.

On the other hand, the validity of prewar doctrine was firmly established at Bougainville in regard to responsibility for amphibious assaults—that Marine organizations would conduct initial assaults and Army units would carry out the following land campaigns.[18] In the summer of 1943, however, the Army's XIV Corps had assumed responsibility for the prospective New Georgia and Bougainville operations. The bloody, protracted fight for New Georgia, lasting from late June through August, prompted Vandegrift to insist that I MAC be given responsibility for Bougainville and any other southern Pacific landings.[19] Halsey concurred, and the initial assault against Bougainville became strictly a Marine Corps project.

The Landing Plan. The landing plan was a work of art that only staffs such as Halsey's and Vandegrift's, with a major amphibious assault behind them, could have conceived and successfully executed. Initially, Halsey petitioned for a minimum of twenty amphibious ships for the assault on Bougainville; in the event, demands elsewhere in the Pacific, particularly the Gilberts, limited the admiral to only eight troop transports (APAs) and four assault cargo ships (AKAs).[20] Vandegrift recognized that he would be able to land only two-thirds of the 3d Marine Division on D-Day.[21] The planners designed the initial assault to take place across twelve different beaches simultaneously, where the initial landings at Guadalcanal had used two beaches (and Tarawa would have three). This approach would maximize the amount of combat power being put ashore and allow supplies to be landed at rapid rates. (Both of these factors had been shortcomings of the initial landings at Guadalcanal fifteen months earlier.) On the other hand, because only one transport was available per beach, the shortage of amphibious shipping became a "specter which haunted the Bougainville preparations" throughout.[22] The loss of a single transport could jeopardize the entire operation.

Logistical Planning. Concern over Japanese air attack convinced planners to minimize the time that the ships would have to be off the beaches. The detailed I MAC amphibious lift plan for the assault divided unit equipment into three categories. Only that from category A, "required to live and fight for a limited time in a limited space," was to be loaded aboard the twelve ships carrying the initial waves.[23] Troop commanders carefully determined what equipment and supplies would be absolutely necessary for the assault; everything else would wait for later echelons. As a result, each transport ship carried only five hundred tons of gear on D-Day, although they could have carried many times that amount.[24] This "shortloading" provided enough supplies to carry on operations for ten days but guaranteed that ships could offload their cargo and get out of the area quickly.[25] Additionally, I MAC required each embarked unit to provide large numbers of men for shore parties; on D-Day, unloading ships was the primary mission of roughly 5,700 Marines, or 40 percent of the landing force.[26] The result was a plan that provided for the landing of nearly fourteen thousand men and over six thousand tons of cargo in less than six hours—a far cry from the four days predicted for a force of similar size to get ashore at Guadalcanal.[27]

In order to avoid a repetition of the shortages experienced at that earlier landing, Bougainville planners devised a plan for continuous reinforcement and resupply. Using the smaller ships available to Halsey—eight APDs (small, fast transports converted from destroyer escorts) and eight LSTs (Landing Ships, Tank)—the Navy would deliver troops as well as the remainder of the equipment, categories B and C, in a reiterative cycle from Guadalcanal. On the second day after the initial assault (i.e., D+2), all the ships would arrive simultaneously; each would be unloaded that day and return to Guadalcanal. The operation order called for five successive echelons, at five-day intervals.[28] Under this ambitious plan, U.S. naval forces were scheduled to deliver over twenty-seven thousand men and thirty-two thousand tons of supplies to Bougainville by D+22.[29]

Operational realities are usually such that the standards of a plan are rarely achieved, but not at Bougainville: thanks to effective planning and operational efficiency, milestones were exceeded. Senior officers attributed much of the logistical success to a new 3rd Marine Division logistics standard operating procedure, or SOP. The division staff had rewritten the procedure while at New Zealand in the aftermath of the 1st Marine Division's experiences at Guadalcanal. This SOP was the first constructed around the combat experiences of another division;[30] as a result of it, at Bougainville Marines encountered no serious logistical problems during the first six weeks of the campaign.[31] In fact, Navy and Marine staffs accelerated the resupply cycle; by D+12 over thirty-three thousand men and twenty-three thousand tons of supplies had been delivered—including fifty thousand cubic feet of beer.[32]

Feints, Rehearsals, and Reconnaissance. The Bougainville operation as a whole was much larger than just the landing at Cape Torokina.[33] Feints were a key aspect of the plan to assault the island and were also indicative of the level of sophistication to which amphibious warfare had climbed by November 1943. Halsey's staff planned its primary feint against the Treasury Islands, Mono and Sterling, approximately seventy-five miles southeast of Cape Torokina. Captured by six thousand New Zealanders on 27 October, the two islands would provide an intermediate logistical and naval base to support the move against Bougainville.

A primary objective in the Treasury Islands also was to establish early-warning radar sites against aircraft coming south from Rabaul. The Treasury Islands' location, less than thirty miles from the Japanese stronghold in the Shortlands, made it likely that seizing them would mislead the Japanese as to the true Allied objective. The staffs of Halsey and Vandegrift also projected a large-scale amphibious raid against Choiseul by more than seven hundred Marines of the 2nd Marine Parachute Battalion under the command of Lieutenant Colonel Victor Krulak. The hope was to keep the Japanese ignorant of the actual intention to attack the western side of Bougainville.[34] Accompanying these ground operations were Fifth Air Force attacks on Rabaul, carefully timed strikes from a two-carrier task group under Rear Admiral Frederick C. Sherman against Japanese concentrations on Bougainville, and surface bombardments of Japanese airfields and positions at the north and south ends of the island by cruisers and destroyers commanded by Rear Admiral A. Stanton Merrill.

Successful execution of this landing plan required rehearsal of a scope and sophistication unseen to this point in amphibious warfare. The three assault task units of Rear Admiral Wilkinson's III Amphibious Force began loading personnel, equipment, and supplies in early October. Rehearsals, involving practice landings on the islands of Efate and Guadalcanal, began on 13 October and continued, for many elements, until the 29th.[35]

Finally, planning for this operation was underpinned by a major reconnaissance effort. Navy and Marine personnel, inserted by submarine, investigated all possible objectives on Bougainville. One team actually conducted a walking tour of what, because of its recommendation, would become the airfield at Cape Torokina.[36]

Staff Experience. With regard to planning the ground operations, maturity, in large part thanks to staff experience, was fully evident. Vandegrift and his planners had the benefit not only of their own experience on Guadalcanal but also, as noted, of the opportunity to watch the Army's XIV Corps become mired in an overland attack against a well defended and strongly fortified Japanese perimeter on New Georgia. The Marines vowed not to repeat that error but instead to make the Japanese attack them, as had been the case at Guadalcanal.[37] Vandegrift was also savvy enough to not allow the dispersal of forces that had plagued him prior to Guadalcanal. For the final planning stages, Vandegrift moved his headquarters from Noumea to Guadalcanal, where the Marine staff was collocated with not only the 3rd Marine Division, which would execute the attack, but also with Wilkinson's III Amphibious Force headquarters, which would support it. "The close proximity of the three major headquarters responsible for coordinating the efforts of the forces involved eased considerably the problems that arose during the last weeks of preparation."[38]

Vandegrift and his planners left specific legacies of amphibious sophistication. Foreshadowing the modern battalion and regimental landing teams used today in conjunction with the Marine Expeditionary Unit and Brigade organization, Vandegrift directed that every landing team should be self-sustaining and self-supporting until the division as a whole could be consolidated behind a "force beachhead line," or FBHL (see map inset).[39] Operationally, amphibious forces at Bougainville achieved an entirely higher plane than they had before Guadalcanal.

The Tactical Level

The maturation that occurred at the operational level was also evident tactically. In regard to combat and logistics, after-action reports for the assault against Bougainville are a litany of new accomplishments. In area after area, Marines and sailors employed for the first time in combat new equipment, techniques, and tactics or employed older doctrine and gear in a much more masterful and deadly manner. If "uncommon valor" was the norm at Iwo Jima, uncommon innovation at the tactical level was the standard at Bougainville.

Some of these innovations, though valuable, were useful at the time but have since fallen by the wayside. For instance, at Bougainville the 2nd Raider Battalion employed a war-dog platoon; the ability of the dogs to sniff out Japanese gave confidence to patrols.[40] In addition, weather balloons proved important for an unusual purpose. Because the terrain at Cape Torokina was flat, with few readily identifiable features, and maps were atrocious, plotting troop dispositions was nearly impossible. (The division staff had no control over the quality of the maps; the lack of prewar data and the limitation of pre-assault reconnaissance reduced the usefulness of the maps available.) The staff helped overcome this problem by frequently directing each company to send a small weather balloon aloft through the jungle canopy; a plane flying overhead would photograph the area. The balloons would show up as white dots on the photo, providing a true picture of friendly lines. Only at these times did commanders know where their own lines ran.[41]

Individual Competence. With the war nearly two years old, Marines were entering battle with a much higher degree of skill and competence than at earlier phases. They recognized the importance of, and worked extremely hard at maintaining, individual camouflage. Because utilities with a camouflage pattern (which became familiar by the end of the war) were not yet available, before embarking on ships Marines dyed their issue white undershirts green.[42] Marines also painted their single-color fatigues with patterns of light green and yellow, applying paint to such equipment as leggings, cartridge belts, packs, and helmet covers as well. The men also used vegetable powder, which stained the skin a light green when mixed with water and applied. After-action reports pointed to such effective camouflage and concealment, based on recognition of their importance by individual Marines, as an important factor in reducing casualties.[43]

That commanders believed in the competence of each Marine was demonstrated in the detailed prelanding briefings. Battalion commanders presented their plans to each of their officers and staff noncommissioned officers; subsequently, every Marine received several periods of instruction on the mission and purpose of every company in their battalion. Staffs distributed a terrain sketch to every man to ensure he could find his correct position upon landing. "This thorough preparation"—which postulated the alertness and skill of each rifleman—"proved to be of vital importance to the success of the landing."[44]

Weapons. Bougainville was the debut for several weapons that would become mainstays of ground combat across the Pacific. Here Marines first employed in combat the (later well known) individual flamethrower and also the 2.36-inch bazooka. The latter proved extremely inaccurate, and the back-blast gave away Marine positions; in contrast, the Japanese quickly gained great respect for the flamethrower, though the sprayed fuel often had to be ignited with an incendiary grenade.[45] Marines on Bougainville also used self-propelled artillery in jungle conditions for the first time, as well as a "buckshot" antipersonnel round fired from tanks, with deadly effect. In the latter case, medium tanks, closing on known Japanese positions, acted as bait; as the Japanese swarmed over the tank to emplace a charge in order to destroy it, a companion light tank would fire the "buckshot" round directly at the heavier one. The thumbnail-size projectiles would slaughter the attackers but could not penetrate the armor of the vehicle.[46]

Unit Tactics. Modern adaptations of age-old tactics first proved their effectiveness at Bougainville. For instance, because it was nearly impossible to issue fire commands to squads in the close jungle terrain of Bougainville, squad leaders would issue them before troops entered into the line. When Marines made contact, the only command necessary was to commence fire.[47] Marines also found innovative tactics for employing old weapons. A battalion's mortars were very effective at pinning down enemy troops, but their use here required new skills, because of the "masking," or obstruction, of firing locations by the thick and overhanging vegetation and the close proximity of the enemy. As the mortars were often close behind friendly lines, Marines frequently fired almost vertically. Mortarmen dealt with "masked fires" by leading off with a round rendered inert by leaving its arming pin in place; if the unarmed round cleared the jungle canopy, live ammunition quickly followed.[48] The thick jungle also offered little opportunity for the traditional use of heavy machine guns, i.e., in long-range, overhead, or indirect fire. Instead, the guns proved well adapted for protecting relief-in-place operations or passages of lines (in which a unit attacks through the position of another that is already in contact with the enemy). The guns would be fired into the treetops fifty to a hundred yards forward of friendly lines at the moment of execution. "This practice resulted in many casualties to the enemy";[49] light machine guns did not produce the weight of fire necessary.

Members of the 3rd Marine Division created a new formation known as "contact imminent." It provided a moving column with flank guards covering the widest front possible and also with uninterrupted, secure communications. Marines unrolled telephone wire at the head of the column as it moved forward, while others at the end reeled it in. Whenever the column stopped or made contact, company commanders and supporting-arms representatives clipped into the line with hand telephones.[50] The formation also included antisniper patrols well behind the main column; columns bypassed snipers and moved on uninterrupted, leaving the snipers for patrols to neutralize.[51]

The lengthy training at Guadalcanal before the Bougainville operation began had brought perimeter defense to a fine art. Every unit down to the squad level executed a perimeter defense each night. Three men typically occupied each fighting hole, and once darkness fell no one moved from his hole. With every unit in perimeter defense, "intramural firefights" and fratricide became distinct possibilities. To avoid this problem, the standing rule was that weapons were never to be fired at night except to repulse a major attack. To deal with small infiltrating parties that came close to their position, Marines used only knives and bayonets. Other infiltrators passing by out of reach were allowed to do so, only to be killed by gunfire at daylight. "On more than one occasion," the division's after-action report concluded, this tactic "was justified by the results in repulsing Japanese attempts to raid our positions."[52]

The greatest tactical innovation, however, was the development and introduction of "bunker busting" techniques that Marines would use thereafter in the Pacific campaign. Officers from the 3rd Marine Division had traveled to New Georgia during and after that battle to study the complex Japanese defensive works there. Determining that each one had a "blind spot," they developed a procedure requiring automatic weapons to keep a bunker's gunners down while one or two men charged it between the lanes of supporting fire to dispatch the occupants with grenades thrown through the firing apertures. The danger from friendly fire was high, and therefore every infantryman in the Marine regiments attacking Bougainville practiced this technique repeatedly before departing Guadalcanal.[53]

Supporting Arms. Bougainville also witnessed the first employment of a newly developed naval gunfire platform, the Landing Craft, Infantry, or LCI, whose shallow draft allowed it to beach itself. Its mixed weaponry included 3-inch, 40 mm, and 20 mm guns as well as .50-caliber machine guns. The LCIs accompanied landing craft in the assault waves and proved a deadly addition to the amphibious assault arsenal.

However, it was in meshing aviation and artillery into truly "combined arms" that Bougainville provided its greatest legacy. Prior to November 1943, despite their previous use of air in support of ground attacks, Marines still regarded it as a great risk to friendly troops on the ground. In fact, at New Georgia, Japanese were observed actually moving closer to U.S. lines to escape air attack. Until Bougainville, ground-attack aviation was still restricted to targets out of the range of artillery.[54]

In August 1943, three officers and six enlisted men from the First Marine Air Wing reported to the 3rd Marine Division for training as air liaison parties—actually forward air controllers, or FACs. The division Air Liaison Officer organized and conducted a training course for these Marines; the commanding general ordered that an officer from the operations section of every regiment and battalion in the division attend as well. "The school started with the intention of developing a technique by which the enemy could be bombed with maximum accuracy at a minimum distance from our own forces."[55] The FACs received training in the use of communication equipment to talk to the aircraft as well as that of colored smoke grenades and white-phosphorous mortar and artillery rounds to mark friendly positions and enemy targets, respectively, for the pilots.[56]

At Bougainville, for the first time in Marine Corps history, aviators conducted strikes in direct support of ground troops while other supporting arms kept the enemy down. The results were spectacular. Ten separate missions dropped ordnance within five hundred yards of friendly lines, half of them within a hundred yards of Marines. In all cases, FACs maintained positive control over the aircraft to ensure safety, and the targets, in all cases but one, were destroyed.[57] The era of close air support arrived for the Marine Corps at Bougainville.

Logistics. Some of the most important innovations in this area came in the form of improved offloading of the amphibious ships. The "shortloading" of the ships afforded space to stow much of the cargo in nets, which could be loaded "as is" directly into waiting boats. The nets contained ammunition and rations in balanced loads so that equal amounts would go ashore simultaneously. Sailors adapted hatches to allow them to be left open during the transit from Guadalcanal to Bougainville, which saved time upon arrival.[58] All vehicles were hoisted on board already fully loaded with supplies. Bulldozers were staged so as to be landed immediately following the initial assault waves in order to accelerate airfield construction.[59] These small steps gave the amphibious task force the ability to put over 90 percent of its cargo ashore by 6:00 P.M. on D-Day despite several hours lost to Japanese air raids.[60]

The amphibian tractor (AMTRAC) at Bougainville overcame every obstacle in the way of the job it had been originally designed for: logistical support. The AMTRAC would demonstrate prowess as an assault vehicle at Tarawa; but at Bougainville, had they not been used as logistical workhorses "it is certain that the maneuver could not have been successfully carried out."[61] A broad swamp extended inland from the beaches at Cape Torokina. Only the AMTRACs were capable of following the Marines with essential supplies and ammunition as they moved in toward objectives.[62] Large numbers of wounded owed their lives to a medical evacuation by AMTRAC when nothing else could accomplish the job. In the course of the campaign, the 124 vehicles committed by the 3rd Amphibian Tractor Battalion moved nearly twenty-three thousand tons of supplies and ammunition.[63]

Marines and sailors achieved other logistical milestones in the areas of engineering and subsistence support for assaults. Marine engineers and Navy Seabees within two months completed twenty-five miles of high-speed roads across the Cape Torokina area. The construction units also built numerous lesser roads as well as three airfields, the first of which opened only five weeks after the initial assault.[64] Marines also benefited from modern bakery ovens, which regimental commanders brought right up to their forward headquarters. Marines close to the frontlines received hot bread and consumed it "voraciously," in preference to all other rations.[65] The ovens and their products were so prized that when Army units began arriving on Bougainville to relieve the Marines, the one item their officers demanded be left behind were the bakery ovens. The Marines were willing to trade any other piece of equipment, whether jeeps, trucks, or weapons, but they took their ovens with them.[66]

Medical Support. Finally, to some extent it was advancements in medical techniques that created the disparity in casualty figures between Bougainville and Tarawa. The jungle terrain of the northern Solomons was particularly good for the vicious defense style of the Japanese. The tenacity of the enemy was as apparent on Bougainville as in other assaults. Less than twenty-five Japanese surrendered to Marines in the Cape Torokina area, but over the course of two months of fighting for the area, as the Japanese committed reinforcements to the battle, nearly 2,500 were killed. Because Japanese defensive emplacements were well concealed, fire was usually received at short range; most Marine casualties were hit within ten yards of enemy positions.[67] The rate of wounded to dead was much higher than expected, with a majority of bullet wounds being in the lower extremities. Evacuation was complicated by the swamps and torrential rains; a single casualty typically required twelve men to move to an aid station.[68]

Fortunately for all, the members and techniques of the 3rd Medical Battalion had progressed in the first two years of the war. The corpsman with each platoon would often administer blood plasma before a casualty reached a doctor at an aid station. Battalion commanders and their surgeons pushed aid stations to within yards of the front lines, which reduced to only minutes the interval between wounding and treatment.[69] Also, as noted, the amphibious tractors proved invaluable for evacuating the seriously wounded to hospitals on the beach. The result of all these efforts was that less than 1 percent of Marines that received bullet or shrapnel wounds of any kind died from them.[70]

Disease, often more deadly and debilitating than combat in the tropical environment of the South Pacific, was also tamed by medical efforts at Bougainville. During the initial advances water resupply was difficult, and most Marines had to rely on drinking water taken from shell holes and streams despite the danger of dysentery and other jungle diseases. However, these maladies had little effect on the Marines of the 3rd Division. An examination of one of the three Marine regiments in the division is indicative of the success achieved. Thorough training for the nearly 3,500 Marines of the 3rd Marine Regiment on the use of iodine for water purification limited the number of dysentery cases to only thirteen in the first month of combat.[71]

Malaria, which had devastated the 1st Marine Division as well as the Japanese on Guadalcanal, proved only a nuisance on Bougainville, despite swamps and conditions perfect for the breeding of mosquitoes. The assault force, for the first time, included malarial control units. The Marines received lengthy training while on Guadalcanal in the value of protective clothing, bug spray, and netting.[72] All units and individuals carried medicine and equipment to prevent initial infection and to keep mosquitoes from reproducing in their area. Replenishment of these supplies received the highest priority in all embarkation SOPs.[73] Also, despite the importance of road and airfield construction, large-scale swamp drainage began as soon as D+9; within two months the Seabees drained in excess of four million square yards of swamp.[74] As a result, the 3rd Marine Division suffered fewer casualties from malaria than from combat during the Bougainville campaign.[75] The 3rd Marine Regiment, which experienced nearly two months of front-line action, incurred only 194 malaria casualties.[76] These numbers are a remarkable testament to the strides made in the medical support of amphibious assault since the beginning of the war.

The amphibious assault is not a new method of warfare, dating back at least 2,500 years to Marathon and practiced regularly thereafter.[77] By the early twentieth century, however, the difficulties of this type of operation, as evidenced at Gallipoli and elsewhere, had left many military leaders unwilling to consider it. U.S. Marines, on the other hand, saw during the interwar period the vital need for an amphibious assault capability and developed the doctrine to support it. The remainder of the twentieth century offers numerous examples of its effectiveness. The famous landings at Iwo Jima, Okinawa, Normandy, Inchon, and even the preparations for a landing in Kuwait during DESERT STORM in 1991 are all examples of amphibious assault in its maturity. Each was a far cry from the difficult and nearly disastrous initial attempt by naval forces to execute the new Marine doctrine at Guadalcanal. Planners and operators needed time and experience under actual conditions to put the ideas into effective use. Notwithstanding the notoriety of other operations, it was at Bougainville, in November 1943, that the amphibious assault finally came of age.

Execution at Bougainville, on both the operational and tactical levels, was on a different and higher plane than what had been attempted previously. Experienced staffs crafted an assault that achieved its objective while avoiding the strength of the enemy. This is the most basic tenet of maneuver warfare, and at Bougainville Marines executed it with spectacular results.[78] From command relationships to joint operations conceived and executed as an ensemble, from new weapons and tactics to innovative formations, and from improved logistics to advances in combat medical care, Bougainville established standards that a modern amphibious assault must meet to be successful. In this light, the operation warrants reconsideration as one of the great amphibious operations in history.

Notes

1. The operation's obscurity began almost immediately, as evidenced by a letter dated 29 January 1944 from Lt. Gen. Alexander A. Vandegrift, USMC, who commanded the assault in its early stages, to Maj. Gen. Roy S. Geiger, USMC, who completed it: "I want to congratulate you on the splendid work that you and your staff and the Corps did on Bougainville. The spectacular attack on Tarawa has kind of put Bougainville off the front page; but those of us who know the constant strain, danger, and hardship of continuous jungle warfare realize what was accomplished by your outfit during the two months you were there."

2. Jeter A. Isley and Philip A. Crowl, *The U.S. Marines and Amphibious War: Its Theory, and Its Practice in the Pacific* (Princeton, N.J.: Princeton Univ. Press, 1951).

3. B.H. Liddell Hart, *History of the Second World War* (New York: Putnam, 1980), esp. p. 507 on Bougainville, pp. 356–62 for Guadalcanal, 630–1 for Iwo Jima, and 683–6 on Okinawa; Nathan Miller, *The U.S. Navy: A History*, rev. ed. (New York: Morrow, 1990); and Robert W. Love, Jr., *History of the U.S. Navy*, vol. 2 (Mechanicsburg, Penna.: Stackpole, 1992).

4. For Bougainville, Henry I. Shaw, Jr., and Douglas T. Kane (Maj., USMC), *History of U.S. Marine Corps Operations in World War II*, Vol. II, *Isolation of Rabaul:* (Washington, D.C.: Historical Branch, Headquarters Marine Corps, 1963), p. 282. For Tarawa, Henry I. Shaw, Bernard C. Nalty, and Edwin T. Turnbladh, *History of U.S. Marine Corps Operations in World War II*, Vol II, *Central Pacific Drive* (Washington, D.C.: Historical Branch, Headquarters Marine Corps, 1966), p. 102.

5. Isley and Crowl, p. 251.

6. The TORCH landings in North Africa a year earlier were equally impressive from a logistics standpoint but were essentially unopposed.

7. Shaw and Kane, p. 7.

8. Ibid., p. 168.

9. Ibid., p. 170.
10. Ibid., pp. 168–70.
11. Ibid.
12. Fred D. Beans (Brig. Gen., USMC [Ret.]), *Oral History Transcript* (Washington, D.C.: History and Museums Division, Headquarters Marine Corps, 1976), p. 74.
13. Ibid., p. 77.
14. Shaw and Kane, pp. 172–3.
15. Ibid., pp. 216–23.
16. Ibid., p. 248.
17. Ibid., p. 178.
18. Allan R. Millett, *In Many a Strife: General Gerald C. Thomas and the U.S. Marine Corps, 1917–1956* (Annapolis, Md.: Naval Institute Press, 1993), p. 222.
19. Ibid. See also E.B. Potter and Chester W. Nimitz, eds., *Sea Power: A Naval History* (Englewood Cliffs, N.J.: Prentice Hall, 1960), p. 723.
20. Shaw and Kane, p. 179.
21. A.A. Vandegrift, *Once a Marine: The Memoirs of General A.A. Vandegrift, Commandant of the U.S. Marines in World War II* (New York: Ballantine Books, 1964), p. 227.
22. Commander Transport Group, 3d Amphibious Force [hereafter Cmdr., Trans. Grp., 3d Amphib. For.], *Report of the Landing Operations Northern Empress Augusta Bay Area, Bougainville Island, 1–2 November 1943*, 22 December 1943 (National Archives, Suitland, Md.: RG 127, ACC 65A-4556, box 5), p. 13; and Shaw and Kane, p. 179.
23. Headquarters, 3rd Marine Division [hereafter HQ, 3d Mar. Div.], *Supply and Evacuation Report, 3rd Marine Division, Dipper Operation*, 29 January 1944 (National Archives, Suitland, Md.: RG 127, ACC 65A-4556, box 3).
24. Cmdr., Trans. Grp., 3d Amphib. For., p. 11.
25. Shaw and Kane, p. 184.
26. Cmdr., Trans. Grp., 3d Amphib. For., p. 11.
27. Shaw and Kane, p. 180. In the first thirteen days of operations, nearly thirty-four thousand Marines landed on Bougainville, carrying over twenty-four thousand tons of cargo with them. Shaw and Kane, p. 246.
28. HQ, 3d Mar. Div., *Division Embarkation Table*, n.d. (National Archives, Suitland, Md.: RG 127, ACC 65A-4556, box 6).
29. HQ, 3d Mar. Div., *Supply and Evacuation Report*.
30. Ion M. Bethel (Maj. Gen., USMC [Ret.]), *Oral History Transcript* (Washington, D.C.: History and Museums Division, Headquarters Marine Corps, 1973), p. 81.
31. Commanding Officer, 3rd Defense Battalion [hereafter CO, 3d Def. Bn.], *Special Action Report, Cherryblossom Operations, 5 October–15 December 1943*, 10 January 1944 (National Archives, Suitland, Md.: RG 127, ACC 65A-4556, box 5), pp. 12–4.
32. Shaw and Kane, p. 246; and HQ, 3d Mar. Div., *Division Embarkation Table*.
33. See Potter and Nimitz, pp. 722–33.
34. Shaw and Kane, p. 188.
35. CO, 3d Def. Bn., pp. 1–2.
36. Shaw and Kane, p. 174.
37. Ibid., p. 180.
38. Ibid., p. 179.
39. Ibid., p. 183. The FBHL (a Marine Corps doctrinal term) is a line connecting the final objectives of the assault landing force. In the case of Bougainville, the planned FBHL was 7,350 yards wide and 2,250 yards deep. This would provide a high degree of protection to the airfield during construction from direct and undirect fire.
40. Ibid., p. 228.
41. Ibid., p. 225.
42. Commanding General 3d Marine Division [hereafter CG, 3d Mar. Div.], *Combat Report of the 3rd Marine Division in the Bougainville Operations, 1 November–28 December 1943*, 21 March 1944 (National Archives, Suitland, Md.: RG 127, ACC 65A-4556, box 3), p. 130.
43. Ibid., p. 116.
44. Ibid., p. 102.
45. Shaw and Kane, p. 290.
46. Bethel, p. 85.
47. Ibid., p. 120.
48. Shaw and Kane, p. 254.
49. CG, 3d Mar. Div., p. 121.
50. Ibid.

51. Commanding Officer, 2nd Marine Raider Regiment, *Special Action Report, Narrative of Bougainville Operation*, 29 January 1944 (National Archives, Suitland, Md.: RG 127, ACC 65A-4556, box 4), p. 8.

52. CG, 3d Mar. Div., p. 110.

53. Ibid., pp. 108–9.

54. Ibid., p. 59.

55. Ibid.

56. Ibid., p. 60.

57. Ibid.

58. Cmdr., Trans. Grp., 3d Amphib. For., pp. 9–12.

59. Commander, 3d Amphibious Force, *Amphibious Training of Transport Group and 3rd Marine Division*, 5 October 1943 (National Archives, Suitland, Md.: RG 127, ACC 65A-4556, box 5), p. 5; and Cmdr., Trans. Grp., 3d Amphib. For., pp. 9–12.

60. Shaw and Kane, p. 228.

61. CG, 3d Mar. Div., pp. 127–8.

62. HQ, 3d Mar. Div., *Supply and Evacuation Report*.

63. Shaw and Kane, p. 292.

64. Ibid., pp. 229–77.

65. Bethel, p. 84.

66. Ibid.

67. Shaw and Kane, p. 291.

68. Ibid., p. 276.

69. CG, 3d Mar. Div., p. 150.

70. Shaw and Kane, p. 289.

71. CG, 3d Mar. Div., p. 131.

72. Shaw and Kane, p. 289.

73. Commanding Officer, 3rd Medical Battalion, *The Empress Augusta Bay Area Campaign on Bougainville Island* (National Archives, Suitland, Md.: RG 127, ACC 65A-4556, box 5), p. 1.

74. Ibid., p. 4.

75. Ibid., pp. 7–8.

76. CG, 3d Mar. Div., p. 152.

77. See Merrill L. Bartlett (Lt. Col., USMC, [Ret.]), ed., *Assault from the Sea: Essays on the History of Amphibious Warfare* (Annapolis, Md.: Naval Institute Press, 1983).

78. For an introduction to the concept of maneuver warfare, see U.S. Joint Staff, *Doctrine for Joint Operations*, Joint Publication 3-0 (Washington, D.C.: 1 February 1995); and Joseph A. Gattuso, Jr. (Cdr., USN), "Warfare Theory," *Naval War College Review*, Autumn 1996.

Ψ

Call for Papers

The Siena College History and American Studies departments are sponsoring a multidisciplinary conference, 18–19 April 1998, entitled "Theodore Roosevelt and the Dawn of the 'American Century.'" Topics of interest would include, but are not limited to, literature, art, education, Pragmatism, Progressivism, muckraking, military and naval history, American expansionism and exceptionalism, urban expansion and reform, immigration, and religion. The period of interest is roughly 1898–1908. Inquiries (including from those wishing to chair or comment at the conference) to: Prof. Thomas O. Kelly II, Department of History, Siena College, 515 Loudon Road, Loudonville, N.Y., 12211-1462; tel. (518) 783-2595; fax (518) 783-4293. Deadline for proposals is 1 October 1997.